BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# Semi-Volatiles Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

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Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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**EPA-8270C**

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## Case Narrative

**Analyses Requested**: **8270**
**Submission#: 17-02734**

Instrument ID: MS-B2
Model: GC5890/HP5972
Column Type: ZB-Semivolatiles with 5m Guardian 30m x 0.25mm x 0.25µm

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and extractions took place within holding times.

**Calibration:** Initial calibration criteria were met, except calibration 1702018 for Pentachlorophenol. Frequency and accuracy criteria for initial calibration verification (ICV) were met, except for Sequence 1702000 4-Nitroaniline and 4,6-Dinitro-2-methylphenol were outside QC limits. Frequency and accuracy criteria for continuing calibration verification (CCV) were met, except sequence 1702425 4-Nitroaniline, 4,6-Dinitro-2-methylphenol, 2,4-Dinitrophenol, and sequence 1702536 CCV1 Benzyl alcohol were outside QC limits. The ending CCV fifty percent criteria was met.

**Blanks**: Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis. Batch ID B[B0544-BLK1 the method blank surrogate recovery for 2-Fluorobiphenyl was outside QC limits.

**Laboratory Control Sample**: Laboratory control sample analysis was performed at the required frequency. All parameters were within QC limits, except batch ID B[B0544-BS1 laboratory control sample recovery for bis(2-Ethylhexyl)phthalate and 4-Chloroaniline was outside QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met, except batch ID B[B0544-MS1 the matrix spike recoveries for 4-Chloroaniline, 3,3-Dichlorobenzidine and the surrogate recovery for 2-Fluorobiphenyl were outside QC limits.

**Discussion:** For sample 17-02734-01RE1, 17-02734-06 the surrogate recovery for 2-Fluorobiphenyl was outside QC limits.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TVH-E -D, JP, M, O,U (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | | | |
|---|---|---|---|
| Sampler's Signature: | | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | MMR | Date: 1/31/17 | Time: 14:50 |
| Received By: | Gary Bogan | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Gary Bogan | Date: 1-31-17 | Time: 1830 |
| Received By: | | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Blue Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 1.0 °C / (C) 1.3 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920
A = Actual / C = Corrected
Rev 21 05/23/2016
(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,J,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | NV DLK | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | G,M | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | N | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMPLE\Cooler 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Blank Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.4 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OGT | OGT | | | | | | |
| 8oz / 16oz / ~~32oz AR~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PK UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 3:41:00PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **SVOA** |
| **Method:** | **EPA-8270C** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01RE1 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07RE1 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8270C

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MS-B2

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Acenaphthene | 0.24 | 1.0 | 4.0 | ug/L |
| Acenaphthylene | 0.28 | 1.0 | 4.0 | ug/L |
| Anthracene | 0.30 | 1.0 | 4.0 | ug/L |
| Benzo[a]anthracene | 0.38 | 1.0 | 4.0 | ug/L |
| Benzo[b]fluoranthene | 0.41 | 1.0 | 4.0 | ug/L |
| Benzo[k]fluoranthene | 0.31 | 1.0 | 4.0 | ug/L |
| Benzo[a]pyrene | 0.20 | 1.0 | 4.0 | ug/L |
| Benzo[g,h,i]perylene | 0.22 | 1.0 | 4.0 | ug/L |
| Benzoic acid | 5.8 | 6.0 | 20 | ug/L |
| Benzyl alcohol | 0.34 | 1.0 | 4.0 | ug/L |
| Benzyl butyl phthalate | 0.47 | 1.0 | 4.0 | ug/L |
| bis(2-Chloroethoxy)methane | 0.27 | 1.0 | 4.0 | ug/L |
| bis(2-Chloroethyl) ether | 0.68 | 1.0 | 4.0 | ug/L |
| bis(2-Chloroisopropyl)ether | 0.30 | 1.0 | 4.0 | ug/L |
| bis(2-Ethylhexyl)phthalate | 3.0 | 4.0 | 8.0 | ug/L |
| 4-Bromophenyl phenyl ether | 0.23 | 1.0 | 4.0 | ug/L |
| 4-Chloroaniline | 0.69 | 1.0 | 4.0 | ug/L |
| 2-Chloronaphthalene | 0.34 | 1.0 | 4.0 | ug/L |
| 4-Chlorophenyl phenyl ether | 0.23 | 1.0 | 4.0 | ug/L |
| Chrysene | 0.63 | 1.0 | 4.0 | ug/L |
| Dibenzo[a,h]anthracene | 0.26 | 2.0 | 6.0 | ug/L |
| Dibenzofuran | 0.21 | 1.0 | 4.0 | ug/L |
| 1,2-Dichlorobenzene | 0.37 | 1.0 | 4.0 | ug/L |
| 1,3-Dichlorobenzene | 0.35 | 1.0 | 4.0 | ug/L |
| 1,4-Dichlorobenzene | 0.31 | 1.0 | 4.0 | ug/L |
| 3,3-Dichlorobenzidine | 8.2 | 10 | 20 | ug/L |
| Diethyl phthalate | 0.33 | 1.0 | 4.0 | ug/L |
| Dimethyl phthalate | 0.39 | 1.0 | 4.0 | ug/L |
| Di-n-butyl phthalate | 0.39 | 1.0 | 4.0 | ug/L |
| 2,4-Dinitrotoluene | 0.26 | 1.0 | 4.0 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8270C

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MS-B2

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| 2,6-Dinitrotoluene | 0.41 | 1.0 | 4.0 | ug/L |
| Di-n-octyl phthalate | 0.46 | 1.0 | 4.0 | ug/L |
| Fluoranthene | 0.20 | 1.0 | 4.0 | ug/L |
| Fluorene | 0.28 | 1.0 | 4.0 | ug/L |
| Hexachlorobenzene | 0.20 | 1.0 | 4.0 | ug/L |
| Hexachlorobutadiene | 0.24 | 1.0 | 4.0 | ug/L |
| Hexachlorocyclopentadiene | 0.30 | 1.0 | 4.0 | ug/L |
| Hexachloroethane | 0.32 | 1.0 | 4.0 | ug/L |
| Indeno[1,2,3-cd]pyrene | 0.26 | 1.0 | 4.0 | ug/L |
| Isophorone | 0.31 | 1.0 | 4.0 | ug/L |
| 2-Methylnaphthalene | 0.28 | 1.0 | 4.0 | ug/L |
| Naphthalene | 0.21 | 1.0 | 4.0 | ug/L |
| 2-Nitroaniline | 0.33 | 1.0 | 4.0 | ug/L |
| 3-Nitroaniline | 0.66 | 1.0 | 4.0 | ug/L |
| 4-Nitroaniline | 0.87 | 3.0 | 10 | ug/L |
| Nitrobenzene | 0.26 | 1.0 | 4.0 | ug/L |
| N-Nitrosodimethylamine | 0.61 | 1.0 | 4.0 | ug/L |
| N-Nitrosodi-N-propylamine | 1.3 | 2.0 | 4.0 | ug/L |
| N-Nitrosodiphenylamine | 0.44 | 1.0 | 4.0 | ug/L |
| Phenanthrene | 0.20 | 1.0 | 4.0 | ug/L |
| Pyrene | 0.26 | 1.0 | 4.0 | ug/L |
| 1,2,4-Trichlorobenzene | 0.27 | 1.0 | 4.0 | ug/L |
| 4-Chloro-3-methylphenol | 0.40 | 3.0 | 10 | ug/L |
| 2-Chlorophenol | 0.37 | 1.0 | 4.0 | ug/L |
| 2,4-Dichlorophenol | 0.43 | 1.0 | 4.0 | ug/L |
| 2,4-Dimethylphenol | 0.20 | 1.0 | 4.0 | ug/L |
| 4,6-Dinitro-2-methylphenol | 0.34 | 6.0 | 20 | ug/L |
| 2,4-Dinitrophenol | 0.20 | 6.0 | 20 | ug/L |
| 2-Methylphenol | 1.0 | 1.0 | 4.0 | ug/L |
| 3- & 4-Methylphenol | 1.6 | 2.0 | 4.0 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8270C

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MS-B2

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| 2-Nitrophenol | 0.28 | 1.0 | 4.0 | ug/L |
| 4-Nitrophenol | 0.73 | 1.0 | 4.0 | ug/L |
| Pentachlorophenol | 0.79 | 6.0 | 20 | ug/L |
| Phenol | 0.20 | 1.0 | 4.0 | ug/L |
| 2,4,5-Trichlorophenol | 0.31 | 3.0 | 10 | ug/L |
| 2,4,6-Trichlorophenol | 0.60 | 3.0 | 10 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**EB03_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-01RE1 | File ID: | 13FEB008.D |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/03/17 07:00 | Analyzed: | 02/13/17 09:43 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Batch: | B[B0544 | Sequence: | 1702536 | Calibration: | 1702018 | Instrument: | MS-B2 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.99 | 1.0 | 0.24 | 1.0 | 4.0 | U |
| 208-96-8 | Acenaphthylene | 0.99 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 120-12-7 | Anthracene | 0.99 | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 56-55-3 | Benzo[a]anthracene | 0.99 | 1.0 | 0.38 | 1.0 | 4.0 | U |
| 205-99-2 | Benzo[b]fluoranthene | 0.99 | 1.0 | 0.41 | 1.0 | 4.0 | U |
| 207-08-9 | Benzo[k]fluoranthene | 0.99 | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 50-32-8 | Benzo[a]pyrene | 0.99 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 191-24-2 | Benzo[g,h,i]perylene | 0.99 | 2.1 | 0.22 | 1.0 | 4.0 | J |
| 65-85-0 | Benzoic acid | 0.99 | 6.0 | 5.8 | 6.0 | 20 | U |
| 85-68-7 | Benzyl butyl phthalate | 0.99 | 1.0 | 0.47 | 1.0 | 4.0 | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 0.99 | 1.0 | 0.27 | 1.0 | 4.0 | U |
| 111-44-4 | bis(2-Chloroethyl) ether | 0.99 | 1.0 | 0.68 | 1.0 | 4.0 | U |
| 39638-32-9 | bis(2-Chloroisopropyl)ether | 0.99 | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 0.99 | 4.0 | 3.0 | 4.0 | 8.0 | U |
| 101-55-3 | 4-Bromophenyl phenyl ether | 0.99 | 1.0 | 0.23 | 1.0 | 4.0 | U |
| 106-47-8 | 4-Chloroaniline | 0.99 | 1.0 | 0.69 | 1.0 | 4.0 | U |
| 91-58-7 | 2-Chloronaphthalene | 0.99 | 1.0 | 0.34 | 1.0 | 4.0 | U |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 0.99 | 1.0 | 0.23 | 1.0 | 4.0 | U |
| 218-01-9 | Chrysene | 0.99 | 1.0 | 0.63 | 1.0 | 4.0 | U |
| 53-70-3 | Dibenzo[a,h]anthracene | 0.99 | 2.0 | 0.26 | 2.0 | 6.0 | U |
| 132-64-9 | Dibenzofuran | 0.99 | 1.0 | 0.21 | 1.0 | 4.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.99 | 1.0 | 0.37 | 1.0 | 4.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.99 | 1.0 | 0.35 | 1.0 | 4.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.99 | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 91-94-1 | 3,3-Dichlorobenzidine | 0.99 | 10 | 8.2 | 10 | 20 | U |
| 84-66-2 | Diethyl phthalate | 0.99 | 1.0 | 0.33 | 1.0 | 4.0 | U |
| 131-11-3 | Dimethyl phthalate | 0.99 | 1.0 | 0.39 | 1.0 | 4.0 | U |
| 84-74-2 | Di-n-butyl phthalate | 0.99 | 1.0 | 0.39 | 1.0 | 4.0 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 0.99 | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 0.99 | 1.0 | 0.41 | 1.0 | 4.0 | U |
| 117-84-0 | Di-n-octyl phthalate | 0.99 | 1.0 | 0.46 | 1.0 | 4.0 | U |
| 206-44-0 | Fluoranthene | 0.99 | 1.0 | 0.20 | 1.0 | 4.0 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**EB03_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-01RE1 | File ID: | 13FEB008.D |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/03/17 07:00 | Analyzed: | 02/13/17 09:43 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Batch: | B[B0544 | Sequence: | 1702536 | Calibration: | 1702018 | Instrument: | MS-B2 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | 0.99 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 118-74-1 | Hexachlorobenzene | 0.99 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 87-68-3 | Hexachlorobutadiene | 0.99 | 1.0 | 0.24 | 1.0 | 4.0 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 0.99 | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 67-72-1 | Hexachloroethane | 0.99 | 1.0 | 0.32 | 1.0 | 4.0 | U |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 0.99 | 2.0 | 0.26 | 1.0 | 4.0 | J |
| 78-59-1 | Isophorone | 0.99 | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 91-57-6 | 2-Methylnaphthalene | 0.99 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 91-20-3 | Naphthalene | 0.99 | 1.0 | 0.21 | 1.0 | 4.0 | U |
| 88-74-4 | 2-Nitroaniline | 0.99 | 1.0 | 0.33 | 1.0 | 4.0 | U |
| 99-09-2 | 3-Nitroaniline | 0.99 | 1.0 | 0.66 | 1.0 | 4.0 | U |
| 100-01-6 | 4-Nitroaniline | 0.99 | 3.0 | 0.87 | 3.0 | 10 | U |
| 98-95-3 | Nitrobenzene | 0.99 | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 62-75-9 | N-Nitrosodimethylamine | 0.99 | 1.0 | 0.61 | 1.0 | 4.0 | U |
| 621-64-7 | N-Nitrosodi-N-propylamine | 0.99 | 2.0 | 1.3 | 2.0 | 4.0 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 0.99 | 1.0 | 0.44 | 1.0 | 4.0 | U |
| 85-01-8 | Phenanthrene | 0.99 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 129-00-0 | Pyrene | 0.99 | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.99 | 1.0 | 0.27 | 1.0 | 4.0 | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 0.99 | 3.0 | 0.40 | 3.0 | 10 | U |
| 95-57-8 | 2-Chlorophenol | 0.99 | 1.0 | 0.37 | 1.0 | 4.0 | U |
| 120-83-2 | 2,4-Dichlorophenol | 0.99 | 1.0 | 0.43 | 1.0 | 4.0 | U |
| 105-67-9 | 2,4-Dimethylphenol | 0.99 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 0.99 | 6.0 | 0.34 | 6.0 | 20 | U |
| 51-28-5 | 2,4-Dinitrophenol | 0.99 | 6.0 | 0.20 | 6.0 | 20 | U |
| 95-48-7 | 2-Methylphenol | 0.99 | 1.0 | 1.0 | 1.0 | 4.0 | U |
| 15831-10-4 | 3- & 4-Methylphenol | 0.99 | 2.0 | 1.6 | 2.0 | 4.0 | U |
| 88-75-5 | 2-Nitrophenol | 0.99 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 100-02-7 | 4-Nitrophenol | 0.99 | 1.0 | 0.73 | 1.0 | 4.0 | U |
| 87-86-5 | Pentachlorophenol | 0.99 | 6.0 | 0.79 | 6.0 | 20 | U |
| 108-95-2 | Phenol | 0.99 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 0.99 | 3.0 | 0.31 | 3.0 | 10 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**EB03_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-01RE1 | | | File ID: | 13FEB008.D |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/03/17 07:00 | | | Analyzed: | 02/13/17 09:43 |
| Solids: | | Preparation: | EPA 3510B | | | Initial/Final: | 1000 ml / 0.99 ml |
| Batch: | B[B0544 | Sequence: | 1702536 | Calibration: | 1702018 | Instrument: | MS-B2 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 88-06-2 | 2,4,6-Trichlorophenol | 0.99 | 3.0 | 0.60 | 3.0 | 10 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 2-Fluorophenol (Surrogate) | 40.000 | 15.167 | 37.9 | 19 - 119 | |
| Phenol-d5 (Surrogate) | 40.000 | 10.949 | 27.4 | 10 - 115 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 31.551 | 78.9 | 44 - 120 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 49.193 | 123 | 44 - 119 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 26.027 | 65.1 | 43 - 140 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 11.514 | 57.6 | 50 - 134 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Phenanthrene-d10 (IS) | 1316576 | 10.33 | 1046533 | 10.33 | |
| Chrysene-d12 (IS) | 448799 | 14.03 | 333612 | 14.04 | |
| Acenaphthene-d10 (IS) | 932371 | 8.84 | 805443 | 8.85 | |
| 1,4-Dichlorobenzene-d4 (IS) | 675069 | 5.91 | 640898 | 5.91 | |
| Perylene-d12 (IS) | 269540 | 16.06 | 210278 | 16.06 | |
| Naphthalene-d8 (IS) | 2285789 | 7.13 | 2028070 | 7.14 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: 10FEB010.D
Sampled: 01/31/17 08:34
Prepared: 02/03/17 07:00
Analyzed: 02/10/17 12:40
Solids:
Preparation: EPA 3510B
Initial/Final: 1000 ml / 1 ml
Batch: B[B0544
Sequence: 1702425
Calibration: 1702018
Instrument: MS-B2

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 1 | 1.0 | 0.24 | 1.0 | 4.0 | U |
| 208-96-8 | Acenaphthylene | 1 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 120-12-7 | Anthracene | 1 | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 56-55-3 | Benzo[a]anthracene | 1 | 1.0 | 0.38 | 1.0 | 4.0 | U |
| 205-99-2 | Benzo[b]fluoranthene | 1 | 1.0 | 0.41 | 1.0 | 4.0 | U |
| 207-08-9 | Benzo[k]fluoranthene | 1 | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 50-32-8 | Benzo[a]pyrene | 1 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 191-24-2 | Benzo[g,h,i]perylene | 1 | 1.9 | 0.22 | 1.0 | 4.0 | J |
| 65-85-0 | Benzoic acid | 1 | 6.0 | 5.8 | 6.0 | 20 | U |
| 85-68-7 | Benzyl butyl phthalate | 1 | 1.0 | 0.47 | 1.0 | 4.0 | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1 | 1.0 | 0.27 | 1.0 | 4.0 | U |
| 111-44-4 | bis(2-Chloroethyl) ether | 1 | 1.0 | 0.68 | 1.0 | 4.0 | U |
| 39638-32-9 | bis(2-Chloroisopropyl)ether | 1 | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1 | 4.0 | 3.0 | 4.0 | 8.0 | U |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1 | 1.0 | 0.23 | 1.0 | 4.0 | U |
| 106-47-8 | 4-Chloroaniline | 1 | 1.0 | 0.69 | 1.0 | 4.0 | U |
| 91-58-7 | 2-Chloronaphthalene | 1 | 1.0 | 0.34 | 1.0 | 4.0 | U |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1 | 1.0 | 0.23 | 1.0 | 4.0 | U |
| 218-01-9 | Chrysene | 1 | 1.0 | 0.63 | 1.0 | 4.0 | U |
| 53-70-3 | Dibenzo[a,h]anthracene | 1 | 2.0 | 0.26 | 2.0 | 6.0 | U |
| 132-64-9 | Dibenzofuran | 1 | 1.0 | 0.21 | 1.0 | 4.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 8.6 | 0.37 | 1.0 | 4.0 | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 1.0 | 0.35 | 1.0 | 4.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 3.6 | 0.31 | 1.0 | 4.0 | J |
| 91-94-1 | 3,3-Dichlorobenzidine | 1 | 10 | 8.2 | 10 | 20 | U |
| 84-66-2 | Diethyl phthalate | 1 | 1.0 | 0.33 | 1.0 | 4.0 | U |
| 131-11-3 | Dimethyl phthalate | 1 | 1.0 | 0.39 | 1.0 | 4.0 | U |
| 84-74-2 | Di-n-butyl phthalate | 1 | 1.0 | 0.39 | 1.0 | 4.0 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 1 | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 1 | 1.0 | 0.41 | 1.0 | 4.0 | U |
| 117-84-0 | Di-n-octyl phthalate | 1 | 1.0 | 0.46 | 1.0 | 4.0 | U |
| 206-44-0 | Fluoranthene | 1 | 1.0 | 0.20 | 1.0 | 4.0 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: 10FEB010.D
Sampled: 01/31/17 08:34
Prepared: 02/03/17 07:00
Analyzed: 02/10/17 12:40
Solids:
Preparation: EPA 3510B
Initial/Final: 1000 ml / 1 ml
Batch: B[B0544
Sequence: 1702425
Calibration: 1702018
Instrument: MS-B2

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | 1 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 118-74-1 | Hexachlorobenzene | 1 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 1.0 | 0.24 | 1.0 | 4.0 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 1 | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 67-72-1 | Hexachloroethane | 1 | 1.0 | 0.32 | 1.0 | 4.0 | U |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 1 | 1.9 | 0.26 | 1.0 | 4.0 | J |
| 78-59-1 | Isophorone | 1 | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 91-57-6 | 2-Methylnaphthalene | 1 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 91-20-3 | Naphthalene | 1 | 1.0 | 0.21 | 1.0 | 4.0 | U |
| 88-74-4 | 2-Nitroaniline | 1 | 1.0 | 0.33 | 1.0 | 4.0 | U |
| 99-09-2 | 3-Nitroaniline | 1 | 1.0 | 0.66 | 1.0 | 4.0 | U |
| 100-01-6 | 4-Nitroaniline | 1 | 3.0 | 0.87 | 3.0 | 10 | U |
| 98-95-3 | Nitrobenzene | 1 | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 62-75-9 | N-Nitrosodimethylamine | 1 | 1.0 | 0.61 | 1.0 | 4.0 | U |
| 621-64-7 | N-Nitrosodi-N-propylamine | 1 | 2.0 | 1.3 | 2.0 | 4.0 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1 | 1.0 | 0.44 | 1.0 | 4.0 | J |
| 85-01-8 | Phenanthrene | 1 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 129-00-0 | Pyrene | 1 | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 1.0 | 0.27 | 1.0 | 4.0 | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 1 | 3.0 | 0.40 | 3.0 | 10 | U |
| 95-57-8 | 2-Chlorophenol | 1 | 1.0 | 0.37 | 1.0 | 4.0 | U |
| 120-83-2 | 2,4-Dichlorophenol | 1 | 1.0 | 0.43 | 1.0 | 4.0 | U |
| 105-67-9 | 2,4-Dimethylphenol | 1 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1 | 6.0 | 0.34 | 6.0 | 20 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1 | 6.0 | 0.20 | 6.0 | 20 | U |
| 95-48-7 | 2-Methylphenol | 1 | 1.0 | 1.0 | 1.0 | 4.0 | U |
| 15831-10-4 | 3- & 4-Methylphenol | 1 | 2.0 | 1.6 | 2.0 | 4.0 | U |
| 88-75-5 | 2-Nitrophenol | 1 | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 100-02-7 | 4-Nitrophenol | 1 | 1.0 | 0.73 | 1.0 | 4.0 | U |
| 87-86-5 | Pentachlorophenol | 1 | 6.0 | 0.79 | 6.0 | 20 | U |
| 108-95-2 | Phenol | 1 | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1 | 3.0 | 0.31 | 3.0 | 10 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**M028A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-06 | File ID: | 10FEB010.D | | |
| Sampled: | 01/31/17 08:34 | Prepared: | 02/03/17 07:00 | Analyzed: | 02/10/17 12:40 | | |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 1 ml | | |
| Batch: | B[B0544 | Sequence: | 1702425 | Calibration: | 1702018 | Instrument: | MS-B2 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 88-06-2 | 2,4,6-Trichlorophenol | 1 | 3.0 | 0.60 | 3.0 | 10 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 2-Fluorophenol (Surrogate) | 40.000 | 28.690 | 71.7 | 19 - 119 | |
| Phenol-d5 (Surrogate) | 40.000 | 20.960 | 52.4 | 10 - 115 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 35.730 | 89.3 | 44 - 120 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 55.480 | 139 | 44 - 119 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 41.580 | 104 | 43 - 140 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 17.340 | 86.7 | 50 - 134 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Phenanthrene-d10 (IS) | 1543070 | 10.34 | 1952836 | 10.34 | |
| Chrysene-d12 (IS) | 600210 | 14.05 | 950105 | 14.07 | |
| Acenaphthene-d10 (IS) | 1130763 | 8.86 | 1345279 | 8.86 | |
| 1,4-Dichlorobenzene-d4 (IS) | 826344 | 5.91 | 805320 | 5.92 | |
| Perylene-d12 (IS) | 393439 | 16.06 | 694912 | 16.07 | |
| Naphthalene-d8 (IS) | 2708785 | 7.14 | 2880420 | 7.14 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07RE1 | File ID: | 13FEB016.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/03/17 07:00 | Analyzed: | 02/13/17 13:09 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.96 ml |
| Batch: | B[B0544 | Sequence: | 1702536 | Calibration: | 1702018 |
| Instrument: | MS-B2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 9.6 | 10 | 2.4 | 10 | 40 | UD |
| 208-96-8 | Acenaphthylene | 9.6 | 10 | 2.8 | 10 | 40 | UD |
| 120-12-7 | Anthracene | 9.6 | 10 | 3.0 | 10 | 40 | UD |
| 56-55-3 | Benzo[a]anthracene | 9.6 | 10 | 3.8 | 10 | 40 | UD |
| 205-99-2 | Benzo[b]fluoranthene | 9.6 | 10 | 4.1 | 10 | 40 | UD |
| 207-08-9 | Benzo[k]fluoranthene | 9.6 | 10 | 3.1 | 10 | 40 | UD |
| 50-32-8 | Benzo[a]pyrene | 9.6 | 10 | 2.0 | 10 | 40 | UD |
| 191-24-2 | Benzo[g,h,i]perylene | 9.6 | 10 | 2.2 | 10 | 40 | UD |
| 65-85-0 | Benzoic acid | 9.6 | 60 | 58 | 60 | 200 | UD |
| 85-68-7 | Benzyl butyl phthalate | 9.6 | 10 | 4.7 | 10 | 40 | UD |
| 111-91-1 | bis(2-Chloroethoxy)methane | 9.6 | 10 | 2.7 | 10 | 40 | UD |
| 111-44-4 | bis(2-Chloroethyl) ether | 9.6 | 10 | 6.8 | 10 | 40 | UD |
| 39638-32-9 | bis(2-Chloroisopropyl)ether | 9.6 | 10 | 3.0 | 10 | 40 | UD |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 9.6 | 40 | 30 | 40 | 80 | UD |
| 101-55-3 | 4-Bromophenyl phenyl ether | 9.6 | 10 | 2.3 | 10 | 40 | UD |
| 106-47-8 | 4-Chloroaniline | 9.6 | 10 | 6.9 | 10 | 40 | UD |
| 91-58-7 | 2-Chloronaphthalene | 9.6 | 10 | 3.4 | 10 | 40 | UD |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 9.6 | 10 | 2.3 | 10 | 40 | UD |
| 218-01-9 | Chrysene | 9.6 | 10 | 6.3 | 10 | 40 | UD |
| 53-70-3 | Dibenzo[a,h]anthracene | 9.6 | 20 | 2.6 | 20 | 60 | UD |
| 132-64-9 | Dibenzofuran | 9.6 | 10 | 2.1 | 10 | 40 | UD |
| 95-50-1 | 1,2-Dichlorobenzene | 9.6 | 33 | 3.7 | 10 | 40 | JD |
| 541-73-1 | 1,3-Dichlorobenzene | 9.6 | 10 | 3.5 | 10 | 40 | UD |
| 106-46-7 | 1,4-Dichlorobenzene | 9.6 | 10 | 3.1 | 10 | 40 | UD |
| 91-94-1 | 3,3-Dichlorobenzidine | 9.6 | 100 | 82 | 100 | 200 | UD |
| 84-66-2 | Diethyl phthalate | 9.6 | 10 | 3.3 | 10 | 40 | UD |
| 131-11-3 | Dimethyl phthalate | 9.6 | 10 | 3.9 | 10 | 40 | UD |
| 84-74-2 | Di-n-butyl phthalate | 9.6 | 10 | 3.9 | 10 | 40 | UD |
| 121-14-2 | 2,4-Dinitrotoluene | 9.6 | 10 | 2.6 | 10 | 40 | UD |
| 606-20-2 | 2,6-Dinitrotoluene | 9.6 | 10 | 4.1 | 10 | 40 | UD |
| 117-84-0 | Di-n-octyl phthalate | 9.6 | 10 | 4.6 | 10 | 40 | UD |
| 206-44-0 | Fluoranthene | 9.6 | 10 | 2.0 | 10 | 40 | UD |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07RE1
File ID: 13FEB016.D
Sampled: 01/31/17 10:04
Prepared: 02/03/17 07:00
Analyzed: 02/13/17 13:09
Solids:
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.96 ml
Batch: B[B0544
Sequence: 1702536
Calibration: 1702018
Instrument: MS-B2

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | 9.6 | 10 | 2.8 | 10 | 40 | UD |
| 118-74-1 | Hexachlorobenzene | 9.6 | 10 | 2.0 | 10 | 40 | UD |
| 87-68-3 | Hexachlorobutadiene | 9.6 | 10 | 2.4 | 10 | 40 | UD |
| 77-47-4 | Hexachlorocyclopentadiene | 9.6 | 10 | 3.0 | 10 | 40 | UD |
| 67-72-1 | Hexachloroethane | 9.6 | 10 | 3.2 | 10 | 40 | UD |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 9.6 | 10 | 2.6 | 10 | 40 | UD |
| 78-59-1 | Isophorone | 9.6 | 10 | 3.1 | 10 | 40 | UD |
| 91-57-6 | 2-Methylnaphthalene | 9.6 | 10 | 2.8 | 10 | 40 | UD |
| 91-20-3 | Naphthalene | 9.6 | 34 | 2.1 | 10 | 40 | JD |
| 88-74-4 | 2-Nitroaniline | 9.6 | 10 | 3.3 | 10 | 40 | UD |
| 99-09-2 | 3-Nitroaniline | 9.6 | 10 | 6.6 | 10 | 40 | UD |
| 100-01-6 | 4-Nitroaniline | 9.6 | 30 | 8.7 | 30 | 100 | UD |
| 98-95-3 | Nitrobenzene | 9.6 | 10 | 2.6 | 10 | 40 | UD |
| 62-75-9 | N-Nitrosodimethylamine | 9.6 | 10 | 6.1 | 10 | 40 | UD |
| 621-64-7 | N-Nitrosodi-N-propylamine | 9.6 | 20 | 13 | 20 | 40 | UD |
| 86-30-6 | N-Nitrosodiphenylamine | 9.6 | 10 | 4.4 | 10 | 40 | UD |
| 85-01-8 | Phenanthrene | 9.6 | 10 | 2.0 | 10 | 40 | UD |
| 129-00-0 | Pyrene | 9.6 | 10 | 2.6 | 10 | 40 | UD |
| 120-82-1 | 1,2,4-Trichlorobenzene | 9.6 | 10 | 2.7 | 10 | 40 | UD |
| 59-50-7 | 4-Chloro-3-methylphenol | 9.6 | 30 | 4.0 | 30 | 100 | UD |
| 95-57-8 | 2-Chlorophenol | 9.6 | 10 | 3.7 | 10 | 40 | UD |
| 120-83-2 | 2,4-Dichlorophenol | 9.6 | 10 | 4.3 | 10 | 40 | UD |
| 105-67-9 | 2,4-Dimethylphenol | 9.6 | 560 | 2.0 | 10 | 40 | D |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 9.6 | 60 | 3.4 | 60 | 200 | UD |
| 51-28-5 | 2,4-Dinitrophenol | 9.6 | 60 | 2.0 | 60 | 200 | UD |
| 95-48-7 | 2-Methylphenol | 9.6 | 44 | 10 | 10 | 40 | D |
| 15831-10-4 | 3- & 4-Methylphenol | 9.6 | 20 | 16 | 20 | 40 | UD |
| 88-75-5 | 2-Nitrophenol | 9.6 | 10 | 2.8 | 10 | 40 | UD |
| 100-02-7 | 4-Nitrophenol | 9.6 | 10 | 7.3 | 10 | 40 | UD |
| 87-86-5 | Pentachlorophenol | 9.6 | 60 | 7.9 | 60 | 200 | UD |
| 108-95-2 | Phenol | 9.6 | 10 | 2.0 | 10 | 40 | UD |
| 95-95-4 | 2,4,5-Trichlorophenol | 9.6 | 30 | 3.1 | 30 | 100 | UD |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8270C

**M034A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-07RE1 | File ID: | 13FEB016.D | | |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/03/17 07:00 | Analyzed: | 02/13/17 13:09 | | |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.96 ml | | |
| Batch: | B[B0544 | Sequence: | 1702536 | Calibration: | 1702018 | Instrument: | MS-B2 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 88-06-2 | 2,4,6-Trichlorophenol | 9.6 | 30 | 6.0 | 30 | 100 | UD |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 2-Fluorophenol (Surrogate) | 40.000 | 21.312 | 53.3 | 19 - 119 | |
| Phenol-d5 (Surrogate) | 40.000 | 15.648 | 39.1 | 10 - 115 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 30.912 | 77.3 | 44 - 120 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 38.880 | 97.2 | 44 - 119 | |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 29.952 | 74.9 | 43 - 140 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 11.424 | 57.1 | 50 - 134 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Phenanthrene-d10 (IS) | 1337165 | 10.33 | 1046533 | 10.33 | |
| Chrysene-d12 (IS) | 410310 | 14.04 | 333612 | 14.04 | |
| Acenaphthene-d10 (IS) | 917467 | 8.85 | 805443 | 8.85 | |
| 1,4-Dichlorobenzene-d4 (IS) | 600547 | 5.91 | 640898 | 5.91 | |
| Perylene-d12 (IS) | 211806 | 16.06 | 210278 | 16.06 | |
| Naphthalene-d8 (IS) | 2345911 | 7.13 | 2028070 | 7.14 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0544
Batch Matrix: Water
Preparation: EPA 3510B

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01RE1 | 13FEB008.D | 02/03/17 07:00 | Added 2/14/2017 by MK1 |
| M028A-R_170131 | 1702734-06 | 10FEB010.D | 02/03/17 07:00 | |
| M034A-R_170131 | 1702734-07RE1 | 13FEB016.D | 02/03/17 07:00 | Added 2/14/2017 by MK1 |
| Blank | B[B0544-BLK1 | 10FEB019.D | 02/03/17 07:00 | |
| LCS | B[B0544-BS1 | 10FEB006.D | 02/03/17 07:00 | |
| Matrix Spike | B[B0544-MS1 | 10FEB007.D | 02/03/17 07:00 | |
| Matrix Spike Dup | B[B0544-MSD1 | 10FEB008.D | 02/03/17 07:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8270C

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0544-BLK1 | File ID: | 10FEB019.D |
| Prepared: | 02/03/17 07:00 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Analyzed: | 02/10/17 16:26 | Instrument: | MS-B2 | | |
| Batch: | B[B0544 | Sequence: | 1702425 | Calibration: | 1702018 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 1.0 | 0.24 | 1.0 | 4.0 | U |
| 208-96-8 | Acenaphthylene | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 120-12-7 | Anthracene | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 56-55-3 | Benzo[a]anthracene | 1.0 | 0.38 | 1.0 | 4.0 | U |
| 205-99-2 | Benzo[b]fluoranthene | 1.0 | 0.41 | 1.0 | 4.0 | U |
| 207-08-9 | Benzo[k]fluoranthene | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 50-32-8 | Benzo[a]pyrene | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 191-24-2 | Benzo[g,h,i]perylene | 1.0 | 0.22 | 1.0 | 4.0 | U |
| 65-85-0 | Benzoic acid | 6.0 | 5.8 | 6.0 | 20 | U |
| 85-68-7 | Benzyl butyl phthalate | 1.0 | 0.47 | 1.0 | 4.0 | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.0 | 0.27 | 1.0 | 4.0 | U |
| 111-44-4 | bis(2-Chloroethyl) ether | 1.0 | 0.68 | 1.0 | 4.0 | U |
| 39638-32-9 | bis(2-Chloroisopropyl)ether | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 4.0 | 3.0 | 4.0 | 8.0 | U |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1.0 | 0.23 | 1.0 | 4.0 | U |
| 106-47-8 | 4-Chloroaniline | 1.0 | 0.69 | 1.0 | 4.0 | U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | 0.34 | 1.0 | 4.0 | U |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1.0 | 0.23 | 1.0 | 4.0 | U |
| 218-01-9 | Chrysene | 1.0 | 0.63 | 1.0 | 4.0 | U |
| 53-70-3 | Dibenzo[a,h]anthracene | 2.0 | 0.26 | 2.0 | 6.0 | U |
| 132-64-9 | Dibenzofuran | 1.0 | 0.21 | 1.0 | 4.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | 0.37 | 1.0 | 4.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | 0.35 | 1.0 | 4.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | 0.31 | 1.0 | 4.0 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8270C

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0544-BLK1 | File ID: | 10FEB019.D |
| Prepared: | 02/03/17 07:00 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Analyzed: | 02/10/17 16:26 | Instrument: | MS-B2 | | |
| Batch: | B[B0544 | Sequence: | 1702425 | Calibration: | 1702018 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 91-94-1 | 3,3-Dichlorobenzidine | 10 | 8.2 | 10 | 20 | U |
| 84-66-2 | Diethyl phthalate | 1.0 | 0.33 | 1.0 | 4.0 | U |
| 131-11-3 | Dimethyl phthalate | 1.0 | 0.39 | 1.0 | 4.0 | U |
| 84-74-2 | Di-n-butyl phthalate | 1.0 | 0.39 | 1.0 | 4.0 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 1.0 | 0.41 | 1.0 | 4.0 | U |
| 117-84-0 | Di-n-octyl phthalate | 1.0 | 0.46 | 1.0 | 4.0 | U |
| 206-44-0 | Fluoranthene | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 86-73-7 | Fluorene | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 118-74-1 | Hexachlorobenzene | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 87-68-3 | Hexachlorobutadiene | 1.0 | 0.24 | 1.0 | 4.0 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 1.0 | 0.30 | 1.0 | 4.0 | U |
| 67-72-1 | Hexachloroethane | 1.0 | 0.32 | 1.0 | 4.0 | U |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 78-59-1 | Isophorone | 1.0 | 0.31 | 1.0 | 4.0 | U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 91-20-3 | Naphthalene | 1.0 | 0.21 | 1.0 | 4.0 | U |
| 88-74-4 | 2-Nitroaniline | 1.0 | 0.33 | 1.0 | 4.0 | U |
| 99-09-2 | 3-Nitroaniline | 1.0 | 0.66 | 1.0 | 4.0 | U |
| 100-01-6 | 4-Nitroaniline | 3.0 | 0.87 | 3.0 | 10 | U |
| 98-95-3 | Nitrobenzene | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 62-75-9 | N-Nitrosodimethylamine | 1.0 | 0.61 | 1.0 | 4.0 | U |
| 621-64-7 | N-Nitrosodi-N-propylamine | 2.0 | 1.3 | 2.0 | 4.0 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | 0.44 | 1.0 | 4.0 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8270C

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0544-BLK1 | File ID: | 10FEB019.D |
| Prepared: | 02/03/17 07:00 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Analyzed: | 02/10/17 16:26 | Instrument: | MS-B2 | | |
| Batch: | B[B0544 | Sequence: | 1702425 | Calibration: | 1702018 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 85-01-8 | Phenanthrene | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 129-00-0 | Pyrene | 1.0 | 0.26 | 1.0 | 4.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | 0.27 | 1.0 | 4.0 | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 3.0 | 0.40 | 3.0 | 10 | U |
| 95-57-8 | 2-Chlorophenol | 1.0 | 0.37 | 1.0 | 4.0 | U |
| 120-83-2 | 2,4-Dichlorophenol | 1.0 | 0.43 | 1.0 | 4.0 | U |
| 105-67-9 | 2,4-Dimethylphenol | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 6.0 | 0.34 | 6.0 | 20 | U |
| 51-28-5 | 2,4-Dinitrophenol | 6.0 | 0.20 | 6.0 | 20 | U |
| 95-48-7 | 2-Methylphenol | 1.0 | 1.0 | 1.0 | 4.0 | U |
| 15831-10-4 | 3- & 4-Methylphenol | 2.0 | 1.6 | 2.0 | 4.0 | U |
| 88-75-5 | 2-Nitrophenol | 1.0 | 0.28 | 1.0 | 4.0 | U |
| 100-02-7 | 4-Nitrophenol | 1.0 | 0.73 | 1.0 | 4.0 | U |
| 87-86-5 | Pentachlorophenol | 6.0 | 0.79 | 6.0 | 20 | U |
| 108-95-2 | Phenol | 1.0 | 0.20 | 1.0 | 4.0 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3.0 | 0.31 | 3.0 | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 3.0 | 0.60 | 3.0 | 10 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 2-Fluorophenol (Surrogate) | 40.000 | 22.255 | 55.6 | 19 - 119 | |
| Phenol-d5 (Surrogate) | 40.000 | 15.147 | 37.9 | 10 - 115 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 35.214 | 88.0 | 44 - 120 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 51.658 | 129 | 44 - 119 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 33.096 | 82.7 | 43 - 140 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 19.483 | 97.4 | 50 - 134 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8270C

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0544-BLK1 | File ID: | 10FEB019.D |
| Prepared: | 02/03/17 07:00 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Analyzed: | 02/10/17 16:26 | Instrument: | MS-B2 | | |
| Batch: | B[B0544 | Sequence: | 1702425 | Calibration: | 1702018 |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Phenanthrene-d10 (IS) | 1543989 | 10.33 | 1952836 | 10.34 | |
| Chrysene-d12 (IS) | 760070 | 14.04 | 950105 | 14.07 | |
| Acenaphthene-d10 (IS) | 1125448 | 8.85 | 1345279 | 8.86 | |
| 1,4-Dichlorobenzene-d4 (IS) | 808710 | 5.92 | 805320 | 5.92 | |
| Perylene-d12 (IS) | 462178 | 16.06 | 694912 | 16.07 | |
| Naphthalene-d8 (IS) | 2672420 | 7.13 | 2880420 | 7.14 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8270C

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-MS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 1 ml
Source Sample Number: 1702917-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Acenaphthene | 50.000 | ND | 50.060 | 100 | 47 - 122 |
| Acenaphthylene | 50.000 | ND | 47.920 | 95.8 | 41 - 130 |
| Anthracene | 50.000 | ND | 50.260 | 101 | 57 - 123 |
| Benzo[a]anthracene | 50.000 | ND | 47.000 | 94.0 | 58 - 125 |
| Benzo[b]fluoranthene | 50.000 | ND | 48.350 | 96.7 | 53 - 131 |
| Benzo[k]fluoranthene | 50.000 | ND | 53.040 | 106 | 57 - 129 |
| Benzo[a]pyrene | 50.000 | ND | 49.370 | 98.7 | 54 - 128 |
| Benzo[g,h,i]perylene | 50.000 | ND | 52.490 | 105 | 50 - 134 |
| Benzyl alcohol | 50.000 | 0.34920 | 35.450 | 70.2 | 31 - 112 |
| Benzyl butyl phthalate | 50.000 | ND | 40.750 | 81.5 | 53 - 134 |
| bis(2-Chloroethoxy)methane | 50.000 | ND | 47.840 | 95.7 | 48 - 120 |
| bis(2-Chloroethyl) ether | 50.000 | ND | 57.230 | 114 | 43 - 118 |
| bis(2-Chloroisopropyl)ether | 50.000 | ND | 41.310 | 82.6 | 37 - 130 |
| bis(2-Ethylhexyl)phthalate | 50.000 | ND | 43.160 | 86.3 | 55 - 135 |
| 4-Bromophenyl phenyl ether | 50.000 | ND | 49.870 | 99.7 | 55 - 124 |
| 4-Chloroaniline | 50.000 | ND | 8.2300 | 16.5 * | 33 - 117 |
| 2-Chloronaphthalene | 50.000 | ND | 49.470 | 98.9 | 40 - 116 |
| 4-Chlorophenyl phenyl ether | 50.000 | ND | 51.880 | 104 | 53 - 121 |
| Chrysene | 50.000 | ND | 49.800 | 99.6 | 59 - 123 |
| Dibenzo[a,h]anthracene | 50.000 | ND | 52.120 | 104 | 51 - 134 |
| Dibenzofuran | 50.000 | ND | 51.140 | 102 | 53 - 118 |
| 1,2-Dichlorobenzene | 50.000 | ND | 42.480 | 85.0 | 32 - 111 |
| 1,3-Dichlorobenzene | 50.000 | ND | 41.260 | 82.5 | 28 - 110 |
| 1,4-Dichlorobenzene | 50.000 | ND | 41.300 | 82.6 | 29 - 112 |
| 3,3-Dichlorobenzidine | 50.000 | ND | 8.9500 | 17.9 * | 27 - 129 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8270C

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-MS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 1 ml
Source Sample Number: 1702917-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Diethyl phthalate | 50.000 | ND | 50.230 | 100 | 56 - 125 |
| Dimethyl phthalate | 50.000 | ND | 52.060 | 104 | 45 - 127 |
| Di-n-butyl phthalate | 50.000 | ND | 45.640 | 91.3 | 59 - 127 |
| 2,4-Dinitrotoluene | 50.000 | ND | 59.330 | 119 | 57 - 128 |
| 2,6-Dinitrotoluene | 50.000 | ND | 54.830 | 110 | 57 - 124 |
| Di-n-octyl phthalate | 50.000 | ND | 44.860 | 89.7 | 51 - 140 |
| Fluoranthene | 50.000 | ND | 48.210 | 96.4 | 57 - 128 |
| Fluorene | 50.000 | ND | 51.120 | 102 | 52 - 124 |
| Hexachlorobenzene | 50.000 | ND | 48.330 | 96.7 | 53 - 125 |
| Hexachlorobutadiene | 50.000 | ND | 40.520 | 81.0 | 22 - 124 |
| Hexachloroethane | 50.000 | ND | 38.180 | 76.4 | 21 - 115 |
| Indeno[1,2,3-cd]pyrene | 50.000 | ND | 51.390 | 103 | 52 - 134 |
| Isophorone | 50.000 | ND | 46.230 | 92.5 | 42 - 124 |
| 2-Methylnaphthalene | 50.000 | ND | 46.800 | 93.6 | 40 - 121 |
| Naphthalene | 50.000 | ND | 48.420 | 96.8 | 40 - 121 |
| 2-Nitroaniline | 50.000 | ND | 53.630 | 107 | 55 - 127 |
| 3-Nitroaniline | 50.000 | ND | 34.050 | 68.1 | 41 - 128 |
| 4-Nitroaniline | 50.000 | ND | 50.650 | 101 | 35 - 120 |
| Nitrobenzene | 50.000 | ND | 44.210 | 88.4 | 45 - 121 |
| N-Nitrosodimethylamine | 50.000 | ND | 37.130 | 74.3 | 25 - 110 |
| N-Nitrosodi-N-propylamine | 50.000 | ND | 42.220 | 84.4 | 49 - 119 |
| N-Nitrosodiphenylamine | 50.000 | ND | 53.570 | 107 | 51 - 123 |
| Phenanthrene | 50.000 | ND | 48.030 | 96.1 | 59 - 120 |
| Pyrene | 50.000 | ND | 45.170 | 90.3 | 57 - 126 |
| 1,2,4-Trichlorobenzene | 50.000 | ND | 45.760 | 91.5 | 29 - 116 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8270C

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-MS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 1 ml
Source Sample Number: 1702917-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| 4-Chloro-3-methylphenol | 100.00 | ND | 105.58 | 106 | 52 - 119 |
| 2-Chlorophenol | 100.00 | ND | 102.00 | 102 | 38 - 117 |
| 2,4-Dichlorophenol | 100.00 | ND | 107.62 | 108 | 47 - 121 |
| 2,4-Dimethylphenol | 100.00 | ND | 88.440 | 88.4 | 31 - 124 |
| 4,6-Dinitro-2-methylphenol | 100.00 | ND | 110.37 | 110 | 44 - 137 |
| 2,4-Dinitrophenol | 100.00 | ND | 109.29 | 109 | 23 - 143 |
| 2-Methylphenol | 100.00 | ND | 97.420 | 97.4 | 30 - 117 |
| 3- & 4-Methylphenol | 200.00 | ND | 148.48 | 74.2 | 29 - 110 |
| 2-Nitrophenol | 100.00 | ND | 116.29 | 116 | 47 - 123 |
| 4-Nitrophenol | 100.00 | ND | 59.640 | 59.6 | 1 - 125 |
| Pentachlorophenol | 100.00 | ND | 99.580 | 99.6 | 35 - 138 |
| Phenol | 100.00 | ND | 63.650 | 63.6 | 1 - 115 |
| 2,4,5-Trichlorophenol | 100.00 | ND | 112.51 | 113 | 53 - 123 |
| 2,4,6-Trichlorophenol | 100.00 | ND | 107.63 | 108 | 50 - 125 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Acenaphthene | 50.000 | 44.488 | 89.0 | 11.8 | 30 | 47 - 122 |
| Acenaphthylene | 50.000 | 43.272 | 86.5 | 10.2 | 30 | 41 - 130 |
| Anthracene | 50.000 | 46.550 | 93.1 | 7.66 | 30 | 57 - 123 |
| Benzo[a]anthracene | 50.000 | 43.728 | 87.5 | 7.21 | 30 | 58 - 125 |
| Benzo[b]fluoranthene | 50.000 | 44.840 | 89.7 | 7.53 | 30 | 53 - 131 |
| Benzo[k]fluoranthene | 50.000 | 49.334 | 98.7 | 7.24 | 30 | 57 - 129 |
| Benzo[a]pyrene | 50.000 | 44.745 | 89.5 | 9.83 | 30 | 54 - 128 |
| Benzo[g,h,i]perylene | 50.000 | 43.814 | 87.6 | 18.0 | 30 | 50 - 134 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8270C

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-MSD1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.95 ml
Source Sample Number: 1702917-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Benzyl alcohol | 50.000 | 28.139 | 55.6 | 23.0 | 30 | 31 - 112 |
| Benzyl butyl phthalate | 50.000 | 37.440 | 74.9 | 8.47 | 30 | 53 - 134 |
| bis(2-Chloroethoxy)methane | 50.000 | 43.140 | 86.3 | 10.3 | 30 | 48 - 120 |
| bis(2-Chloroethyl) ether | 50.000 | 44.764 | 89.5 | 24.4 | 30 | 43 - 118 |
| bis(2-Chloroisopropyl)ether | 50.000 | 34.722 | 69.4 | 17.3 | 30 | 37 - 130 |
| bis(2-Ethylhexyl)phthalate | 50.000 | 38.200 | 76.4 | 12.2 | 30 | 55 - 135 |
| 4-Bromophenyl phenyl ether | 50.000 | 45.486 | 91.0 | 9.20 | 30 | 55 - 124 |
| 4-Chloroaniline | 50.000 | 10.726 | 21.5 * | 26.3 | 30 | 33 - 117 |
| 2-Chloronaphthalene | 50.000 | 44.792 | 89.6 | 9.92 | 30 | 40 - 116 |
| 4-Chlorophenyl phenyl ether | 50.000 | 45.942 | 91.9 | 12.1 | 30 | 53 - 121 |
| Chrysene | 50.000 | 43.947 | 87.9 | 12.5 | 30 | 59 - 123 |
| Dibenzo[a,h]anthracene | 50.000 | 43.548 | 87.1 | 17.9 | 30 | 51 - 134 |
| Dibenzofuran | 50.000 | 44.432 | 88.9 | 14.0 | 30 | 53 - 118 |
| 1,2-Dichlorobenzene | 50.000 | 36.964 | 73.9 | 13.9 | 30 | 32 - 111 |
| 1,3-Dichlorobenzene | 50.000 | 35.929 | 71.9 | 13.8 | 30 | 28 - 110 |
| 1,4-Dichlorobenzene | 50.000 | 36.138 | 72.3 | 13.3 | 30 | 29 - 112 |
| 3,3-Dichlorobenzidine | 50.000 | 10.241 | 20.5 * | 13.5 | 30 | 27 - 129 |
| Diethyl phthalate | 50.000 | 43.624 | 87.2 | 14.1 | 30 | 56 - 125 |
| Dimethyl phthalate | 50.000 | 45.923 | 91.8 | 12.5 | 30 | 45 - 127 |
| Di-n-butyl phthalate | 50.000 | 42.664 | 85.3 | 6.74 | 30 | 59 - 127 |
| 2,4-Dinitrotoluene | 50.000 | 51.462 | 103 | 14.2 | 30 | 57 - 128 |
| 2,6-Dinitrotoluene | 50.000 | 45.467 | 90.9 | 18.7 | 30 | 57 - 124 |
| Di-n-octyl phthalate | 50.000 | 39.150 | 78.3 | 13.6 | 30 | 51 - 140 |
| Fluoranthene | 50.000 | 45.192 | 90.4 | 6.46 | 30 | 57 - 128 |
| Fluorene | 50.000 | 44.441 | 88.9 | 14.0 | 30 | 52 - 124 |
| Hexachlorobenzene | 50.000 | 46.142 | 92.3 | 4.63 | 30 | 53 - 125 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8270C

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-MSD1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.95 ml
Source Sample Number: 1702917-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Hexachlorobutadiene | 50.000 | 36.300 | 72.6 | 11.0 | 30 | 22 - 124 |
| Hexachloroethane | 50.000 | 33.678 | 67.4 | 12.5 | 30 | 21 - 115 |
| Indeno[1,2,3-cd]pyrene | 50.000 | 44.070 | 88.1 | 15.3 | 30 | 52 - 134 |
| Isophorone | 50.000 | 40.945 | 81.9 | 12.1 | 30 | 42 - 124 |
| 2-Methylnaphthalene | 50.000 | 42.076 | 84.2 | 10.6 | 30 | 40 - 121 |
| Naphthalene | 50.000 | 44.156 | 88.3 | 9.21 | 30 | 40 - 121 |
| 2-Nitroaniline | 50.000 | 46.940 | 93.9 | 13.3 | 30 | 55 - 127 |
| 3-Nitroaniline | 50.000 | 28.405 | 56.8 | 18.1 | 30 | 41 - 128 |
| 4-Nitroaniline | 50.000 | 40.156 | 80.3 | 23.1 | 30 | 35 - 120 |
| Nitrobenzene | 50.000 | 39.957 | 79.9 | 10.1 | 30 | 45 - 121 |
| N-Nitrosodimethylamine | 50.000 | 32.566 | 65.1 | 13.1 | 30 | 25 - 110 |
| N-Nitrosodi-N-propylamine | 50.000 | 35.292 | 70.6 | 17.9 | 30 | 49 - 119 |
| N-Nitrosodiphenylamine | 50.000 | 45.078 | 90.2 | 17.2 | 30 | 51 - 123 |
| Phenanthrene | 50.000 | 45.458 | 90.9 | 5.50 | 30 | 59 - 120 |
| Pyrene | 50.000 | 41.021 | 82.0 | 9.63 | 30 | 57 - 126 |
| 1,2,4-Trichlorobenzene | 50.000 | 41.135 | 82.3 | 10.6 | 30 | 29 - 116 |
| 4-Chloro-3-methylphenol | 100.00 | 88.664 | 88.7 | 17.4 | 30 | 52 - 119 |
| 2-Chlorophenol | 100.00 | 87.752 | 87.8 | 15.0 | 30 | 38 - 117 |
| 2,4-Dichlorophenol | 100.00 | 94.022 | 94.0 | 13.5 | 30 | 47 - 121 |
| 2,4-Dimethylphenol | 100.00 | 78.898 | 78.9 | 11.4 | 30 | 31 - 124 |
| 4,6-Dinitro-2-methylphenol | 100.00 | 97.404 | 97.4 | 12.5 | 30 | 44 - 137 |
| 2,4-Dinitrophenol | 100.00 | 93.461 | 93.5 | 15.6 | 30 | 23 - 143 |
| 2-Methylphenol | 100.00 | 76.760 | 76.8 | 23.7 | 30 | 30 - 117 |
| 3- & 4-Methylphenol | 200.00 | 115.65 | 57.8 | 24.9 | 30 | 29 - 110 |
| 2-Nitrophenol | 100.00 | 104.98 | 105 | 10.2 | 30 | 47 - 123 |
| 4-Nitrophenol | 100.00 | 60.040 | 60.0 | 0.668 | 30 | 1 - 125 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8270C

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-MSD1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.95 ml
Source Sample Number: 1702917-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Pentachlorophenol | 100.00 | 91.760 | 91.8 | 8.17 | 30 | 35 - 138 |
| Phenol | 100.00 | 52.668 | 52.7 | 18.9 | 30 | 1 - 115 |
| 2,4,5-Trichlorophenol | 100.00 | 98.933 | 98.9 | 12.8 | 30 | 53 - 123 |
| 2,4,6-Trichlorophenol | 100.00 | 97.736 | 97.7 | 9.64 | 30 | 50 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-BS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.95 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Acenaphthene | 50.000 | 40.147 | 80.3 | 47 - 122 |
| Acenaphthylene | 50.000 | 41.810 | 83.6 | 41 - 130 |
| Anthracene | 50.000 | 41.068 | 82.1 | 57 - 123 |
| Benzo[a]anthracene | 50.000 | 36.005 | 72.0 | 58 - 125 |
| Benzo[b]fluoranthene | 50.000 | 34.808 | 69.6 | 53 - 131 |
| Benzo[k]fluoranthene | 50.000 | 34.286 | 68.6 | 57 - 129 |
| Benzo[a]pyrene | 50.000 | 33.611 | 67.2 | 54 - 128 |
| Benzo[g,h,i]perylene | 50.000 | 34.722 | 69.4 | 50 - 134 |
| Benzyl alcohol | 50.000 | 22.410 | 44.8 | 31 - 112 |
| Benzyl butyl phthalate | 50.000 | 33.050 | 66.1 | 53 - 134 |
| bis(2-Chloroethoxy)methane | 50.000 | 35.796 | 71.6 | 48 - 120 |
| bis(2-Chloroethyl) ether | 50.000 | 37.744 | 75.5 | 43 - 118 |
| bis(2-Chloroisopropyl)ether | 50.000 | 31.844 | 63.7 | 37 - 130 |
| bis(2-Ethylhexyl)phthalate | 50.000 | 26.628 | 53.3 * | 55 - 135 |
| 4-Bromophenyl phenyl ether | 50.000 | 40.232 | 80.5 | 55 - 124 |
| 4-Chloroaniline | 50.000 | 5.8235 | 11.6 * | 33 - 117 |
| 2-Chloronaphthalene | 50.000 | 39.520 | 79.0 | 40 - 116 |
| 4-Chlorophenyl phenyl ether | 50.000 | 41.144 | 82.3 | 53 - 121 |
| Chrysene | 50.000 | 35.996 | 72.0 | 59 - 123 |
| Dibenzo[a,h]anthracene | 50.000 | 33.240 | 66.5 | 51 - 134 |
| Dibenzofuran | 50.000 | 40.916 | 81.8 | 53 - 118 |
| 1,2-Dichlorobenzene | 50.000 | 32.129 | 64.3 | 32 - 111 |
| 1,3-Dichlorobenzene | 50.000 | 30.647 | 61.3 | 28 - 110 |
| 1,4-Dichlorobenzene | 50.000 | 31.226 | 62.5 | 29 - 112 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-BS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.95 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| 3,3-Dichlorobenzidine | 50.000 | 24.462 | 48.9 | 27 - 129 |
| Diethyl phthalate | 50.000 | 40.384 | 80.8 | 56 - 125 |
| Dimethyl phthalate | 50.000 | 39.796 | 79.6 | 45 - 127 |
| Di-n-butyl phthalate | 50.000 | 42.000 | 84.0 | 59 - 127 |
| 2,4-Dinitrotoluene | 50.000 | 45.400 | 90.8 | 57 - 128 |
| 2,6-Dinitrotoluene | 50.000 | 40.632 | 81.3 | 57 - 124 |
| Di-n-octyl phthalate | 50.000 | 26.838 | 53.7 | 51 - 140 |
| Fluoranthene | 50.000 | 44.774 | 89.5 | 57 - 128 |
| Fluorene | 50.000 | 41.268 | 82.5 | 52 - 124 |
| Hexachlorobenzene | 50.000 | 39.178 | 78.4 | 53 - 125 |
| Hexachlorobutadiene | 50.000 | 25.146 | 50.3 | 22 - 124 |
| Hexachloroethane | 50.000 | 25.897 | 51.8 | 21 - 115 |
| Indeno[1,2,3-cd]pyrene | 50.000 | 34.447 | 68.9 | 52 - 134 |
| Isophorone | 50.000 | 35.549 | 71.1 | 42 - 124 |
| 2-Methylnaphthalene | 50.000 | 36.822 | 73.6 | 40 - 121 |
| Naphthalene | 50.000 | 38.304 | 76.6 | 40 - 121 |
| 2-Nitroaniline | 50.000 | 38.190 | 76.4 | 55 - 127 |
| 3-Nitroaniline | 50.000 | 22.705 | 45.4 | 41 - 128 |
| 4-Nitroaniline | 50.000 | 35.454 | 70.9 | 35 - 120 |
| Nitrobenzene | 50.000 | 35.758 | 71.5 | 45 - 121 |
| N-Nitrosodimethylamine | 50.000 | 26.058 | 52.1 | 25 - 110 |
| N-Nitrosodi-N-propylamine | 50.000 | 31.901 | 63.8 | 49 - 119 |
| N-Nitrosodiphenylamine | 50.000 | 41.629 | 83.3 | 51 - 123 |
| Phenanthrene | 50.000 | 40.460 | 80.9 | 59 - 120 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0544
Laboratory ID: B[B0544-BS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.95 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Pyrene | 50.000 | 34.618 | 69.2 | 57 - 126 |
| 1,2,4-Trichlorobenzene | 50.000 | 32.500 | 65.0 | 29 - 116 |
| 4-Chloro-3-methylphenol | 100.00 | 56.744 | 56.7 | 52 - 119 |
| 2-Chlorophenol | 100.00 | 50.834 | 50.8 | 38 - 117 |
| 2,4-Dichlorophenol | 100.00 | 59.954 | 60.0 | 47 - 121 |
| 2,4-Dimethylphenol | 100.00 | 66.101 | 66.1 | 31 - 124 |
| 4,6-Dinitro-2-methylphenol | 100.00 | 78.850 | 78.8 | 44 - 137 |
| 2,4-Dinitrophenol | 100.00 | 70.129 | 70.1 | 23 - 143 |
| 2-Methylphenol | 100.00 | 50.018 | 50.0 | 30 - 117 |
| 3- & 4-Methylphenol | 200.00 | 72.618 | 36.3 | 29 - 110 |
| 2-Nitrophenol | 100.00 | 68.068 | 68.1 | 47 - 123 |
| 4-Nitrophenol | 100.00 | 31.578 | 31.6 | 1 - 125 |
| Pentachlorophenol | 100.00 | 78.660 | 78.7 | 35 - 138 |
| Phenol | 100.00 | 27.645 | 27.6 | 1 - 115 |
| 2,4,5-Trichlorophenol | 100.00 | 70.262 | 70.3 | 53 - 123 |
| 2,4,6-Trichlorophenol | 100.00 | 68.086 | 68.1 | 50 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702000
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| MS Tune | 1702000-TUN1 | 08FEB001.D | 02/08/17 07:04 |
| Cal Standard | 1702000-CAL5 | 08FEB003.D | 02/08/17 12:04 |
| Cal Standard | 1702000-CAL4 | 08FEB004.D | 02/08/17 12:29 |
| Cal Standard | 1702000-CAL3 | 08FEB005.D | 02/08/17 12:55 |
| Cal Standard | 1702000-CAL2 | 08FEB006.D | 02/08/17 13:20 |
| Cal Standard | 1702000-CAL1 | 08FEB007.D | 02/08/17 13:46 |
| Cal Standard | 1702000-CAL6 | 08FEB008.D | 02/08/17 14:11 |
| MS Tune | 1702000-TUN2 | 08FEB009.D | 02/08/17 14:37 |
| Initial Cal Check | 1702000-ICV1 | 08FEB010.D | 02/08/17 15:02 |
| Initial Cal Blank | 1702000-ICB1 | 08FEB011.D | 02/08/17 15:28 |
| Calibration Check | 1702000-CCV1 | 08FEB036.D | 02/09/17 02:00 |
| Calibration Blank | 1702000-CCB1 | 08FEB037.D | 02/09/17 02:26 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702425 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| MS Tune | 1702425-TUN1 | 10FEB002.D | 02/10/17 09:14 |
| Calibration Check | 1702425-CCV1 | 10FEB003.D | 02/10/17 09:40 |
| Calibration Blank | 1702425-CCB1 | 10FEB004.D | 02/10/17 10:06 |
| LCS | B[B0544-BS1 | 10FEB006.D | 02/10/17 10:57 |
| Matrix Spike | B[B0544-MS1 | 10FEB007.D | 02/10/17 11:22 |
| Matrix Spike Dup | B[B0544-MSD1 | 10FEB008.D | 02/10/17 11:48 |
| M028A-R_170131 | 1702734-06 | 10FEB010.D | 02/10/17 12:40 |
| Blank | B[B0544-BLK1 | 10FEB019.D | 02/10/17 16:26 |
| Calibration Check | 1702425-CCV2 | 10FEB027.D | 02/10/17 19:46 |
| Calibration Blank | 1702425-CCB2 | 10FEB028.D | 02/10/17 20:11 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702536 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| MS Tune | 1702536-TUN1 | 13FEB001.D | 02/13/17 06:43 |
| Calibration Check | 1702536-CCV1 | 13FEB002.D | 02/13/17 07:10 |
| Calibration Blank | 1702536-CCB1 | 13FEB003.D | 02/13/17 07:35 |
| EB03_170131 | 1702734-01RE1 | 13FEB008.D | 02/13/17 09:43 |
| M034A-R_170131 | 1702734-07RE1 | 13FEB016.D | 02/13/17 13:09 |
| Calibration Check | 1702536-CCV2 | 13FEB022.D | 02/13/17 15:42 |
| Calibration Blank | 1702536-CCB2 | 13FEB023.D | 02/13/17 16:07 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 08FEB001.D | Injection Date: | 02/08/17 |
| Instrument ID: | MS-B2 | Injection Time: | 07:04 |
| Sequence: | 1702000 | Lab Sample ID: | 1702000-TUN1 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 51 | 30 - 60% of Mass 198 | 46.3 | PASS |
| Mass 68 | Less than 2% of Mass 69 | 0 | PASS |
| Mass 69 | Less than 100% of Mass 198 | 65.4 | PASS |
| Mass 70 | Less than 2% of Mass 69 | 0.384 | PASS |
| Mass 127 | 40 - 60% of Mass 198 | 46.5 | PASS |
| Mass 197 | Less than 1% of Mass 198 | 0 | PASS |
| Mass 198 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 199 | 5 - 9% of Mass 198 | 5.39 | PASS |
| Mass 275 | 10 - 30% of Mass 198 | 17.2 | PASS |
| Mass 365 | 1 - 100% of Mass 198 | 1.73 | PASS |
| Mass 441 | 0.01 - 100% of Mass 443 | 65.8 | PASS |
| Mass 442 | 40 - 100% of Mass 198 | 55.4 | PASS |
| Mass 443 | 17 - 23% of Mass 442 | 22.8 | PASS |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 08FEB009.D | Injection Date: | 02/08/17 |
| Instrument ID: | MS-B2 | Injection Time: | 14:37 |
| Sequence: | 1702000 | Lab Sample ID: | 1702000-TUN2 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 51 | 30 - 60% of Mass 198 | 42.7 | PASS |
| Mass 68 | Less than 2% of Mass 69 | 0 | PASS |
| Mass 69 | Less than 100% of Mass 198 | 62.5 | PASS |
| Mass 70 | Less than 2% of Mass 69 | 0.47 | PASS |
| Mass 127 | 40 - 60% of Mass 198 | 46.1 | PASS |
| Mass 197 | Less than 1% of Mass 198 | 0 | PASS |
| Mass 198 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 199 | 5 - 9% of Mass 198 | 6.94 | PASS |
| Mass 275 | 10 - 30% of Mass 198 | 17 | PASS |
| Mass 365 | 1 - 100% of Mass 198 | 1.69 | PASS |
| Mass 441 | 0.01 - 100% of Mass 443 | 79.8 | PASS |
| Mass 442 | 40 - 100% of Mass 198 | 58.6 | PASS |
| Mass 443 | 17 - 23% of Mass 442 | 19.4 | PASS |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 10FEB002.D | Injection Date: | 02/10/17 |
| Instrument ID: | MS-B2 | Injection Time: | 09:14 |
| Sequence: | 1702425 | Lab Sample ID: | 1702425-TUN1 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 51 | 30 - 60% of Mass 198 | 45.1 | PASS |
| Mass 68 | Less than 2% of Mass 69 | 0 | PASS |
| Mass 69 | Less than 100% of Mass 198 | 65.3 | PASS |
| Mass 70 | Less than 2% of Mass 69 | 0 | PASS |
| Mass 127 | 40 - 60% of Mass 198 | 45.1 | PASS |
| Mass 197 | Less than 1% of Mass 198 | 0 | PASS |
| Mass 198 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 199 | 5 - 9% of Mass 198 | 6.77 | PASS |
| Mass 275 | 10 - 30% of Mass 198 | 15.9 | PASS |
| Mass 365 | 1 - 100% of Mass 198 | 1.41 | PASS |
| Mass 441 | 0.01 - 100% of Mass 443 | 78.8 | PASS |
| Mass 442 | 40 - 100% of Mass 198 | 49.1 | PASS |
| Mass 443 | 17 - 23% of Mass 442 | 20.7 | PASS |

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Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 13FEB001.D | Injection Date: | 02/13/17 |
| Instrument ID: | MS-B2 | Injection Time: | 06:43 |
| Sequence: | 1702536 | Lab Sample ID: | 1702536-TUN1 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 51 | 30 - 60% of Mass 198 | 46.4 | PASS |
| Mass 68 | Less than 2% of Mass 69 | 0 | PASS |
| Mass 69 | Less than 100% of Mass 198 | 70.7 | PASS |
| Mass 70 | Less than 2% of Mass 69 | 0.752 | PASS |
| Mass 127 | 40 - 60% of Mass 198 | 50.3 | PASS |
| Mass 197 | Less than 1% of Mass 198 | 0 | PASS |
| Mass 198 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 199 | 5 - 9% of Mass 198 | 7.25 | PASS |
| Mass 275 | 10 - 30% of Mass 198 | 15 | PASS |
| Mass 365 | 1 - 100% of Mass 198 | 1.35 | PASS |
| Mass 441 | 0.01 - 100% of Mass 443 | 81.4 | PASS |
| Mass 442 | 40 - 100% of Mass 198 | 50 | PASS |
| Mass 443 | 17 - 23% of Mass 442 | 18.2 | PASS |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 08FEB010.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702000 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702000-ICV1 | Injection Time: | 15:02 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | A | 50000 | 54180 | 1.176551 | 1.274963 | | 8.4 | 20 |
| Acenaphthylene | A | 50000 | 54690 | 1.827542 | 1.999103 | | 9.4 | 20 |
| Anthracene | A | 50000 | 50550 | 0.9178026 | 0.9278432 | | 1.1 | 20 |
| Benzo[a]anthracene | A | 50000 | 47620 | 1.170334 | 1.114683 | | -4.8 | 20 |
| Benzo[b]fluoranthene | A | 50000 | 48300 | 1.136499 | 1.097872 | | -3.4 | 20 |
| Benzo[k]fluoranthene | A | 50000 | 52220 | 1.005823 | 1.050444 | | 4.4 | 20 |
| Benzo[a]pyrene | A | 50000 | 47620 | 0.9997622 | 0.9522434 | | -4.8 | 20 |
| Benzo[g,h,i]perylene | L | 50000 | 47770 | 0.9164535 | 0.8172081 | | -4.5 | 20 |
| Benzyl alcohol | A | 50000 | 49700 | 1.173642 | 1.166641 | | -0.6 | 20 |
| Benzyl butyl phthalate | A | 50000 | 45230 | 1.275387 | 1.15367 | | -9.5 | 20 |
| bis(2-Chloroethoxy)methane | A | 50000 | 50780 | 0.5678905 | 0.5767434 | | 1.6 | 20 |
| bis(2-Chloroethyl) ether | A | 50000 | 52630 | 1.690645 | 1.779706 | | 5.3 | 20 |
| bis(2-Chloroisopropyl)ether | A | 50000 | 50470 | 2.647084 | 2.671867 | | 0.9 | 20 |
| bis(2-Ethylhexyl)phthalate | A | 50000 | 46000 | 1.622389 | 1.492524 | | -8.0 | 20 |
| 4-Bromophenyl phenyl ether | A | 50000 | 48920 | 0.2102125 | 0.2056657 | | -2.2 | 20 |
| 4-Chloroaniline | A | 50000 | 52500 | 0.3723063 | 0.3909344 | | 5.0 | 20 |
| 2-Chloronaphthalene | A | 50000 | 55830 | 1.114578 | 1.24452 | | 11.7 | 20 |
| 4-Chlorophenyl phenyl ether | A | 50000 | 53850 | 0.6135306 | 0.6607952 | | 7.7 | 20 |
| Chrysene | A | 50000 | 50680 | 1.069676 | 1.084238 | | 1.4 | 20 |
| Dibenzo[a,h]anthracene | L | 50000 | 46860 | 0.9435208 | 0.8276345 | | -6.3 | 20 |
| Dibenzofuran | A | 50000 | 54180 | 1.433713 | 1.553527 | | 8.4 | 20 |
| 1,2-Dichlorobenzene | A | 50000 | 50210 | 1.405525 | 1.411354 | | 0.4 | 20 |
| 1,3-Dichlorobenzene | A | 50000 | 50880 | 1.462336 | 1.48799 | | 1.8 | 20 |

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San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 08FEB010.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702000 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702000-ICV1 | Injection Time: | 15:02 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | 50000 | 50930 | 1.510774 | 1.538938 | | 1.9 | 20 | |
| 3,3-Dichlorobenzidine | Q | 50000 | 54990 | 0.339073 | 0.3685786 | | 10.0 | 20 | |
| Diethyl phthalate | A | 50000 | 54930 | 1.376383 | 1.512163 | | 9.9 | 20 | |
| Dimethyl phthalate | Q | 50000 | 53480 | 1.909191 | 1.36439 | | 7.0 | 20 | |
| Di-n-butyl phthalate | A | 50000 | 52280 | 1.454437 | 1.52072 | | 4.6 | 20 | |
| 2,4-Dinitrotoluene | Q | 50000 | 55710 | 0.3460065 | 0.3711863 | | 11.4 | 20 | |
| 2,6-Dinitrotoluene | A | 50000 | 54820 | 0.2851814 | 0.3126505 | | 9.6 | 20 | |
| Di-n-octyl phthalate | A | 50000 | 49930 | 2.273762 | 2.270677 | | -0.1 | 20 | |
| Fluoranthene | A | 50000 | 53830 | 0.8209527 | 0.8838263 | | 7.7 | 20 | |
| Fluorene | A | 50000 | 54220 | 1.152504 | 1.249661 | | 8.4 | 20 | |
| Hexachlorobenzene | A | 50000 | 48240 | 0.2682213 | 0.2587991 | | -3.5 | 20 | |
| Hexachlorobutadiene | A | 50000 | 50830 | 0.1831598 | 0.1862142 | | 1.7 | 20 | |
| Hexachloroethane | A | 50000 | 49770 | 0.6966021 | 0.6933725 | | -0.5 | 20 | |
| Indeno[1,2,3-cd]pyrene | L | 50000 | 46900 | 1.077617 | 0.9469965 | | -6.2 | 20 | |
| Isophorone | A | 50000 | 49380 | 0.8545704 | 0.8439166 | | -1.2 | 20 | |
| 2-Methylnaphthalene | A | 50000 | 49590 | 0.6103452 | 0.6052948 | | -0.8 | 20 | |
| Naphthalene | A | 50000 | 52150 | 0.9435535 | 0.9840727 | | 4.3 | 20 | |
| 2-Nitroaniline | A | 50000 | 55710 | 0.4262861 | 0.4749584 | | 11.4 | 20 | |
| 3-Nitroaniline | Q | 50000 | 54460 | 0.2826496 | 0.3058209 | | 8.9 | 20 | |
| 4-Nitroaniline | A | 50000 | 61430 | 0.2176045 | 0.267343 | | 22.9 | 20 | * |
| Nitrobenzene | A | 50000 | 51460 | 0.4300719 | 0.4426551 | | 2.9 | 20 | |
| N-Nitrosodimethylamine | Q | 50000 | 56260 | 0.8400613 | 0.7596172 | | 12.5 | 20 | |
| N-Nitrosodi-N-propylamine | A | 50000 | 49220 | 1.076653 | 1.05978 | 0.05 | -1.6 | 20 | |

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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 08FEB010.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702000 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702000-ICV1 | Injection Time: | 15:02 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | A | 50000 | 53860 | 0.7419549 | 0.7992368 | | 7.7 | 20 |
| Phenanthrene | A | 50000 | 50220 | 0.9937729 | 0.998244 | | 0.4 | 20 |
| Pyrene | A | 50000 | 44720 | 2.138067 | 1.912481 | | -10.6 | 20 |
| 1,2,4-Trichlorobenzene | A | 50000 | 51550 | 0.2869532 | 0.295857 | | 3.1 | 20 |
| 4-Chloro-3-methylphenol | A | 50000 | 50470 | 0.3177075 | 0.3207065 | | 0.9 | 20 |
| 2-Chlorophenol | A | 50000 | 50550 | 1.374604 | 1.389741 | | 1.1 | 20 |
| 2,4-Dichlorophenol | A | 50000 | 49490 | 0.2699675 | 0.267237 | | -1.0 | 20 |
| 2,4-Dimethylphenol | Q | 50000 | 56070 | 0.3857059 | 0.4250326 | | 12.1 | 20 |
| 4,6-Dinitro-2-methylphenol | Q | 50000 | 61330 | 0.1761238 | 0.2355072 | | 22.7 | 20 * |
| 2,4-Dinitrophenol | Q | 50000 | 58990 | 0.1462143 | 0.1940101 | 0.05 | 18.0 | 20 |
| 2-Methylphenol | A | 50000 | 51040 | 1.371959 | 1.400375 | | 2.1 | 20 |
| 3- & 4-Methylphenol | A | 100000 | 100510 | 1.480258 | 1.487763 | | 0.5 | 20 |
| 2-Nitrophenol | A | 50000 | 50340 | 0.2071894 | 0.2085965 | | 0.7 | 20 |
| 4-Nitrophenol | Q | 50000 | 55190 | 0.1127797 | 0.1347563 | 0.05 | 10.4 | 20 |
| Pentachlorophenol | Q | 50000 | 54330 | 0.1230338 | 0.1411211 | | 8.7 | 20 |
| Phenol | A | 50000 | 49490 | 2.058745 | 2.037557 | | -1.0 | 20 |
| 2,4,5-Trichlorophenol | A | 50000 | 58220 | 0.3976562 | 0.4630526 | | 16.4 | 20 |
| 2,4,6-Trichlorophenol | A | 50000 | 51810 | 0.4103541 | 0.4251976 | | 3.6 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 08FEB036.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702000 | Injection Date: | 02/09/17 |
| Lab Sample ID: | 1702000-CCV1 | Injection Time: | 02:00 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Acenaphthene | A | 50000 | 51100 | 1.176551 | 1.202399 | | 2.2 | 20 |
| Acenaphthylene | A | 50000 | 50230 | 1.827542 | 1.835992 | | 0.5 | 20 |
| Anthracene | A | 50000 | 49190 | 0.9178026 | 0.9028961 | | -1.6 | 20 |
| Benzo[a]anthracene | A | 50000 | 46060 | 1.170334 | 1.078162 | | -7.9 | 20 |
| Benzo[b]fluoranthene | A | 50000 | 47970 | 1.136499 | 1.090255 | | -4.1 | 20 |
| Benzo[k]fluoranthene | A | 50000 | 50750 | 1.005823 | 1.020865 | | 1.5 | 20 |
| Benzo[a]pyrene | A | 50000 | 49300 | 0.9997622 | 0.9857846 | | -1.4 | 20 |
| Benzo[g,h,i]perylene | L | 50000 | 43630 | 0.9164535 | 0.7452963 | | -12.7 | 20 |
| Benzyl alcohol | A | 50000 | 46740 | 1.173642 | 1.097039 | | -6.5 | 20 |
| Benzyl butyl phthalate | A | 50000 | 42610 | 1.275387 | 1.08685 | | -14.8 | 20 |
| bis(2-Chloroethoxy)methane | A | 50000 | 50290 | 0.5678905 | 0.5712133 | | 0.6 | 20 |
| bis(2-Chloroethyl) ether | A | 50000 | 51350 | 1.690645 | 1.736191 | | 2.7 | 20 |
| bis(2-Chloroisopropyl)ether | A | 50000 | 46610 | 2.647084 | 2.467733 | | -6.8 | 20 |
| bis(2-Ethylhexyl)phthalate | A | 50000 | 42620 | 1.622389 | 1.382861 | | -14.8 | 20 |
| 4-Bromophenyl phenyl ether | A | 50000 | 49950 | 0.2102125 | 0.2099933 | | -0.1 | 20 |
| 4-Chloroaniline | A | 50000 | 50720 | 0.3723063 | 0.377648 | | 1.4 | 20 |
| 2-Chloronaphthalene | A | 50000 | 51360 | 1.114578 | 1.144793 | | 2.7 | 20 |
| 4-Chlorophenyl phenyl ether | A | 50000 | 49860 | 0.6135306 | 0.6117586 | | -0.3 | 20 |
| Chrysene | A | 50000 | 47660 | 1.069676 | 1.019588 | | -4.7 | 20 |
| Dibenzo[a,h]anthracene | L | 50000 | 45800 | 0.9435208 | 0.8088658 | | -8.4 | 20 |
| Dibenzofuran | A | 50000 | 50720 | 1.433713 | 1.454291 | | 1.4 | 20 |
| 1,2-Dichlorobenzene | A | 50000 | 51500 | 1.405525 | 1.447709 | | 3.0 | 20 |
| 1,3-Dichlorobenzene | A | 50000 | 50950 | 1.462336 | 1.490176 | | 1.9 | 20 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 08FEB036.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702000 | Injection Date: | 02/09/17 |
| Lab Sample ID: | 1702000-CCV1 | Injection Time: | 02:00 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | 50000 | 51780 | 1.510774 | 1.56466 | | 3.6 | 20 |
| 3,3-Dichlorobenzidine | Q | 50000 | 49300 | 0.339073 | 0.3190972 | | -1.4 | 20 |
| Diethyl phthalate | A | 50000 | 46520 | 1.376383 | 1.280456 | | -7.0 | 20 |
| Dimethyl phthalate | Q | 50000 | 47120 | 1.909191 | 1.191497 | | -5.8 | 20 |
| Di-n-butyl phthalate | A | 50000 | 45990 | 1.454437 | 1.337731 | | -8.0 | 20 |
| 2,4-Dinitrotoluene | Q | 50000 | 52840 | 0.3460065 | 0.3459833 | | 5.7 | 20 |
| 2,6-Dinitrotoluene | A | 50000 | 51700 | 0.2851814 | 0.2948887 | | 3.4 | 20 |
| Di-n-octyl phthalate | A | 50000 | 46420 | 2.273762 | 2.111186 | | -7.2 | 20 |
| Fluoranthene | A | 50000 | 49890 | 0.8209527 | 0.8191148 | | -0.2 | 20 |
| Fluorene | A | 50000 | 50440 | 1.152504 | 1.162653 | | 0.9 | 20 |
| Hexachlorobenzene | A | 50000 | 51290 | 0.2682213 | 0.2751632 | | 2.6 | 20 |
| Hexachlorobutadiene | A | 50000 | 50050 | 0.1831598 | 0.1833461 | | 0.1 | 20 |
| Hexachloroethane | A | 50000 | 49010 | 0.6966021 | 0.6827496 | | -2.0 | 20 |
| Indeno[1,2,3-cd]pyrene | L | 50000 | 46550 | 1.077617 | 0.939862 | | -6.9 | 20 |
| Isophorone | A | 50000 | 48050 | 0.8545704 | 0.8211661 | | -3.9 | 20 |
| 2-Methylnaphthalene | A | 50000 | 50250 | 0.6103452 | 0.613371 | | 0.5 | 20 |
| Naphthalene | A | 50000 | 51860 | 0.9435535 | 0.9785869 | | 3.7 | 20 |
| 2-Nitroaniline | A | 50000 | 49960 | 0.4262861 | 0.4259811 | | -0.07 | 20 |
| 3-Nitroaniline | Q | 50000 | 49970 | 0.2826496 | 0.2736597 | | -0.06 | 20 |
| 4-Nitroaniline | A | 50000 | 44060 | 0.2176045 | 0.1917323 | | -11.9 | 20 |
| Nitrobenzene | A | 50000 | 48110 | 0.4300719 | 0.4138513 | | -3.8 | 20 |
| N-Nitrosodimethylamine | Q | 50000 | 47180 | 0.8400613 | 0.6108928 | | -5.6 | 20 |
| N-Nitrosodi-N-propylamine | A | 50000 | 47850 | 1.076653 | 1.030324 | 0.05 | -4.3 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 08FEB036.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702000 | Injection Date: | 02/09/17 |
| Lab Sample ID: | 1702000-CCV1 | Injection Time: | 02:00 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | A | 50000 | 49240 | 0.7419549 | 0.7307366 | | -1.5 | 20 |
| Phenanthrene | A | 50000 | 49490 | 0.9937729 | 0.9836068 | | -1.0 | 20 |
| Pyrene | A | 50000 | 43420 | 2.138067 | 1.856698 | | -13.2 | 20 |
| 1,2,4-Trichlorobenzene | A | 50000 | 51820 | 0.2869532 | 0.2973835 | | 3.6 | 20 |
| 4-Chloro-3-methylphenol | A | 50000 | 51000 | 0.3177075 | 0.3240634 | | 2.0 | 20 |
| 2-Chlorophenol | A | 50000 | 51770 | 1.374604 | 1.423189 | | 3.5 | 20 |
| 2,4-Dichlorophenol | A | 50000 | 49750 | 0.2699675 | 0.268613 | | -0.5 | 20 |
| 2,4-Dimethylphenol | Q | 50000 | 53380 | 0.3857059 | 0.3985279 | | 6.8 | 20 |
| 4,6-Dinitro-2-methylphenol | Q | 50000 | 53600 | 0.1761238 | 0.1943034 | | 7.2 | 20 |
| 2,4-Dinitrophenol | Q | 50000 | 55300 | 0.1462143 | 0.1756277 | 0.05 | 10.6 | 20 |
| 2-Methylphenol | A | 50000 | 51790 | 1.371959 | 1.420965 | | 3.6 | 20 |
| 3- & 4-Methylphenol | A | 100000 | 102700 | 1.480258 | 1.520153 | | 2.7 | 20 |
| 2-Nitrophenol | A | 50000 | 50570 | 0.2071894 | 0.2095341 | | 1.1 | 20 |
| 4-Nitrophenol | Q | 50000 | 41610 | 0.1127797 | 9.505148E-02 | 0.05 | -16.8 | 20 |
| Pentachlorophenol | Q | 50000 | 49910 | 0.1230338 | 0.1260287 | | -0.2 | 20 |
| Phenol | A | 50000 | 48760 | 2.058745 | 2.007516 | | -2.5 | 20 |
| 2,4,5-Trichlorophenol | A | 50000 | 50800 | 0.3976562 | 0.4040081 | | 1.6 | 20 |
| 2,4,6-Trichlorophenol | A | 50000 | 47940 | 0.4103541 | 0.393453 | | -4.1 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 10FEB003.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702425 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702425-CCV1 | Injection Time: | 09:40 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | A | 50000 | 50220 | 1.176551 | 1.181781 | | 0.4 | 20 |
| Acenaphthylene | A | 50000 | 50980 | 1.827542 | 1.863196 | | 2.0 | 20 |
| Anthracene | A | 50000 | 49990 | 0.9178026 | 0.9176566 | | -0.02 | 20 |
| Benzo[a]anthracene | A | 50000 | 49180 | 1.170334 | 1.151029 | | -1.6 | 20 |
| Benzo[b]fluoranthene | A | 50000 | 48220 | 1.136499 | 1.095937 | | -3.6 | 20 |
| Benzo[k]fluoranthene | A | 50000 | 52190 | 1.005823 | 1.049843 | | 4.4 | 20 |
| Benzo[a]pyrene | A | 50000 | 47340 | 0.9997622 | 0.9466292 | | -5.3 | 20 |
| Benzo[g,h,i]perylene | L | 50000 | 41480 | 0.9164535 | 0.7079699 | | -17.0 | 20 |
| Benzyl alcohol | A | 50000 | 49090 | 1.173642 | 1.152381 | | -1.8 | 20 |
| Benzyl butyl phthalate | A | 50000 | 41590 | 1.275387 | 1.060935 | | -16.8 | 20 |
| bis(2-Chloroethoxy)methane | A | 50000 | 48420 | 0.5678905 | 0.5499451 | | -3.2 | 20 |
| bis(2-Chloroethyl) ether | A | 50000 | 49470 | 1.690645 | 1.672705 | | -1.1 | 20 |
| bis(2-Chloroisopropyl)ether | A | 50000 | 44050 | 2.647084 | 2.332085 | | -11.9 | 20 |
| bis(2-Ethylhexyl)phthalate | A | 50000 | 43220 | 1.622389 | 1.402417 | | -13.6 | 20 |
| 4-Bromophenyl phenyl ether | A | 50000 | 46790 | 0.2102125 | 0.1967133 | | -6.4 | 20 |
| 4-Chloroaniline | A | 50000 | 49770 | 0.3723063 | 0.3705801 | | -0.5 | 20 |
| 2-Chloronaphthalene | A | 50000 | 51180 | 1.114578 | 1.140976 | | 2.4 | 20 |
| 4-Chlorophenyl phenyl ether | A | 50000 | 49680 | 0.6135306 | 0.6096371 | | -0.6 | 20 |
| Chrysene | A | 50000 | 52080 | 1.069676 | 1.114207 | | 4.2 | 20 |
| Dibenzo[a,h]anthracene | L | 50000 | 41330 | 0.9435208 | 0.7295727 | | -17.3 | 20 |
| Dibenzofuran | A | 50000 | 51330 | 1.433713 | 1.47183 | | 2.7 | 20 |
| 1,2-Dichlorobenzene | A | 50000 | 52560 | 1.405525 | 1.477535 | | 5.1 | 20 |
| 1,3-Dichlorobenzene | A | 50000 | 51510 | 1.462336 | 1.506474 | | 3.0 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 10FEB003.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702425 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702425-CCV1 | Injection Time: | 09:40 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | 50000 | 51900 | 1.510774 | 1.568143 | | 3.8 | 20 | |
| 3,3-Dichlorobenzidine | Q | 50000 | 56860 | 0.339073 | 0.3855473 | | 13.7 | 20 | |
| Diethyl phthalate | A | 50000 | 50920 | 1.376383 | 1.401757 | | 1.8 | 20 | |
| Dimethyl phthalate | Q | 50000 | 53290 | 1.909191 | 1.359214 | | 6.6 | 20 | |
| Di-n-butyl phthalate | A | 50000 | 45860 | 1.454437 | 1.33409 | | -8.3 | 20 | |
| 2,4-Dinitrotoluene | Q | 50000 | 59190 | 0.3460065 | 0.4027084 | | 18.4 | 20 | |
| 2,6-Dinitrotoluene | A | 50000 | 53820 | 0.2851814 | 0.306949 | | 7.6 | 20 | |
| Di-n-octyl phthalate | A | 50000 | 45380 | 2.273762 | 2.063538 | | -9.2 | 20 | |
| Fluoranthene | A | 50000 | 51250 | 0.8209527 | 0.8415179 | | 2.5 | 20 | |
| Fluorene | A | 50000 | 51340 | 1.152504 | 1.183312 | | 2.7 | 20 | |
| Hexachlorobenzene | A | 50000 | 47950 | 0.2682213 | 0.2572341 | | -4.1 | 20 | |
| Hexachlorobutadiene | A | 50000 | 49940 | 0.1831598 | 0.1829569 | | -0.1 | 20 | |
| Hexachloroethane | A | 50000 | 49220 | 0.6966021 | 0.6856991 | | -1.6 | 20 | |
| Indeno[1,2,3-cd]pyrene | L | 50000 | 41420 | 1.077617 | 0.8348695 | | -17.2 | 20 | |
| Isophorone | A | 50000 | 47200 | 0.8545704 | 0.8067201 | | -5.6 | 20 | |
| 2-Methylnaphthalene | A | 50000 | 50910 | 0.6103452 | 0.6215121 | | 1.8 | 20 | |
| Naphthalene | A | 50000 | 50450 | 0.9435535 | 0.951967 | | 0.9 | 20 | |
| 2-Nitroaniline | A | 50000 | 54220 | 0.4262861 | 0.4622773 | | 8.4 | 20 | |
| 3-Nitroaniline | Q | 50000 | 58730 | 0.2826496 | 0.3376097 | | 17.5 | 20 | |
| 4-Nitroaniline | A | 50000 | 65300 | 0.2176045 | 0.2841891 | | 30.6 | 20 | * |
| Nitrobenzene | A | 50000 | 46610 | 0.4300719 | 0.4008801 | | -6.8 | 20 | |
| N-Nitrosodimethylamine | Q | 50000 | 52340 | 0.8400613 | 0.6936731 | | 4.7 | 20 | |
| N-Nitrosodi-N-propylamine | A | 50000 | 45950 | 1.076653 | 0.9894402 | 0.05 | -8.1 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
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Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 10FEB003.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702425 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702425-CCV1 | Injection Time: | 09:40 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | A | 50000 | 52980 | 0.7419549 | 0.7861263 | | 6.0 | 20 | |
| Phenanthrene | A | 50000 | 48430 | 0.9937729 | 0.9625689 | | -3.1 | 20 | |
| Pyrene | A | 50000 | 43100 | 2.138067 | 1.842969 | | -13.8 | 20 | |
| 1,2,4-Trichlorobenzene | A | 50000 | 49760 | 0.2869532 | 0.2855525 | | -0.5 | 20 | |
| 4-Chloro-3-methylphenol | A | 50000 | 52150 | 0.3177075 | 0.3313772 | | 4.3 | 20 | |
| 2-Chlorophenol | A | 50000 | 53820 | 1.374604 | 1.479647 | | 7.6 | 20 | |
| 2,4-Dichlorophenol | A | 50000 | 51800 | 0.2699675 | 0.2797092 | | 3.6 | 20 | |
| 2,4-Dimethylphenol | Q | 50000 | 54430 | 0.3857059 | 0.4088557 | | 8.9 | 20 | |
| 4,6-Dinitro-2-methylphenol | Q | 50000 | 66300 | 0.1761238 | 0.2638775 | | 32.6 | 20 | * |
| 2,4-Dinitrophenol | Q | 50000 | 65270 | 0.1462143 | 0.2274175 | 0.05 | 30.5 | 20 | * |
| 2-Methylphenol | A | 50000 | 51000 | 1.371959 | 1.399347 | | 2.0 | 20 | |
| 3- & 4-Methylphenol | A | 100000 | 104040 | 1.480258 | 1.540066 | | 4.0 | 20 | |
| 2-Nitrophenol | A | 50000 | 49920 | 0.2071894 | 0.206849 | | -0.2 | 20 | |
| 4-Nitrophenol | Q | 50000 | 58900 | 0.1127797 | 0.1463286 | 0.05 | 17.8 | 20 | |
| Pentachlorophenol | Q | 50000 | 56800 | 0.1230338 | 0.149876 | | 13.6 | 20 | |
| Phenol | A | 50000 | 48430 | 2.058745 | 1.994215 | | -3.1 | 20 | |
| 2,4,5-Trichlorophenol | A | 50000 | 53720 | 0.3976562 | 0.427244 | | 7.4 | 20 | |
| 2,4,6-Trichlorophenol | A | 50000 | 50200 | 0.4103541 | 0.4120216 | | 0.4 | 20 | |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 10FEB027.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702425 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702425-CCV2 | Injection Time: | 19:46 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | A | 50000 | 50150 | 1.176551 | 1.18018 | | 0.3 | 20 | |
| Acenaphthylene | A | 50000 | 50290 | 1.827542 | 1.838262 | | 0.6 | 20 | |
| Anthracene | A | 50000 | 49620 | 0.9178026 | 0.9108582 | | -0.8 | 20 | |
| Benzo[a]anthracene | A | 50000 | 47860 | 1.170334 | 1.120198 | | -4.3 | 20 | |
| Benzo[b]fluoranthene | A | 50000 | 50880 | 1.136499 | 1.156525 | | 1.8 | 20 | |
| Benzo[k]fluoranthene | A | 50000 | 53120 | 1.005823 | 1.068675 | | 6.2 | 20 | |
| Benzo[a]pyrene | A | 50000 | 49030 | 0.9997622 | 0.9802855 | | -1.9 | 20 | |
| Benzo[g,h,i]perylene | L | 50000 | 38390 | 0.9164535 | 0.6542745 | | -23.2 | 20 | * |
| Benzyl alcohol | A | 50000 | 42170 | 1.173642 | 0.9899053 | | -15.7 | 20 | |
| Benzyl butyl phthalate | A | 50000 | 45590 | 1.275387 | 1.162867 | | -8.8 | 20 | |
| bis(2-Chloroethoxy)methane | A | 50000 | 48990 | 0.5678905 | 0.5564266 | | -2.0 | 20 | |
| bis(2-Chloroethyl) ether | A | 50000 | 52450 | 1.690645 | 1.773434 | | 4.9 | 20 | |
| bis(2-Chloroisopropyl)ether | A | 50000 | 42310 | 2.647084 | 2.239965 | | -15.4 | 20 | |
| bis(2-Ethylhexyl)phthalate | A | 50000 | 47440 | 1.622389 | 1.539237 | | -5.1 | 20 | |
| 4-Bromophenyl phenyl ether | A | 50000 | 46090 | 0.2102125 | 0.1937939 | | -7.8 | 20 | |
| 4-Chloroaniline | A | 50000 | 49740 | 0.3723063 | 0.3704027 | | -0.5 | 20 | |
| 2-Chloronaphthalene | A | 50000 | 50850 | 1.114578 | 1.133422 | | 1.7 | 20 | |
| 4-Chlorophenyl phenyl ether | A | 50000 | 51700 | 0.6135306 | 0.6343696 | | 3.4 | 20 | |
| Chrysene | A | 50000 | 47430 | 1.069676 | 1.014784 | | -5.1 | 20 | |
| Dibenzo[a,h]anthracene | L | 50000 | 39460 | 0.9435208 | 0.696324 | | -21.1 | 20 | * |
| Dibenzofuran | A | 50000 | 51260 | 1.433713 | 1.469745 | | 2.5 | 20 | |
| 1,2-Dichlorobenzene | A | 50000 | 51480 | 1.405525 | 1.447263 | | 3.0 | 20 | |
| 1,3-Dichlorobenzene | A | 50000 | 52230 | 1.462336 | 1.527627 | | 4.5 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 10FEB027.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702425 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702425-CCV2 | Injection Time: | 19:46 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | 50000 | 51330 | 1.510774 | 1.550843 | | 2.7 | 20 | |
| 3,3-Dichlorobenzidine | Q | 50000 | 49200 | 0.339073 | 0.3182509 | | -1.6 | 20 | |
| Diethyl phthalate | A | 50000 | 49070 | 1.376383 | 1.350733 | | -1.9 | 20 | |
| Dimethyl phthalate | Q | 50000 | 49470 | 1.909191 | 1.254539 | | -1.1 | 20 | |
| Di-n-butyl phthalate | A | 50000 | 44800 | 1.454437 | 1.303173 | | -10.4 | 20 | |
| 2,4-Dinitrotoluene | Q | 50000 | 58940 | 0.3460065 | 0.4004332 | | 17.9 | 20 | |
| 2,6-Dinitrotoluene | A | 50000 | 52700 | 0.2851814 | 0.3005816 | | 5.4 | 20 | |
| Di-n-octyl phthalate | A | 50000 | 47340 | 2.273762 | 2.152643 | | -5.3 | 20 | |
| Fluoranthene | A | 50000 | 47620 | 0.8209527 | 0.7818557 | | -4.8 | 20 | |
| Fluorene | A | 50000 | 52280 | 1.152504 | 1.205047 | | 4.6 | 20 | |
| Hexachlorobenzene | A | 50000 | 47020 | 0.2682213 | 0.2522507 | | -6.0 | 20 | |
| Hexachlorobutadiene | A | 50000 | 49620 | 0.1831598 | 0.1817639 | | -0.8 | 20 | |
| Hexachloroethane | A | 50000 | 49320 | 0.6966021 | 0.6871948 | | -1.4 | 20 | |
| Indeno[1,2,3-cd]pyrene | L | 50000 | 39430 | 1.077617 | 0.7939572 | | -21.1 | 20 | * |
| Isophorone | A | 50000 | 47130 | 0.8545704 | 0.805553 | | -5.7 | 20 | |
| 2-Methylnaphthalene | A | 50000 | 50430 | 0.6103452 | 0.6155946 | | 0.9 | 20 | |
| Naphthalene | A | 50000 | 51510 | 0.9435535 | 0.9720799 | | 3.0 | 20 | |
| 2-Nitroaniline | A | 50000 | 55560 | 0.4262861 | 0.4736611 | | 11.1 | 20 | |
| 3-Nitroaniline | Q | 50000 | 58870 | 0.2826496 | 0.338671 | | 17.7 | 20 | |
| 4-Nitroaniline | A | 50000 | 64880 | 0.2176045 | 0.2823591 | | 29.8 | 20 | * |
| Nitrobenzene | A | 50000 | 48070 | 0.4300719 | 0.4134421 | | -3.9 | 20 | |
| N-Nitrosodimethylamine | Q | 50000 | 54110 | 0.8400613 | 0.7231152 | | 8.2 | 20 | |
| N-Nitrosodi-N-propylamine | A | 50000 | 43460 | 1.076653 | 0.9357791 | 0.05 | -13.1 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 10FEB027.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702425 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702425-CCV2 | Injection Time: | 19:46 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | A | 50000 | 52110 | 0.7419549 | 0.7732019 | | 4.2 | 20 | |
| Phenanthrene | A | 50000 | 48510 | 0.9937729 | 0.9641137 | | -3.0 | 20 | |
| Pyrene | A | 50000 | 50560 | 2.138067 | 2.16191 | | 1.1 | 20 | |
| 1,2,4-Trichlorobenzene | A | 50000 | 51500 | 0.2869532 | 0.2955511 | | 3.0 | 20 | |
| 4-Chloro-3-methylphenol | A | 50000 | 50610 | 0.3177075 | 0.3215972 | | 1.2 | 20 | |
| 2-Chlorophenol | A | 50000 | 53000 | 1.374604 | 1.456956 | | 6.0 | 20 | |
| 2,4-Dichlorophenol | A | 50000 | 49940 | 0.2699675 | 0.2696174 | | -0.1 | 20 | |
| 2,4-Dimethylphenol | Q | 50000 | 54750 | 0.3857059 | 0.4119938 | | 9.5 | 20 | |
| 4,6-Dinitro-2-methylphenol | Q | 50000 | 62760 | 0.1761238 | 0.2435306 | | 25.5 | 20 | * |
| 2,4-Dinitrophenol | Q | 50000 | 62690 | 0.1462143 | 0.2133554 | 0.05 | 25.4 | 20 | * |
| 2-Methylphenol | A | 50000 | 52790 | 1.371959 | 1.448646 | | 5.6 | 20 | |
| 3- & 4-Methylphenol | A | 100000 | 101260 | 1.480258 | 1.498877 | | 1.3 | 20 | |
| 2-Nitrophenol | A | 50000 | 51600 | 0.2071894 | 0.2138345 | | 3.2 | 20 | |
| 4-Nitrophenol | Q | 50000 | 54980 | 0.1127797 | 0.1341192 | 0.05 | 10.0 | 20 | |
| Pentachlorophenol | Q | 50000 | 52540 | 0.1230338 | 0.1349343 | | 5.1 | 20 | |
| Phenol | A | 50000 | 52550 | 2.058745 | 2.163749 | | 5.1 | 20 | |
| 2,4,5-Trichlorophenol | A | 50000 | 52170 | 0.3976562 | 0.4148827 | | 4.3 | 20 | |
| 2,4,6-Trichlorophenol | A | 50000 | 49490 | 0.4103541 | 0.4061766 | | -1.0 | 20 | |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 13FEB002.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702536 | Injection Date: | 02/13/17 |
| Lab Sample ID: | 1702536-CCV1 | Injection Time: | 07:10 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | A | 50000 | 54260 | 1.176551 | 1.2768 | | 8.5 | 20 | |
| Acenaphthylene | A | 50000 | 53560 | 1.827542 | 1.957688 | | 7.1 | 20 | |
| Anthracene | A | 50000 | 53830 | 0.9178026 | 0.9881695 | | 7.7 | 20 | |
| Benzo[a]anthracene | A | 50000 | 50420 | 1.170334 | 1.180109 | | 0.8 | 20 | |
| Benzo[b]fluoranthene | A | 50000 | 50990 | 1.136499 | 1.159064 | | 2.0 | 20 | |
| Benzo[k]fluoranthene | A | 50000 | 59880 | 1.005823 | 1.20466 | | 19.8 | 20 | |
| Benzo[a]pyrene | A | 50000 | 52030 | 0.9997622 | 1.040284 | | 4.1 | 20 | |
| Benzo[g,h,i]perylene | L | 50000 | 43290 | 0.9164535 | 0.7393945 | | -13.4 | 20 | |
| Benzyl alcohol | A | 50000 | 34270 | 1.173642 | 0.8045286 | | -31.5 | 20 | * |
| Benzyl butyl phthalate | A | 50000 | 52460 | 1.275387 | 1.338067 | | 4.9 | 20 | |
| bis(2-Chloroethoxy)methane | A | 50000 | 49270 | 0.5678905 | 0.5595763 | | -1.5 | 20 | |
| bis(2-Chloroethyl) ether | A | 50000 | 54460 | 1.690645 | 1.841419 | | 8.9 | 20 | |
| bis(2-Chloroisopropyl)ether | A | 50000 | 42980 | 2.647084 | 2.275394 | | -14.0 | 20 | |
| bis(2-Ethylhexyl)phthalate | A | 50000 | 54810 | 1.622389 | 1.778428 | | 9.6 | 20 | |
| 4-Bromophenyl phenyl ether | A | 50000 | 52430 | 0.2102125 | 0.220433 | | 4.9 | 20 | |
| 4-Chloroaniline | A | 50000 | 46990 | 0.3723063 | 0.3498787 | | -6.0 | 20 | |
| 2-Chloronaphthalene | A | 50000 | 55360 | 1.114578 | 1.233995 | | 10.7 | 20 | |
| 4-Chlorophenyl phenyl ether | A | 50000 | 50440 | 0.6135306 | 0.6189101 | | 0.9 | 20 | |
| Chrysene | A | 50000 | 53250 | 1.069676 | 1.139242 | | 6.5 | 20 | |
| Dibenzo[a,h]anthracene | L | 50000 | 43160 | 0.9435208 | 0.7621073 | | -13.7 | 20 | |
| Dibenzofuran | A | 50000 | 54220 | 1.433713 | 1.554608 | | 8.4 | 20 | |
| 1,2-Dichlorobenzene | A | 50000 | 51670 | 1.405525 | 1.452423 | | 3.3 | 20 | |
| 1,3-Dichlorobenzene | A | 50000 | 52390 | 1.462336 | 1.532188 | | 4.8 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 13FEB002.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702536 | Injection Date: | 02/13/17 |
| Lab Sample ID: | 1702536-CCV1 | Injection Time: | 07:10 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | 50000 | 52550 | 1.510774 | 1.587919 | | 5.1 | 20 |
| 3,3-Dichlorobenzidine | Q | 50000 | 48560 | 0.339073 | 0.3128257 | | -2.9 | 20 |
| Diethyl phthalate | A | 50000 | 50160 | 1.376383 | 1.380854 | | 0.3 | 20 |
| Dimethyl phthalate | Q | 50000 | 51040 | 1.909191 | 1.297253 | | 2.1 | 20 |
| Di-n-butyl phthalate | A | 50000 | 50360 | 1.454437 | 1.464887 | | 0.7 | 20 |
| 2,4-Dinitrotoluene | Q | 50000 | 55950 | 0.3460065 | 0.3732952 | | 11.9 | 20 |
| 2,6-Dinitrotoluene | A | 50000 | 52970 | 0.2851814 | 0.3021105 | | 5.9 | 20 |
| Di-n-octyl phthalate | A | 50000 | 54570 | 2.273762 | 2.481731 | | 9.1 | 20 |
| Fluoranthene | A | 50000 | 49460 | 0.8209527 | 0.8120657 | | -1.1 | 20 |
| Fluorene | A | 50000 | 53070 | 1.152504 | 1.223179 | | 6.1 | 20 |
| Hexachlorobenzene | A | 50000 | 51790 | 0.2682213 | 0.2778156 | | 3.6 | 20 |
| Hexachlorobutadiene | A | 50000 | 50380 | 0.1831598 | 0.1845352 | | 0.8 | 20 |
| Hexachloroethane | A | 50000 | 50070 | 0.6966021 | 0.6975163 | | 0.1 | 20 |
| Indeno[1,2,3-cd]pyrene | L | 50000 | 44030 | 1.077617 | 0.8882869 | | -11.9 | 20 |
| Isophorone | A | 50000 | 46310 | 0.8545704 | 0.7915865 | | -7.4 | 20 |
| 2-Methylnaphthalene | A | 50000 | 48590 | 0.6103452 | 0.5930785 | | -2.8 | 20 |
| Naphthalene | A | 50000 | 54180 | 0.9435535 | 1.022411 | | 8.4 | 20 |
| 2-Nitroaniline | A | 50000 | 56340 | 0.4262861 | 0.4803329 | | 12.7 | 20 |
| 3-Nitroaniline | Q | 50000 | 52700 | 0.2826496 | 0.2930561 | | 5.4 | 20 |
| 4-Nitroaniline | A | 50000 | 57400 | 0.2176045 | 0.2498064 | | 14.8 | 20 |
| Nitrobenzene | A | 50000 | 47820 | 0.4300719 | 0.4113562 | | -4.4 | 20 |
| N-Nitrosodimethylamine | Q | 50000 | 54530 | 0.8400613 | 0.7301106 | | 9.1 | 20 |
| N-Nitrosodi-N-propylamine | A | 50000 | 40240 | 1.076653 | 0.8664418 | 0.05 | -19.5 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 13FEB002.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702536 | Injection Date: | 02/13/17 |
| Lab Sample ID: | 1702536-CCV1 | Injection Time: | 07:10 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | A | 50000 | 52670 | 0.7419549 | 0.7816061 | | 5.3 | 20 |
| Phenanthrene | A | 50000 | 52500 | 0.9937729 | 1.043511 | | 5.0 | 20 |
| Pyrene | A | 50000 | 56490 | 2.138067 | 2.415635 | | 13.0 | 20 |
| 1,2,4-Trichlorobenzene | A | 50000 | 51650 | 0.2869532 | 0.2963977 | | 3.3 | 20 |
| 4-Chloro-3-methylphenol | A | 50000 | 45880 | 0.3177075 | 0.2915024 | | -8.2 | 20 |
| 2-Chlorophenol | A | 50000 | 51840 | 1.374604 | 1.425128 | | 3.7 | 20 |
| 2,4-Dichlorophenol | A | 50000 | 49010 | 0.2699675 | 0.2646039 | | -2.0 | 20 |
| 2,4-Dimethylphenol | Q | 50000 | 55970 | 0.3857059 | 0.4241199 | | 11.9 | 20 |
| 4,6-Dinitro-2-methylphenol | Q | 50000 | 52490 | 0.1761238 | 0.1886495 | | 5.0 | 20 |
| 2,4-Dinitrophenol | Q | 50000 | 47840 | 0.1462143 | 0.1410722 | 0.05 | -4.3 | 20 |
| 2-Methylphenol | A | 50000 | 49970 | 1.371959 | 1.371 | | -0.07 | 20 |
| 3- & 4-Methylphenol | A | 100000 | 92480 | 1.480258 | 1.368876 | | -7.5 | 20 |
| 2-Nitrophenol | A | 50000 | 50190 | 0.2071894 | 0.207992 | | 0.4 | 20 |
| 4-Nitrophenol | Q | 50000 | 46650 | 0.1127797 | 0.1092825 | 0.05 | -6.7 | 20 |
| Pentachlorophenol | Q | 50000 | 47680 | 0.1230338 | 0.1186478 | | -4.6 | 20 |
| Phenol | A | 50000 | 46520 | 2.058745 | 1.91558 | | -7.0 | 20 |
| 2,4,5-Trichlorophenol | A | 50000 | 52720 | 0.3976562 | 0.419328 | | 5.4 | 20 |
| 2,4,6-Trichlorophenol | A | 50000 | 49440 | 0.4103541 | 0.4057236 | | -1.1 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 13FEB022.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702536 | Injection Date: | 02/13/17 |
| Lab Sample ID: | 1702536-CCV2 | Injection Time: | 15:42 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | A | 50000 | 52990 | 1.176551 | 1.246925 | | 6.0 | 20 | |
| Acenaphthylene | A | 50000 | 53350 | 1.827542 | 1.949835 | | 6.7 | 20 | |
| Anthracene | A | 50000 | 52930 | 0.9178026 | 0.9716745 | | 5.9 | 20 | |
| Benzo[a]anthracene | A | 50000 | 48940 | 1.170334 | 1.145626 | | -2.1 | 20 | |
| Benzo[b]fluoranthene | A | 50000 | 54650 | 1.136499 | 1.242224 | | 9.3 | 20 | |
| Benzo[k]fluoranthene | A | 50000 | 57980 | 1.005823 | 1.166306 | | 16.0 | 20 | |
| Benzo[a]pyrene | A | 50000 | 52050 | 0.9997622 | 1.04077 | | 4.1 | 20 | |
| Benzo[g,h,i]perylene | L | 50000 | 43330 | 0.9164535 | 0.7400982 | | -13.3 | 20 | |
| Benzyl alcohol | A | 50000 | 33380 | 1.173642 | 0.7835195 | | -33.2 | 20 | * |
| Benzyl butyl phthalate | A | 50000 | 47220 | 1.275387 | 1.204423 | | -5.6 | 20 | |
| bis(2-Chloroethoxy)methane | A | 50000 | 48590 | 0.5678905 | 0.5519253 | | -2.8 | 20 | |
| bis(2-Chloroethyl) ether | A | 50000 | 54850 | 1.690645 | 1.854731 | | 9.7 | 20 | |
| bis(2-Chloroisopropyl)ether | A | 50000 | 44810 | 2.647084 | 2.37236 | | -10.4 | 20 | |
| bis(2-Ethylhexyl)phthalate | A | 50000 | 52310 | 1.622389 | 1.697369 | | 4.6 | 20 | |
| 4-Bromophenyl phenyl ether | A | 50000 | 49910 | 0.2102125 | 0.2098463 | | -0.2 | 20 | |
| 4-Chloroaniline | A | 50000 | 49280 | 0.3723063 | 0.3669188 | | -1.4 | 20 | |
| 2-Chloronaphthalene | A | 50000 | 56710 | 1.114578 | 1.264254 | | 13.4 | 20 | |
| 4-Chlorophenyl phenyl ether | A | 50000 | 51530 | 0.6135306 | 0.6323595 | | 3.1 | 20 | |
| Chrysene | A | 50000 | 50550 | 1.069676 | 1.081433 | | 1.1 | 20 | |
| Dibenzo[a,h]anthracene | L | 50000 | 42330 | 0.9435208 | 0.7473387 | | -15.3 | 20 | |
| Dibenzofuran | A | 50000 | 53280 | 1.433713 | 1.52784 | | 6.6 | 20 | |
| 1,2-Dichlorobenzene | A | 50000 | 53570 | 1.405525 | 1.505798 | | 7.1 | 20 | |
| 1,3-Dichlorobenzene | A | 50000 | 53760 | 1.462336 | 1.572317 | | 7.5 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 13FEB022.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702536 | Injection Date: | 02/13/17 |
| Lab Sample ID: | 1702536-CCV2 | Injection Time: | 15:42 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | 50000 | 53500 | 1.510774 | 1.616588 | | 7.0 | 20 |
| 3,3-Dichlorobenzidine | Q | 50000 | 47740 | 0.339073 | 0.3060204 | | -4.5 | 20 |
| Diethyl phthalate | A | 50000 | 47440 | 1.376383 | 1.305809 | | -5.1 | 20 |
| Dimethyl phthalate | Q | 50000 | 50370 | 1.909191 | 1.278985 | | 0.7 | 20 |
| Di-n-butyl phthalate | A | 50000 | 49390 | 1.454437 | 1.436693 | | -1.2 | 20 |
| 2,4-Dinitrotoluene | Q | 50000 | 56370 | 0.3460065 | 0.3770654 | | 12.7 | 20 |
| 2,6-Dinitrotoluene | A | 50000 | 54280 | 0.2851814 | 0.3096166 | | 8.6 | 20 |
| Di-n-octyl phthalate | A | 50000 | 52790 | 2.273762 | 2.400464 | | 5.6 | 20 |
| Fluoranthene | A | 50000 | 52490 | 0.8209527 | 0.861846 | | 5.0 | 20 |
| Fluorene | A | 50000 | 51920 | 1.152504 | 1.196653 | | 3.8 | 20 |
| Hexachlorobenzene | A | 50000 | 51040 | 0.2682213 | 0.2738066 | | 2.1 | 20 |
| Hexachlorobutadiene | A | 50000 | 50760 | 0.1831598 | 0.1859441 | | 1.5 | 20 |
| Hexachloroethane | A | 50000 | 50080 | 0.6966021 | 0.6977662 | | 0.2 | 20 |
| Indeno[1,2,3-cd]pyrene | L | 50000 | 42400 | 1.077617 | 0.8547772 | | -15.2 | 20 |
| Isophorone | A | 50000 | 46730 | 0.8545704 | 0.7986007 | | -6.5 | 20 |
| 2-Methylnaphthalene | A | 50000 | 51430 | 0.6103452 | 0.6278615 | | 2.9 | 20 |
| Naphthalene | A | 50000 | 53860 | 0.9435535 | 1.01646 | | 7.7 | 20 |
| 2-Nitroaniline | A | 50000 | 55780 | 0.4262861 | 0.4755983 | | 11.6 | 20 |
| 3-Nitroaniline | Q | 50000 | 56300 | 0.2826496 | 0.3193892 | | 12.6 | 20 |
| 4-Nitroaniline | A | 50000 | 52520 | 0.2176045 | 0.2285739 | | 5.0 | 20 |
| Nitrobenzene | A | 50000 | 46940 | 0.4300719 | 0.4037344 | | -6.1 | 20 |
| N-Nitrosodimethylamine | Q | 50000 | 53040 | 0.8400613 | 0.7052559 | | 6.1 | 20 |
| N-Nitrosodi-N-propylamine | A | 50000 | 44000 | 1.076653 | 0.9474822 | 0.05 | -12.0 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-B2 | Calibration: | 1702018 |
| Lab File ID: | 13FEB022.D | Calibration Date: | 02/08/17 12:04 |
| Sequence: | 1702536 | Injection Date: | 02/13/17 |
| Lab Sample ID: | 1702536-CCV2 | Injection Time: | 15:42 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | A | 50000 | 51740 | 0.7419549 | 0.7677683 | | 3.5 | 20 | |
| Phenanthrene | A | 50000 | 52030 | 0.9937729 | 1.034205 | | 4.1 | 20 | |
| Pyrene | A | 50000 | 47180 | 2.138067 | 2.017505 | | -5.6 | 20 | |
| 1,2,4-Trichlorobenzene | A | 50000 | 52260 | 0.2869532 | 0.2999402 | | 4.5 | 20 | |
| 4-Chloro-3-methylphenol | A | 50000 | 47660 | 0.3177075 | 0.3028438 | | -4.7 | 20 | |
| 2-Chlorophenol | A | 50000 | 53810 | 1.374604 | 1.479294 | | 7.6 | 20 | |
| 2,4-Dichlorophenol | A | 50000 | 51210 | 0.2699675 | 0.2765245 | | 2.4 | 20 | |
| 2,4-Dimethylphenol | Q | 50000 | 54380 | 0.3857059 | 0.4083395 | | 8.8 | 20 | |
| 4,6-Dinitro-2-methylphenol | Q | 50000 | 53770 | 0.1761238 | 0.195152 | | 7.5 | 20 | |
| 2,4-Dinitrophenol | Q | 50000 | 51170 | 0.1462143 | 0.1560338 | 0.05 | 2.3 | 20 | |
| 2-Methylphenol | A | 50000 | 53180 | 1.371959 | 1.459242 | | 6.4 | 20 | |
| 3- & 4-Methylphenol | A | 100000 | 102460 | 1.480258 | 1.516686 | | 2.5 | 20 | |
| 2-Nitrophenol | A | 50000 | 53450 | 0.2071894 | 0.2215013 | | 6.9 | 20 | |
| 4-Nitrophenol | Q | 50000 | 38970 | 0.1127797 | 8.779274E-02 | 0.05 | -22.1 | 20 | * |
| Pentachlorophenol | Q | 50000 | 50910 | 0.1230338 | 0.1293885 | | 1.8 | 20 | |
| Phenol | A | 50000 | 53330 | 2.058745 | 2.195858 | | 6.7 | 20 | |
| 2,4,5-Trichlorophenol | A | 50000 | 52430 | 0.3976562 | 0.4169935 | | 4.9 | 20 | |
| 2,4,6-Trichlorophenol | A | 50000 | 51830 | 0.4103541 | 0.4254125 | | 3.7 | 20 | |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702000 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1702000-CAL5 )** | | | Lab File ID: 08FEB003.D | | Analyzed: 02/08/17 12:04 | | | |
| 2-Fluorophenol (Surrogate) | 80000 | 96.8 | | 4.74 | 4.726667 | 0.0133 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 80000 | 109 | | 5.59 | 5.565 | 0.0250 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 80000 | 113 | | 6.47 | 6.458333 | 0.0117 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 80000 | 102 | | 8.2 | 8.186667 | 0.0133 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 80000 | 113 | | 9.65 | 9.643333 | 0.0067 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 40000 | 108 | | 12.15 | 12.14333 | 0.0067 | +/-1.0 | |
| **Cal Standard (1702000-CAL4 )** | | | Lab File ID: 08FEB004.D | | Analyzed: 02/08/17 12:29 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 89.9 | | 4.73 | 4.726667 | 0.0033 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 101 | | 5.57 | 5.565 | 0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 106 | | 6.46 | 6.458333 | 0.0017 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 96.0 | | 8.19 | 8.186667 | 0.0033 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 100 | | 9.65 | 9.643333 | 0.0067 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 112 | | 12.15 | 12.14333 | 0.0067 | +/-1.0 | |
| **Cal Standard (1702000-CAL3 )** | | | Lab File ID: 08FEB005.D | | Analyzed: 02/08/17 12:55 | | | |
| 2-Fluorophenol (Surrogate) | 20000 | 93.4 | | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 20000 | 105 | | 5.55 | 5.565 | -0.0150 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 20000 | 109 | | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 20000 | 98.6 | | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 20000 | 99.8 | | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 10000 | 110 | | 12.14 | 12.14333 | -0.0033 | +/-1.0 | |
| **Cal Standard (1702000-CAL2 )** | | | Lab File ID: 08FEB006.D | | Analyzed: 02/08/17 13:20 | | | |
| 2-Fluorophenol (Surrogate) | 10000 | 90.8 | | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 10000 | 104 | | 5.55 | 5.565 | -0.0150 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 10000 | 105 | | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 10000 | 92.0 | | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 10000 | 89.2 | | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 5000.0 | 107 | | 12.14 | 12.14333 | -0.0033 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702000
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1702000-CAL1 )** | | | Lab File ID: 08FEB007.D | | Analyzed: 02/08/17 13:46 | | | |
| 2-Fluorophenol (Surrogate) | 2000.0 | 108 | | 4.71 | 4.726667 | -0.0167 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 2000.0 | 125 | | 5.54 | 5.565 | -0.0250 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 2000.0 | 127 | | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 2000.0 | 114 | | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 2000.0 | 106 | | 9.63 | 9.643333 | -0.0133 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 1000.0 | 125 | | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |
| **Cal Standard (1702000-CAL6 )** | | | Lab File ID: 08FEB008.D | | Analyzed: 02/08/17 14:11 | | | |
| 2-Fluorophenol (Surrogate) | 100000 | 119 | | 4.74 | 4.726667 | 0.0133 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 100000 | 130 | | 5.59 | 5.565 | 0.0250 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 100000 | 135 | | 6.47 | 6.458333 | 0.0117 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 100000 | 126 | | 8.19 | 8.186667 | 0.0033 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 100000 | 129 | | 9.65 | 9.643333 | 0.0067 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 50000 | 122 | | 12.15 | 12.14333 | 0.0067 | +/-1.0 | |
| **Initial Cal Check (1702000-ICV1 )** | | | Lab File ID: 08FEB010.D | | Analyzed: 02/08/17 15:02 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 101 | 80 - 119 | 4.73 | 4.726667 | 0.0033 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 101 | 80 - 115 | 5.56 | 5.565 | -0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 98.7 | 80 - 120 | 6.46 | 6.458333 | 0.0017 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 109 | 80 - 119 | 8.19 | 8.186667 | 0.0033 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 102 | 80 - 120 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 93.1 | 80 - 120 | 12.15 | 12.14333 | 0.0067 | +/-1.0 | |
| **Initial Cal Blank (1702000-ICB1 )** | | | Lab File ID: 08FEB011.D | | Analyzed: 02/08/17 15:28 | | | |
| 2-Fluorophenol (Surrogate) | | | 19 - 119 | 0 | 4.726667 | -4.7267 | +/-1.0 | |
| Phenol-d5 (Surrogate) | | | 10 - 115 | 0 | 5.565 | -5.5650 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | | | 44 - 120 | 0 | 6.458333 | -6.4583 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | | | 44 - 119 | 0 | 8.186667 | -8.1867 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | | | 43 - 140 | 0 | 9.643333 | -9.6433 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | | | 50 - 134 | 0 | 12.14333 | -12.1433 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702000 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702000-CCV1 )** | | | Lab File ID: 08FEB036.D | | Analyzed: 02/09/17 02:00 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 99.9 | 50 - 200 | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 103 | 50 - 200 | 5.56 | 5.565 | -0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 98.2 | 50 - 200 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 101 | 50 - 200 | 8.19 | 8.186667 | 0.0033 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 107 | 50 - 200 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 85.6 | 50 - 200 | 12.14 | 12.14333 | -0.0033 | +/-1.0 | |
| **Calibration Blank (1702000-CCB1 )** | | | Lab File ID: 08FEB037.D | | Analyzed: 02/09/17 02:26 | | | |
| 2-Fluorophenol (Surrogate) | | | 19 - 119 | 0 | 4.726667 | -4.7267 | +/-1.0 | |
| Phenol-d5 (Surrogate) | | | 10 - 115 | 0 | 5.565 | -5.5650 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | | | 44 - 120 | 0 | 6.458333 | -6.4583 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | | | 44 - 119 | 0 | 8.186667 | -8.1867 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | | | 43 - 140 | 0 | 9.643333 | -9.6433 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | | | 50 - 134 | 0 | 12.14333 | -12.1433 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702425
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-B2
Calibration: 1702018

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702425-CCV1 )** | | | Lab File ID: 10FEB003.D | | Analyzed: 02/10/17 09:40 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 104 | 80 - 119 | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 102 | 80 - 115 | 5.57 | 5.565 | 0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 96.8 | 80 - 120 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 98.7 | 80 - 119 | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 104 | 80 - 120 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 89.8 | 80 - 120 | 12.14 | 12.14333 | -0.0033 | +/-1.0 | |
| **Calibration Blank (1702425-CCB1 )** | | | Lab File ID: 10FEB004.D | | Analyzed: 02/10/17 10:06 | | | |
| 2-Fluorophenol (Surrogate) | | | 19 - 119 | 0 | 4.726667 | -4.7267 | +/-1.0 | |
| Phenol-d5 (Surrogate) | | | 10 - 115 | 0 | 5.565 | -5.5650 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | | | 44 - 120 | 0 | 6.458333 | -6.4583 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | | | 44 - 119 | 0 | 8.186667 | -8.1867 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | | | 43 - 140 | 0 | 9.643333 | -9.6433 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | | | 50 - 134 | 0 | 12.14333 | -12.1433 | +/-1.0 | |
| **LCS (B[B0544-BS1 )** | | | Lab File ID: 10FEB006.D | | Analyzed: 02/10/17 10:57 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 34.0 | 19 - 119 | 4.74 | 4.726667 | 0.0133 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 27.4 | 10 - 115 | 5.57 | 5.565 | 0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 73.9 | 44 - 120 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 113 | 44 - 119 | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 78.9 | 43 - 140 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 47.0 | 50 - 134 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | * |
| **Matrix Spike (B[B0544-MS1 )** | | | Lab File ID: 10FEB007.D | | Analyzed: 02/10/17 11:22 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 77.1 | 19 - 119 | 4.75 | 4.726667 | 0.0233 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 66.6 | 10 - 115 | 5.57 | 5.565 | 0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 95.6 | 44 - 120 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 139 | 44 - 119 | 8.19 | 8.186667 | 0.0033 | +/-1.0 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 116 | 43 - 140 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 103 | 50 - 134 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702425
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Matrix Spike Dup (B[B0544-MSD1 )** | | | Lab File ID: 10FEB008.D | | Analyzed: 02/10/17 11:48 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 72.0 | 19 - 119 | 4.75 | 4.726667 | 0.0233 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 54.4 | 10 - 115 | 5.57 | 5.565 | 0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 81.2 | 44 - 120 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 130 | 44 - 119 | 8.19 | 8.186667 | 0.0033 | +/-1.0 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 104 | 43 - 140 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 80.0 | 50 - 134 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 10FEB010.D | | Analyzed: 02/10/17 12:40 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 71.7 | 19 - 119 | 4.73 | 4.726667 | 0.0033 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 52.4 | 10 - 115 | 5.56 | 5.565 | -0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 89.3 | 44 - 120 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 139 | 44 - 119 | 8.18 | 8.186667 | -0.0067 | +/-1.0 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 104 | 43 - 140 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 86.7 | 50 - 134 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |
| **Blank (B[B0544-BLK1 )** | | | Lab File ID: 10FEB019.D | | Analyzed: 02/10/17 16:26 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 55.6 | 19 - 119 | 4.73 | 4.726667 | 0.0033 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 37.9 | 10 - 115 | 5.55 | 5.565 | -0.0150 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 88.0 | 44 - 120 | 6.44 | 6.458333 | -0.0183 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 129 | 44 - 119 | 8.17 | 8.186667 | -0.0167 | +/-1.0 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 82.7 | 43 - 140 | 9.63 | 9.643333 | -0.0133 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 97.4 | 50 - 134 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |
| **Calibration Check (1702425-CCV2 )** | | | Lab File ID: 10FEB027.D | | Analyzed: 02/10/17 19:46 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 105 | 50 - 200 | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 102 | 50 - 200 | 5.57 | 5.565 | 0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 92.9 | 50 - 200 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 96.7 | 50 - 200 | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 101 | 50 - 200 | 9.64 | 9.643333 | -0.0033 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 104 | 50 - 200 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702425 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Blank (1702425-CCB2 )** | | | Lab File ID: 10FEB028.D | | Analyzed: 02/10/17 20:11 | | | |
| 2-Fluorophenol (Surrogate) | | | 19 - 119 | 0 | 4.726667 | -4.7267 | +/-1.0 | |
| Phenol-d5 (Surrogate) | | | 10 - 115 | 0 | 5.565 | -5.5650 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | | | 44 - 120 | 0 | 6.458333 | -6.4583 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | | | 44 - 119 | 0 | 8.186667 | -8.1867 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | | | 43 - 140 | 0 | 9.643333 | -9.6433 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | | | 50 - 134 | 0 | 12.14333 | -12.1433 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702536
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-B2
Calibration: 1702018

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702536-CCV1 )** | | | Lab File ID: 13FEB002.D | | Analyzed: 02/13/17 07:10 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 108 | 80 - 119 | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 99.3 | 80 - 115 | 5.56 | 5.565 | -0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 89.7 | 80 - 120 | 6.44 | 6.458333 | -0.0183 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 109 | 80 - 119 | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 100 | 80 - 120 | 9.63 | 9.643333 | -0.0133 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 119 | 80 - 120 | 12.12 | 12.14333 | -0.0233 | +/-1.0 | |
| **Calibration Blank (1702536-CCB1 )** | | | Lab File ID: 13FEB003.D | | Analyzed: 02/13/17 07:35 | | | |
| 2-Fluorophenol (Surrogate) | | | 19 - 119 | 0 | 4.726667 | -4.7267 | +/-1.0 | |
| Phenol-d5 (Surrogate) | | | 10 - 115 | 0 | 5.565 | -5.5650 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | | | 44 - 120 | 0 | 6.458333 | -6.4583 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | | | 44 - 119 | 0 | 8.186667 | -8.1867 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | | | 43 - 140 | 0 | 9.643333 | -9.6433 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | | | 50 - 134 | 0 | 12.14333 | -12.1433 | +/-1.0 | |
| **EB03_170131 (1702734-01RE1 )** | | | Lab File ID: 13FEB008.D | | Analyzed: 02/13/17 09:43 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 37.9 | 19 - 119 | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 27.4 | 10 - 115 | 5.54 | 5.565 | -0.0250 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 78.9 | 44 - 120 | 6.44 | 6.458333 | -0.0183 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 123 | 44 - 119 | 8.17 | 8.186667 | -0.0167 | +/-1.0 | * |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 65.1 | 43 - 140 | 9.62 | 9.643333 | -0.0233 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 57.6 | 50 - 134 | 12.12 | 12.14333 | -0.0233 | +/-1.0 | |
| **M034A-R_170131 (1702734-07RE1 )** | | | Lab File ID: 13FEB016.D | | Analyzed: 02/13/17 13:09 | | | |
| 2-Fluorophenol (Surrogate) | 40.000 | 53.3 | 19 - 119 | 4.71 | 4.726667 | -0.0167 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 40.000 | 39.1 | 10 - 115 | 5.56 | 5.565 | -0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 40.000 | 77.3 | 44 - 120 | 6.44 | 6.458333 | -0.0183 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 40.000 | 97.2 | 44 - 119 | 8.17 | 8.186667 | -0.0167 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 40.000 | 74.9 | 43 - 140 | 9.63 | 9.643333 | -0.0133 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 20.000 | 57.1 | 50 - 134 | 12.12 | 12.14333 | -0.0233 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702536 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702536-CCV2 )** | | | Lab File ID: 13FEB022.D | | Analyzed: 02/13/17 15:42 | | | |
| 2-Fluorophenol (Surrogate) | 50000 | 106 | 50 - 200 | 4.72 | 4.726667 | -0.0067 | +/-1.0 | |
| Phenol-d5 (Surrogate) | 50000 | 104 | 50 - 200 | 5.56 | 5.565 | -0.0050 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | 50000 | 96.5 | 50 - 200 | 6.45 | 6.458333 | -0.0083 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | 50000 | 111 | 50 - 200 | 8.18 | 8.186667 | -0.0067 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | 50000 | 103 | 50 - 200 | 9.63 | 9.643333 | -0.0133 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | 25000 | 107 | 50 - 200 | 12.13 | 12.14333 | -0.0133 | +/-1.0 | |
| **Calibration Blank (1702536-CCB2 )** | | | Lab File ID: 13FEB023.D | | Analyzed: 02/13/17 16:07 | | | |
| 2-Fluorophenol (Surrogate) | | | 19 - 119 | 0 | 4.726667 | -4.7267 | +/-1.0 | |
| Phenol-d5 (Surrogate) | | | 10 - 115 | 0 | 5.565 | -5.5650 | +/-1.0 | |
| Nitrobenzene-d5 (Surrogate) | | | 44 - 120 | 0 | 6.458333 | -6.4583 | +/-1.0 | |
| 2-Fluorobiphenyl (Surrogate) | | | 44 - 119 | 0 | 8.186667 | -8.1867 | +/-1.0 | |
| 2,4,6-Tribromophenol (Surrogate) | | | 43 - 140 | 0 | 9.643333 | -9.6433 | +/-1.0 | |
| p-Terphenyl-d14 (Surrogate) | | | 50 - 134 | 0 | 12.14333 | -12.1433 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702000
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1702000-CAL5 )** | | | Lab File ID: 08FEB003.D | | | Analyzed: 02/08/17 12:04 | | | |
| Phenanthrene-d10 (IS) | 1450660 | 10.36 | 1414349 | 10.35 | 103 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 635998 | 14.09 | 524185 | 14.07 | 121 | 50 - 200 | 0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1171523 | 8.87 | 1088404 | 8.87 | 108 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 720621 | 5.93 | 679681 | 5.93 | 106 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 528021 | 16.08 | 401970 | 16.07 | 131 | 50 - 200 | 0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2574702 | 7.15 | 2325250 | 7.14 | 111 | 50 - 200 | 0.0100 | +/-0.50 | |
| **Cal Standard (1702000-CAL4 )** | | | Lab File ID: 08FEB004.D | | | Analyzed: 02/08/17 12:29 | | | |
| Phenanthrene-d10 (IS) | 1414349 | 10.35 | 1414349 | 10.35 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 524185 | 14.07 | 524185 | 14.07 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1088404 | 8.87 | 1088404 | 8.87 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 679681 | 5.93 | 679681 | 5.93 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 401970 | 16.07 | 401970 | 16.07 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2325250 | 7.14 | 2325250 | 7.14 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1702000-CAL3 )** | | | Lab File ID: 08FEB005.D | | | Analyzed: 02/08/17 12:55 | | | |
| Phenanthrene-d10 (IS) | 1404587 | 10.34 | 1414349 | 10.35 | 99 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 518190 | 14.06 | 524185 | 14.07 | 99 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1124193 | 8.86 | 1088404 | 8.87 | 103 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 735685 | 5.92 | 679681 | 5.93 | 108 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 447679 | 16.07 | 401970 | 16.07 | 111 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2531342 | 7.14 | 2325250 | 7.14 | 109 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1702000-CAL2 )** | | | Lab File ID: 08FEB006.D | | | Analyzed: 02/08/17 13:20 | | | |
| Phenanthrene-d10 (IS) | 1497684 | 10.34 | 1414349 | 10.35 | 106 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 519693 | 14.05 | 524185 | 14.07 | 99 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1178186 | 8.86 | 1088404 | 8.87 | 108 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 750876 | 5.92 | 679681 | 5.93 | 110 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 401528 | 16.07 | 401970 | 16.07 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2626065 | 7.14 | 2325250 | 7.14 | 113 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702000
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1702000-CAL1 )** | | | Lab File ID: 08FEB007.D | | | Analyzed: 02/08/17 13:46 | | | |
| Phenanthrene-d10 (IS) | 1335496 | 10.34 | 1414349 | 10.35 | 94 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 459566 | 14.05 | 524185 | 14.07 | 88 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1030433 | 8.86 | 1088404 | 8.87 | 95 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 648148 | 5.92 | 679681 | 5.93 | 95 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 370921 | 16.07 | 401970 | 16.07 | 92 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2262942 | 7.14 | 2325250 | 7.14 | 97 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1702000-CAL6 )** | | | Lab File ID: 08FEB008.D | | | Analyzed: 02/08/17 14:11 | | | |
| Phenanthrene-d10 (IS) | 1052151 | 10.36 | 1414349 | 10.35 | 74 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 430373 | 14.08 | 524185 | 14.07 | 82 | 50 - 200 | 0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 812381 | 8.87 | 1088404 | 8.87 | 75 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 538487 | 5.94 | 679681 | 5.93 | 79 | 50 - 200 | 0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 342620 | 16.08 | 401970 | 16.07 | 85 | 50 - 200 | 0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 1859447 | 7.15 | 2325250 | 7.14 | 80 | 50 - 200 | 0.0100 | +/-0.50 | |
| **Initial Cal Check (1702000-ICV1 )** | | | Lab File ID: 08FEB010.D | | | Analyzed: 02/08/17 15:02 | | | |
| Phenanthrene-d10 (IS) | 1196703 | 10.35 | 1414349 | 10.35 | 85 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 573685 | 14.07 | 524185 | 14.07 | 109 | 50 - 200 | 0.0000 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 832270 | 8.87 | 1088404 | 8.87 | 76 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 582724 | 5.93 | 679681 | 5.93 | 86 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 487304 | 16.08 | 401970 | 16.07 | 121 | 50 - 200 | 0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 1982139 | 7.14 | 2325250 | 7.14 | 85 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Initial Cal Blank (1702000-ICB1 )** | | | Lab File ID: 08FEB011.D | | | Analyzed: 02/08/17 15:28 | | | |
| Phenanthrene-d10 (IS) | 1310791 | 10.34 | 1196703 | 10.35 | 110 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 465332 | 14.05 | 573685 | 14.07 | 81 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 977821 | 8.86 | 832270 | 8.87 | 117 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 605735 | 5.92 | 582724 | 5.93 | 104 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 339675 | 16.07 | 487304 | 16.08 | 70 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2086133 | 7.15 | 1982139 | 7.14 | 105 | 50 - 200 | 0.0100 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702000
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702000-CCV1 )** | | | Lab File ID: 08FEB036.D | | | Analyzed: 02/09/17 02:00 | | | |
| Phenanthrene-d10 (IS) | 1454081 | 10.35 | 1414349 | 10.35 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 631795 | 14.06 | 524185 | 14.07 | 121 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1164632 | 8.86 | 1088404 | 8.87 | 107 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 713775 | 5.92 | 679681 | 5.93 | 105 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 490512 | 16.06 | 401970 | 16.07 | 122 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2534847 | 7.15 | 2325250 | 7.14 | 109 | 50 - 200 | 0.0100 | +/-0.50 | |
| **Calibration Blank (1702000-CCB1 )** | | | Lab File ID: 08FEB037.D | | | Analyzed: 02/09/17 02:26 | | | |
| Phenanthrene-d10 (IS) | 1495817 | 10.34 | 1454081 | 10.35 | 103 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 607613 | 14.05 | 631795 | 14.06 | 96 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 984993 | 8.86 | 1164632 | 8.86 | 85 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 680291 | 5.92 | 713775 | 5.92 | 95 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 425689 | 16.06 | 490512 | 16.06 | 87 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2355999 | 7.14 | 2534847 | 7.15 | 93 | 50 - 200 | -0.0100 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702425
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702425-CCV1 )** | | | Lab File ID: 10FEB003.D | | | Analyzed: 02/10/17 09:40 | | | |
| Phenanthrene-d10 (IS) | 1952836 | 10.34 | 1414349 | 10.35 | 138 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 950105 | 14.07 | 524185 | 14.07 | 181 | 50 - 200 | 0.0000 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1345279 | 8.86 | 1088404 | 8.87 | 124 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 805320 | 5.92 | 679681 | 5.93 | 118 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 694912 | 16.07 | 401970 | 16.07 | 173 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2880420 | 7.14 | 2325250 | 7.14 | 124 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1702425-CCB1 )** | | | Lab File ID: 10FEB004.D | | | Analyzed: 02/10/17 10:06 | | | |
| Phenanthrene-d10 (IS) | 1286794 | 10.33 | 1952836 | 10.34 | 66 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 642653 | 14.04 | 950105 | 14.07 | 68 | 50 - 200 | -0.0300 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1000254 | 8.85 | 1345279 | 8.86 | 74 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 700354 | 5.91 | 805320 | 5.92 | 87 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 547455 | 16.06 | 694912 | 16.07 | 79 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2289096 | 7.13 | 2880420 | 7.14 | 79 | 50 - 200 | -0.0100 | +/-0.50 | |
| **LCS (B[B0544-BS1 )** | | | Lab File ID: 10FEB006.D | | | Analyzed: 02/10/17 10:57 | | | |
| Phenanthrene-d10 (IS) | 1446832 | 10.34 | 1952836 | 10.34 | 74 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 719726 | 14.05 | 950105 | 14.07 | 76 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1074015 | 8.86 | 1345279 | 8.86 | 80 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 703031 | 5.91 | 805320 | 5.92 | 87 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 512519 | 16.06 | 694912 | 16.07 | 74 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2373884 | 7.14 | 2880420 | 7.14 | 82 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Matrix Spike (B[B0544-MS1 )** | | | Lab File ID: 10FEB007.D | | | Analyzed: 02/10/17 11:22 | | | |
| Phenanthrene-d10 (IS) | 1813922 | 10.34 | 1952836 | 10.34 | 93 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 759063 | 14.05 | 950105 | 14.07 | 80 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1278877 | 8.86 | 1345279 | 8.86 | 95 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 810396 | 5.92 | 805320 | 5.92 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 581808 | 16.07 | 694912 | 16.07 | 84 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2750812 | 7.15 | 2880420 | 7.14 | 96 | 50 - 200 | 0.0100 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702425
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Matrix Spike Dup (B[B0544-MSD1 )** | | | Lab File ID: 10FEB008.D | | | Analyzed: 02/10/17 11:48 | | | |
| Phenanthrene-d10 (IS) | 1787779 | 10.35 | 1952836 | 10.34 | 92 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 753154 | 14.06 | 950105 | 14.07 | 79 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1337697 | 8.86 | 1345279 | 8.86 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 959729 | 5.92 | 805320 | 5.92 | 119 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 534623 | 16.07 | 694912 | 16.07 | 77 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 3060032 | 7.15 | 2880420 | 7.14 | 106 | 50 - 200 | 0.0100 | +/-0.50 | |
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 10FEB010.D | | | Analyzed: 02/10/17 12:40 | | | |
| Phenanthrene-d10 (IS) | 1543070 | 10.34 | 1952836 | 10.34 | 79 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 600210 | 14.05 | 950105 | 14.07 | 63 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1130763 | 8.86 | 1345279 | 8.86 | 84 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 826344 | 5.91 | 805320 | 5.92 | 103 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 393439 | 16.06 | 694912 | 16.07 | 57 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2708785 | 7.14 | 2880420 | 7.14 | 94 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Blank (B[B0544-BLK1 )** | | | Lab File ID: 10FEB019.D | | | Analyzed: 02/10/17 16:26 | | | |
| Phenanthrene-d10 (IS) | 1543989 | 10.33 | 1952836 | 10.34 | 79 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 760070 | 14.04 | 950105 | 14.07 | 80 | 50 - 200 | -0.0300 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1125448 | 8.85 | 1345279 | 8.86 | 84 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 808710 | 5.92 | 805320 | 5.92 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 462178 | 16.06 | 694912 | 16.07 | 67 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2672420 | 7.13 | 2880420 | 7.14 | 93 | 50 - 200 | -0.0100 | +/-0.50 | |
| **Calibration Check (1702425-CCV2 )** | | | Lab File ID: 10FEB027.D | | | Analyzed: 02/10/17 19:46 | | | |
| Phenanthrene-d10 (IS) | 1741417 | 10.34 | 1414349 | 10.35 | 123 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 640222 | 14.06 | 524185 | 14.07 | 122 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 1214323 | 8.85 | 1088404 | 8.87 | 112 | 50 - 200 | -0.0200 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 821104 | 5.92 | 679681 | 5.93 | 121 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 403125 | 16.06 | 401970 | 16.07 | 100 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2740280 | 7.14 | 2325250 | 7.14 | 118 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702425 | Instrument: | MS-B2 |
| Matrix: | Water | Calibration: | 1702018 |

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Calibration Blank (1702425-CCB2 )** | | | Lab File ID: 10FEB028.D | | | Analyzed: 02/10/17 20:11 | | | |
| Phenanthrene-d10 (IS) | 1237445 | 10.33 | 1741417 | 10.34 | 71 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 395142 | 14.04 | 640222 | 14.06 | 62 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 884903 | 8.85 | 1214323 | 8.85 | 73 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 709083 | 5.91 | 821104 | 5.92 | 86 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 220689 | 16.06 | 403125 | 16.06 | 55 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2233719 | 7.13 | 2740280 | 7.14 | 82 | 50 - 200 | -0.0100 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702536
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-B2
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702536-CCV1 )** | | | Lab File ID: 13FEB002.D | | | Analyzed: 02/13/17 07:10 | | | |
| Phenanthrene-d10 (IS) | 1046533 | 10.33 | 1414349 | 10.35 | 74 | 50 - 200 | -0.0200 | +/-0.50 | |
| Chrysene-d12 (IS) | 333612 | 14.04 | 524185 | 14.07 | 64 | 50 - 200 | -0.0300 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 805443 | 8.85 | 1088404 | 8.87 | 74 | 50 - 200 | -0.0200 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 640898 | 5.91 | 679681 | 5.93 | 94 | 50 - 200 | -0.0200 | +/-0.50 | |
| Perylene-d12 (IS) | 210278 | 16.06 | 401970 | 16.07 | 52 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2028070 | 7.14 | 2325250 | 7.14 | 87 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1702536-CCB1 )** | | | Lab File ID: 13FEB003.D | | | Analyzed: 02/13/17 07:35 | | | |
| Phenanthrene-d10 (IS) | 1029725 | 10.33 | 1046533 | 10.33 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 365121 | 14.03 | 333612 | 14.04 | 109 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 733965 | 8.84 | 805443 | 8.85 | 91 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 631572 | 5.91 | 640898 | 5.91 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 239631 | 16.06 | 210278 | 16.06 | 114 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2045971 | 7.13 | 2028070 | 7.14 | 101 | 50 - 200 | -0.0100 | +/-0.50 | |
| **EB03_170131 (1702734-01RE1 )** | | | Lab File ID: 13FEB008.D | | | Analyzed: 02/13/17 09:43 | | | |
| Phenanthrene-d10 (IS) | 1316576 | 10.33 | 1046533 | 10.33 | 126 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 448799 | 14.03 | 333612 | 14.04 | 135 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 932371 | 8.84 | 805443 | 8.85 | 116 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 675069 | 5.91 | 640898 | 5.91 | 105 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 269540 | 16.06 | 210278 | 16.06 | 128 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2285789 | 7.13 | 2028070 | 7.14 | 113 | 50 - 200 | -0.0100 | +/-0.50 | |
| **M034A-R_170131 (1702734-07RE1 )** | | | Lab File ID: 13FEB016.D | | | Analyzed: 02/13/17 13:09 | | | |
| Phenanthrene-d10 (IS) | 1337165 | 10.33 | 1046533 | 10.33 | 128 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chrysene-d12 (IS) | 410310 | 14.04 | 333612 | 14.04 | 123 | 50 - 200 | 0.0000 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 917467 | 8.85 | 805443 | 8.85 | 114 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 600547 | 5.91 | 640898 | 5.91 | 94 | 50 - 200 | 0.0000 | +/-0.50 | |
| Perylene-d12 (IS) | 211806 | 16.06 | 210278 | 16.06 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2345911 | 7.13 | 2028070 | 7.14 | 116 | 50 - 200 | -0.0100 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702536
Instrument: MS-B2
Matrix: Water
Calibration: 1702018

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702536-CCV2 )** | | | Lab File ID: 13FEB022.D | | | Analyzed: 02/13/17 15:42 | | | |
| Phenanthrene-d10 (IS) | 1118857 | 10.34 | 1414349 | 10.35 | 79 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 439738 | 14.05 | 524185 | 14.07 | 84 | 50 - 200 | -0.0200 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 862331 | 8.85 | 1088404 | 8.87 | 79 | 50 - 200 | -0.0200 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 619302 | 5.92 | 679681 | 5.93 | 91 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 266169 | 16.06 | 401970 | 16.07 | 66 | 50 - 200 | -0.0100 | +/-0.50 | |
| Naphthalene-d8 (IS) | 2162826 | 7.14 | 2325250 | 7.14 | 93 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1702536-CCB2 )** | | | Lab File ID: 13FEB023.D | | | Analyzed: 02/13/17 16:07 | | | |
| Phenanthrene-d10 (IS) | 946188 | 10.33 | 1118857 | 10.34 | 85 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chrysene-d12 (IS) | 300825 | 14.04 | 439738 | 14.05 | 68 | 50 - 200 | -0.0100 | +/-0.50 | |
| Acenaphthene-d10 (IS) | 718643 | 8.85 | 862331 | 8.85 | 83 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Dichlorobenzene-d4 (IS) | 598051 | 5.91 | 619302 | 5.92 | 97 | 50 - 200 | -0.0100 | +/-0.50 | |
| Perylene-d12 (IS) | 169199 | 16.06 | 266169 | 16.06 | 64 | 50 - 200 | 0.0000 | +/-0.50 | |
| Naphthalene-d8 (IS) | 1883044 | 7.13 | 2162826 | 7.14 | 87 | 50 - 200 | -0.0100 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
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# INITIAL CALIBRATION STANDARDS

## EPA-8270C

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702000
Calibration: 1702018

SDG: 17-02734
Project: Alameda
Instrument: MS-B2

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 6I16060 | 8270 BNA IC5 | 1702000-CAL5 | 08FEB003.D | 02/08/17 12:04 |
| 6I16061 | 8270 BNA IC4 | 1702000-CAL4 | 08FEB004.D | 02/08/17 12:29 |
| 6I16062 | 8270 BNA IC3 | 1702000-CAL3 | 08FEB005.D | 02/08/17 12:55 |
| 6I16063 | 8270 BNA IC2 | 1702000-CAL2 | 08FEB006.D | 02/08/17 13:20 |
| 6I16064 | 8270 BNA IC1 | 1702000-CAL1 | 08FEB007.D | 02/08/17 13:46 |
| 6I16059 | 8270 BNA IC6 | 1702000-CAL6 | 08FEB008.D | 02/08/17 14:11 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
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Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Acenaphthene | 100000 | 1.405467 | 80000 | 1.163538 | 50000 | 1.108075 | 20000 | 1.100343 | 10000 | 1.035612 | 2000 | 1.246272 |
| Acenaphthylene | 100000 | 2.065252 | 80000 | 1.776859 | 50000 | 1.744082 | 20000 | 1.756705 | 10000 | 1.671098 | 2000 | 1.951257 |
| Aldrin | 100000 | 0.1787614 | 80000 | 0.1611818 | 50000 | 0.1602727 | 20000 | 0.1606365 | 10000 | 0.1607896 | 2000 | 0.2073836 |
| Aniline | 100000 | 2.510033 | 80000 | 2.034443 | 50000 | 1.875652 | 20000 | 2.017929 | 10000 | 1.816018 | 2000 | 2.197585 |
| Anthracene | 100000 | 1.087813 | 80000 | 0.93024 | 50000 | 0.8698787 | 20000 | 0.8587293 | 10000 | 0.7933529 | 2000 | 0.9668018 |
| Benzidine | 100000 | 4.751789E-02 | 80000 | 4.033199E-02 | 50000 | 2.633466E-02 | 20000 | 0.0268093 | 10000 | 2.072533E-03 | 2000 | 3.976051E-02 |
| Benzo[a]anthracene | 100000 | 1.280249 | 80000 | 1.056797 | 50000 | 1.060507 | 20000 | 1.111102 | 10000 | 1.037697 | 2000 | 1.475653 |
| Benzo[b]fluoranthene | 100000 | 1.318252 | 80000 | 1.145616 | 50000 | 1.062055 | 20000 | 1.006471 | 10000 | 0.9857843 | 2000 | 1.300816 |
| Benzo[k]fluoranthene | 100000 | 1.056661 | 80000 | 0.939742 | 50000 | 0.9151469 | 20000 | 0.9533259 | 10000 | 0.8977705 | 2000 | 1.272292 |
| Benzo[a]pyrene | 100000 | 1.089671 | 80000 | 0.9817725 | 50000 | 0.8881598 | 20000 | 0.904054 | 10000 | 0.8785838 | 2000 | 1.256332 |
| Benzo[g,h,i]perylene | 100000 | 0.8911365 | 80000 | 0.8307141 | 50000 | 0.8161942 | 20000 | 0.8292638 | 10000 | 0.8179255 | 2000 | 1.313487 |
| Benzoic acid | 200000 | 0.3332974 | 160000 | 0.2864589 | 100000 | 0.2589181 | 40000 | 0.2419851 | 20000 | 0.2088638 | 4000 | 0.1873623 |
| Benzyl alcohol | 100000 | 1.300557 | 80000 | 1.177286 | 50000 | 1.071709 | 20000 | 1.145197 | 10000 | 1.08631 | 2000 | 1.260792 |
| Benzyl butyl phthalate | 100000 | 1.361384 | 80000 | 1.167905 | 50000 | 1.210292 | 20000 | 1.266555 | 10000 | 1.209568 | 2000 | 1.436616 |
| alpha-BHC | 100000 | 0.1758599 | 80000 | 0.1539996 | 50000 | 0.1442982 | 20000 | 0.1494361 | 10000 | 0.1397972 | 2000 | 0.1820297 |
| beta-BHC | 100000 | 0.1196129 | 80000 | 0.1096056 | 50000 | 9.984693E-02 | 20000 | 9.952392E-02 | 10000 | 9.886999E-02 | 2000 | 0.1287761 |
| delta-BHC | 100000 | 0.1149147 | 80000 | 0.1010316 | 50000 | 9.684173E-02 | 20000 | 9.922917E-02 | 10000 | 9.301562E-02 | 2000 | 0.1323403 |
| gamma-BHC (Lindane) | 100000 | 0.139545 | 80000 | 0.1278663 | 50000 | 0.116649 | 20000 | 0.1204824 | 10000 | 0.1103384 | 2000 | 0.1512397 |
| bis(2-Chloroethoxy)methane | 100000 | 0.630043 | 80000 | 0.5450279 | 50000 | 0.5371579 | 20000 | 0.5520969 | 10000 | 0.5246984 | 2000 | 0.618319 |
| bis(2-Chloroethyl) ether | 100000 | 1.768943 | 80000 | 1.63281 | 50000 | 1.467759 | 20000 | 1.540907 | 10000 | 1.640196 | 2000 | 2.093256 |
| bis(2-Chloroisopropyl)ether | 100000 | 2.888404 | 80000 | 2.526821 | 50000 | 2.407538 | 20000 | 2.590057 | 10000 | 2.531774 | 2000 | 2.937909 |
| bis(2-Ethylhexyl)phthalate | 100000 | 1.778217 | 80000 | 1.495027 | 50000 | 1.492327 | 20000 | 1.577078 | 10000 | 1.551909 | 2000 | 1.839779 |
| 4-Bromophenyl phenyl ether | 100000 | 0.2457393 | 80000 | 0.202798 | 50000 | 0.1947355 | 20000 | 0.2006483 | 10000 | 0.1882854 | 2000 | 0.2290685 |
| 4-Chloroaniline | 100000 | 0.4521942 | 80000 | 0.3832442 | 50000 | 0.3559493 | 20000 | 0.3531755 | 10000 | 0.3124904 | 2000 | 0.3767839 |
| 2-Chloronaphthalene | 100000 | 1.343842 | 80000 | 1.086399 | 50000 | 1.045392 | 20000 | 1.055265 | 10000 | 1.000029 | 2000 | 1.156543 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| 4-Chlorophenyl phenyl ether | 100000 | 0.7231769 | 80000 | 0.608679 | 50000 | 0.5818237 | 20000 | 0.5565165 | 10000 | 0.5379694 | 2000 | 0.673018 |
| Chrysene | 100000 | 1.215886 | 80000 | 1.015649 | 50000 | 1.015948 | 20000 | 1.009294 | 10000 | 0.9748525 | 2000 | 1.186424 |
| 4,4'-DDD | 100000 | 0.7481808 | 80000 | 0.6078211 | 50000 | 0.6542667 | 20000 | 0.6952778 | 10000 | 0.6503301 | 2000 | 0.7607177 |
| 4,4'-DDE | 100000 | 0.4084912 | 80000 | 0.3407031 | 50000 | 0.366962 | 20000 | 0.3770393 | 10000 | 0.3688177 | 2000 | 0.4753615 |
| 4,4'-DDT | 100000 | 0.6144112 | 80000 | 0.5161997 | 50000 | 0.5307302 | 20000 | 0.5332832 | 10000 | 0.520592 | 2000 | 0.4721411 |
| Dibenzo[a,h]anthracene | 100000 | 0.8948725 | 80000 | 0.8865964 | 50000 | 0.836542 | 20000 | 0.9002835 | 10000 | 0.8467056 | 2000 | 1.296125 |
| Dibenzofuran | 100000 | 1.684368 | 80000 | 1.409614 | 50000 | 1.347095 | 20000 | 1.346166 | 10000 | 1.253208 | 2000 | 1.561829 |
| 1,2-Dichlorobenzene | 100000 | 1.665683 | 80000 | 1.434044 | 50000 | 1.279153 | 20000 | 1.293437 | 10000 | 1.241398 | 2000 | 1.519437 |
| 1,3-Dichlorobenzene | 100000 | 1.73479 | 80000 | 1.444697 | 50000 | 1.319259 | 20000 | 1.336251 | 10000 | 1.313682 | 2000 | 1.625339 |
| 1,4-Dichlorobenzene | 100000 | 1.766995 | 80000 | 1.511688 | 50000 | 1.386778 | 20000 | 1.391862 | 10000 | 1.37245 | 2000 | 1.634874 |
| 3,3-Dichlorobenzidine | 100000 | 0.4399254 | 80000 | 0.3709752 | 50000 | 0.3329313 | 20000 | 0.3256064 | 10000 | 0.2639327 | 2000 | 0.3010667 |
| Dieldrin | 100000 | 0.5497194 | 80000 | 0.4804363 | 50000 | 0.535936 | 20000 | 0.5640055 | 10000 | 0.5755552 | 2000 | 0.778256 |
| Diethyl phthalate | 100000 | 1.558762 | 80000 | 1.337002 | 50000 | 1.311549 | 20000 | 1.260668 | 10000 | 1.205175 | 2000 | 1.585139 |
| Dimethyl phthalate | 100000 | 1.459139 | 80000 | 1.300345 | 50000 | 1.305692 | 20000 | 1.47491 | 10000 | 1.60303 | 2000 | 4.312032 |
| Di-n-butyl phthalate | 100000 | 1.483984 | 80000 | 1.349283 | 50000 | 1.362319 | 20000 | 1.424584 | 10000 | 1.343645 | 2000 | 1.762806 |
| 2,4-Dinitrotoluene | 100000 | 0.4341342 | 80000 | 0.3662886 | 50000 | 0.3337717 | 20000 | 0.304019 | 10000 | 0.2768901 | 2000 | 0.3609356 |
| 2,6-Dinitrotoluene | 100000 | 0.3477063 | 80000 | 0.2901313 | 50000 | 0.2743694 | 20000 | 0.2674434 | 10000 | 0.2392695 | 2000 | 0.2921684 |
| Di-n-octyl phthalate | 100000 | 2.556637 | 80000 | 2.225851 | 50000 | 2.13625 | 20000 | 2.324568 | 10000 | 2.089172 | 2000 | 2.310093 |
| 1,2-Diphenylhydrazine | 100000 | 1.891393 | 80000 | 1.577473 | 50000 | 1.472643 | 20000 | 1.589914 | 10000 | 1.540612 | 2000 | 1.895223 |
| Endosulfan I | 100000 | 7.218111E-02 | 80000 | 6.023525E-02 | 50000 | 6.612169E-02 | 20000 | 6.522704E-02 | 10000 | 7.305852E-02 | 2000 | 0.1050556 |
| Endosulfan II | 100000 | 7.240231E-02 | 80000 | 6.023525E-02 | 50000 | 6.612169E-02 | 20000 | 6.522704E-02 | 10000 | 7.497503E-02 | 2000 | 0.102488 |
| Endosulfan sulfate | 100000 | 0.1087085 | 80000 | 9.857814E-02 | 50000 | 9.994029E-02 | 20000 | 0.1033443 | 10000 | 0.1151218 | 2000 | 0.1480962 |
| Endrin | 100000 | 0.1661043 | 80000 | 0.150212 | 50000 | 0.1630478 | 20000 | 0.1687914 | 10000 | 0.1883497 | 2000 | 0.2769134 |
| Endrin aldehyde | 100000 | 0.1987058 | 80000 | 0.1692277 | 50000 | 0.1725284 | 20000 | 0.2023891 | 10000 | 0.1887268 | 2000 | 0.2622909 |
| Fluoranthene | 100000 | 0.9674448 | 80000 | 0.8295252 | 50000 | 0.7683948 | 20000 | 0.7470324 | 10000 | 0.722983 | 2000 | 0.8903359 |
| Fluorene | 100000 | 1.365979 | 80000 | 1.178585 | 50000 | 1.119893 | 20000 | 1.031698 | 10000 | 0.9914801 | 2000 | 1.227387 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Heptachlor | 100000 | 0.2469725 | 80000 | 0.22505 | 50000 | 0.209003 | 20000 | 0.2071997 | 10000 | 0.1949089 | 2000 | 0.2444186 |
| Heptachlor epoxide | 100000 | 5.817796E-02 | 80000 | 5.537066E-02 | 50000 | 5.338711E-02 | 20000 | 5.261903E-02 | 10000 | 4.886745E-02 | 2000 | 7.309644E-02 |
| Hexachlorobenzene | 100000 | 0.3080657 | 80000 | 0.2633884 | 50000 | 0.2491888 | 20000 | 0.2529626 | 10000 | 0.2426627 | 2000 | 0.2930597 |
| Hexachlorobutadiene | 100000 | 0.2224831 | 80000 | 0.18154 | 50000 | 0.1737764 | 20000 | 0.1731651 | 10000 | 0.167053 | 2000 | 0.1809414 |
| Hexachlorocyclopentadiene | 100000 | 0.4201915 | 80000 | 0.3348359 | 50000 | 0.2812125 | 20000 | 0.2848248 | 10000 | 0.2446405 | 2000 | 0.2667616 |
| Hexachloroethane | 100000 | 0.8228239 | 80000 | 0.6967761 | 50000 | 0.6301827 | 20000 | 0.6414702 | 10000 | 0.6173323 | 2000 | 0.7710276 |
| Indeno[1,2,3-cd]pyrene | 100000 | 1.038936 | 80000 | 1.005826 | 50000 | 0.9429559 | 20000 | 1.00292 | 10000 | 0.9640673 | 2000 | 1.510996 |
| Isophorone | 100000 | 0.9531186 | 80000 | 0.8175649 | 50000 | 0.7910723 | 20000 | 0.8091858 | 10000 | 0.7786829 | 2000 | 0.9777979 |
| 2-Methylnaphthalene | 100000 | 0.7033358 | 80000 | 0.602139 | 50000 | 0.5883851 | 20000 | 0.5753241 | 10000 | 0.5413545 | 2000 | 0.6515324 |
| Naphthalene | 100000 | 1.051131 | 80000 | 0.8912542 | 50000 | 0.9050309 | 20000 | 0.8884781 | 10000 | 0.87612 | 2000 | 1.049307 |
| 2-Naphthylamine | 100000 | 0.2396092 | 80000 | 0.195414 | 50000 | 0.1270991 | 20000 | 6.418115E-02 | 10000 | 0.1079626 | 2000 | 0.4500244 |
| 2-Nitroaniline | 100000 | 0.5232215 | 80000 | 0.4474662 | 50000 | 0.4174869 | 20000 | 0.4053005 | 10000 | 0.3591691 | 2000 | 0.4050724 |
| 3-Nitroaniline | 100000 | 0.3540398 | 80000 | 0.3200432 | 50000 | 0.2726554 | 20000 | 0.2442908 | 10000 | 0.2227153 | 2000 | 0.2821532 |
| 4-Nitroaniline | 100000 | 0.260143 | 80000 | 0.2373176 | 50000 | 0.2177133 | 20000 | 0.1940236 | 10000 | 0.1717861 | 2000 | 0.2246434 |
| Nitrobenzene | 100000 | 0.4984962 | 80000 | 0.3971827 | 50000 | 0.3907262 | 20000 | 0.4118219 | 10000 | 0.3910383 | 2000 | 0.4911659 |
| N-Nitrosodimethylamine | 100000 | 0.8553967 | 80000 | 0.7174076 | 50000 | 0.6762102 | 20000 | 0.7213549 | 10000 | 0.7523053 | 2000 | 1.317693 |
| N-Nitrosodi-N-propylamine | 100000 | 1.21434 | 80000 | 1.06465 | 50000 | 0.9634084 | 20000 | 1.001168 | 10000 | 0.9699977 | 2000 | 1.246351 |
| N-Nitrosodiphenylamine | 100000 | 0.887231 | 80000 | 0.7388075 | 50000 | 0.7023561 | 20000 | 0.6737722 | 10000 | 0.6410091 | 2000 | 0.8085533 |
| Phenanthrene | 100000 | 1.14389 | 80000 | 0.9823701 | 50000 | 0.9191695 | 20000 | 0.9423724 | 10000 | 0.8790773 | 2000 | 1.095758 |
| Pyrene | 100000 | 2.285812 | 80000 | 1.917423 | 50000 | 2.095917 | 20000 | 2.071808 | 10000 | 2.016968 | 2000 | 2.440476 |
| 1,2,4-Trichlorobenzene | 100000 | 0.3386861 | 80000 | 0.2814576 | 50000 | 0.2706111 | 20000 | 0.2722161 | 10000 | 0.2538795 | 2000 | 0.3048686 |
| 4-Chloro-3-methylphenol | 100000 | 0.3719618 | 80000 | 0.3186825 | 50000 | 0.3104248 | 20000 | 0.3043974 | 10000 | 0.2725949 | 2000 | 0.3281834 |
| 2-Chlorophenol | 100000 | 1.631072 | 80000 | 1.385381 | 50000 | 1.24699 | 20000 | 1.27697 | 10000 | 1.251125 | 2000 | 1.456087 |
| 2,4-Dichlorophenol | 100000 | 0.3272474 | 80000 | 0.2774282 | 50000 | 0.2552245 | 20000 | 0.2459834 | 10000 | 0.2282137 | 2000 | 0.2857077 |
| 2,4-Dimethylphenol | 100000 | 0.4882613 | 80000 | 0.4075555 | 50000 | 0.3826981 | 20000 | 0.3611776 | 10000 | 0.3118293 | 2000 | 0.3627137 |
| 4,6-Dinitro-2-methylphenol | 100000 | 0.2513402 | 80000 | 0.2093766 | 50000 | 0.1818097 | 20000 | 0.1575139 | 10000 | 0.141139 | 2000 | 0.1155631 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| 2,4-Dinitrophenol | 100000 | 0.2327297 | 80000 | 0.187771 | 50000 | 0.1571791 | 20000 | 0.1247295 | 10000 | 9.809317E-02 | 2000 | 7.678326E-02 |
| 2-Methylphenol | 100000 | 1.611832 | 80000 | 1.365758 | 50000 | 1.254139 | 20000 | 1.2802 | 10000 | 1.203597 | 2000 | 1.516228 |
| 3- & 4-Methylphenol | 200000 | 1.751919 | 160000 | 1.499127 | 100000 | 1.352838 | 40000 | 1.391235 | 20000 | 1.332588 | 4000 | 1.553843 |
| 2-Nitrophenol | 100000 | 0.2618131 | 80000 | 0.2170348 | 50000 | 0.193037 | 20000 | 0.1879177 | 10000 | 0.1797138 | 2000 | 0.2036199 |
| 4-Nitrophenol | 100000 | 0.1475948 | 80000 | 0.1363832 | 50000 | 0.1190433 | 20000 | 0.1013118 | 10000 | 9.113671E-02 | 2000 | 8.120858E-02 |
| Pentachlorophenol | 100000 | 0.1700414 | 80000 | 0.1478151 | 50000 | 0.1277376 | 20000 | 0.1141375 | 10000 | 9.936943E-02 | 2000 | 0.0791017 |
| Phenol | 100000 | 2.449046 | 80000 | 2.076044 | 50000 | 1.779944 | 20000 | 1.866136 | 10000 | 1.876858 | 2000 | 2.304443 |
| 2,4,5-Trichlorophenol | 100000 | 0.4951022 | 80000 | 0.407543 | 50000 | 0.3793635 | 20000 | 0.3885436 | 10000 | 0.3549151 | 2000 | 0.3604698 |
| 2,4,6-Trichlorophenol | 100000 | 0.4951711 | 80000 | 0.4198799 | 50000 | 0.3823044 | 20000 | 0.3871826 | 10000 | 0.350892 | 2000 | 0.4266944 |
| Carbazole | 100000 | 0.8930745 | 80000 | 0.8278883 | 50000 | 0.7168341 | 20000 | 0.6703451 | 10000 | 0.6301783 | 2000 | 0.7827654 |
| Methoxychlor | 100000 | 0.9479684 | 80000 | 0.8000717 | 50000 | 0.7783786 | 20000 | 0.8229607 | 10000 | 0.7696236 | 2000 | 0.7203318 |
| Pyridine | 100000 | 1.605282 | 80000 | 1.383094 | 50000 | 1.415232 | 20000 | 1.263617 | 10000 | 1.541123 | 2000 | 1.963903 |
| 2-Fluorophenol (Surrogate) | 100000 | 1.999678 | 80000 | 1.631086 | 50000 | 1.514096 | 20000 | 1.573024 | 10000 | 1.529296 | 2000 | 1.821467 |
| Phenol-d5 (Surrogate) | 100000 | 2.326384 | 80000 | 1.952038 | 50000 | 1.813594 | 20000 | 1.8865 | 10000 | 1.864041 | 2000 | 2.24782 |
| Nitrobenzene-d5 (Surrogate) | 100000 | 2.22296 | 80000 | 1.857283 | 50000 | 1.735468 | 20000 | 1.797351 | 10000 | 1.726746 | 2000 | 2.089924 |
| 2-Fluorobiphenyl (Surrogate) | 100000 | 1.417564 | 80000 | 1.143411 | 50000 | 1.077062 | 20000 | 1.10562 | 10000 | 1.032102 | 2000 | 1.271291 |
| 2,4,6-Tribromophenol (Surrogate) | 100000 | 0.2354316 | 80000 | 0.2068972 | 50000 | 0.1830077 | 20000 | 0.1821404 | 10000 | 0.1629182 | 2000 | 0.1947891 |
| p-Terphenyl-d14 (Surrogate) | 50000 | 1.701205 | 40000 | 1.505761 | 25000 | 1.565927 | 10000 | 1.544792 | 5000 | 1.501887 | 1000 | 1.745647 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1.176551 | 11.26252 | 8.898333 | 0.1102815 | | | CCC (20) | |
| Acenaphthylene | 1.827542 | 8.146896 | 8.725 | 9.665459E-02 | | | 15 | |
| Aldrin | 0.1715043 | 11.08031 | 11.16 | 5.465194E-02 | | | 15 | |
| Aniline | 2.075277 | 12.11374 | 5.625 | 9.697389E-02 | | | 15 | |
| Anthracene | 0.9178026 | 11.18943 | 10.42833 | 9.386374E-02 | | | 15 | |
| Benzidine | 3.047115E-02 | 53.14318 | 11.82167 | 0.3268326 | | 0.9965613 | 0.99 | |
| Benzo[a]anthracene | 1.170334 | 14.86631 | 14.045 | 0.1259201 | | | 15 | |
| Benzo[b]fluoranthene | 1.136499 | 12.76796 | 15.63833 | 9.362932E-02 | | | 15 | |
| Benzo[k]fluoranthene | 1.005823 | 14.1031 | 15.67167 | 7.495212E-02 | | | 15 | |
| Benzo[a]pyrene | 0.9997622 | 14.87194 | 16.01 | 0.0776761 | | | CCC (20) | |
| Benzo[g,h,i]perylene | 0.9164535 | 21.43737 | 17.52 | 9.522557E-02 | 0.99831 | | 0.99 | |
| Benzoic acid | 0.2528143 | 20.91516 | 6.965 | 1.343018 | | 0.9982333 | 0.99 | |
| Benzyl alcohol | 1.173642 | 7.859395 | 6.06 | 0.2082106 | | | 15 | |
| Benzyl butyl phthalate | 1.275387 | 8.117376 | 12.97667 | 9.281965E-02 | | | 15 | |
| alpha-BHC | 0.1575701 | 11.00588 | 9.896667 | 0.1223944 | | | 15 | |
| beta-BHC | 0.1093726 | 11.41568 | 10.105 | 0.1367177 | | | 15 | |
| delta-BHC | 0.1062289 | 13.93706 | 10.42833 | 9.386374E-02 | | | 15 | |
| gamma-BHC (Lindane) | 0.1276868 | 11.98061 | 10.195 | 5.142942E-02 | | | 15 | |
| bis(2-Chloroethoxy)methane | 0.5678905 | 7.870335 | 6.895 | 0.1518417 | | | 15 | |
| bis(2-Chloroethyl) ether | 1.690645 | 13.12564 | 5.673333 | 0.2409497 | | | 15 | |
| bis(2-Chloroisopropyl)ether | 2.647084 | 8.123608 | 6.175 | 8.897551E-02 | | | 15 | |
| bis(2-Ethylhexyl)phthalate | 1.622389 | 9.212632 | 14.19833 | 7.115725E-02 | | | 15 | |
| 4-Bromophenyl phenyl ether | 0.2102125 | 10.60412 | 9.878333 | 9.975379E-02 | | | 15 | |
| 4-Chloroaniline | 0.3723063 | 12.44458 | 7.21 | 0.174836 | | | 15 | |
| 2-Chloronaphthalene | 1.114578 | 11.1009 | 8.313334 | 6.262983E-02 | | | 15 | |
| 4-Chlorophenyl phenyl ether | 0.6135306 | 11.6513 | 9.393333 | 8.674992E-02 | | | 15 | |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Chrysene | 1.069676 | 9.665831 | 14.11833 | 0.1036223 | | | 15 | |
| 4,4'-DDD | 0.686099 | 8.727222 | 12.58667 | 9.591288E-02 | | | 15 | |
| 4,4'-DDE | 0.3895625 | 12.15186 | 12.05667 | 6.452464E-02 | | | 15 | |
| 4,4'-DDT | 0.5312262 | 8.730196 | 13.125 | 0.0787426 | | | 15 | |
| Dibenzo[a,h]anthracene | 0.9435208 | 18.51717 | 17.24 | 7.397891E-02 | 0.99939 | | 0.99 | |
| Dibenzofuran | 1.433713 | 11.14115 | 9.065 | 0.1156821 | | | 15 | |
| 1,2-Dichlorobenzene | 1.405525 | 11.77459 | 6.083333 | 8.534847E-02 | | | 15 | |
| 1,3-Dichlorobenzene | 1.462336 | 12.21674 | 5.873333 | 8.704164E-02 | | | 15 | |
| 1,4-Dichlorobenzene | 1.510774 | 10.66066 | 5.94 | 0.1052039 | | | CCC (20) | |
| 3,3-Dichlorobenzidine | 0.339073 | 17.93869 | 14.03 | 0.1495983 | | 0.9973468 | 0.99 | |
| Dieldrin | 0.5806514 | 17.6221 | 12.21833 | 8.166799E-02 | | 0.9924963 | 0.99 | |
| Diethyl phthalate | 1.376383 | 11.5013 | 9.28 | 0.1802596 | | | 15 | |
| Dimethyl phthalate | 1.909191 | 61.94565 | 8.586667 | 0.1901209 | | 0.9975048 | 0.99 | |
| Di-n-butyl phthalate | 1.454437 | 11.02973 | 10.90833 | 8.935182E-02 | | | 15 | |
| 2,4-Dinitrotoluene | 0.3460065 | 15.87749 | 9.05 | 0.1841042 | | 0.9976807 | 0.99 | |
| 2,6-Dinitrotoluene | 0.2851814 | 12.66451 | 8.655 | 0.1589028 | | | 15 | |
| Di-n-octyl phthalate | 2.273762 | 7.338155 | 15.23667 | 5.327565E-02 | | | CCC (20) | |
| 1,2-Diphenylhydrazine | 1.66121 | 11.09793 | 9.548333 | 0.1025175 | | | 15 | |
| Endosulfan I | 7.364654E-02 | 21.8641 | 12.61833 | 7.757534E-02 | | 0.9905499 | 0.99 | |
| Endosulfan II | 7.357489E-02 | 20.54522 | 12.61833 | 7.757534E-02 | | 0.9902424 | 0.99 | |
| Endosulfan sulfate | 0.1122982 | 16.53279 | 13.14167 | 9.926172E-02 | 0.99729 | | 0.99 | |
| Endrin | 0.1855698 | 25.0092 | 12.49167 | 5.861441E-02 | 0.99733 | | 0.99 | |
| Endrin aldehyde | 0.1989781 | 16.9835 | 13.925 | 9.969539E-02 | | 0.9928014 | 0.99 | |
| Fluoranthene | 0.8209527 | 11.44908 | 11.63167 | 6.309281E-02 | | | CCC (20) | |
| Fluorene | 1.152504 | 11.86184 | 9.4 | 9.423196E-02 | | | 15 | |
| Heptachlor | 0.2212588 | 9.596285 | 10.84 | 5.626528E-02 | | | 15 | |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Heptachlor epoxide | 5.691977E-02 | 14.93812 | 11.51 | 5.241529E-02 | | | 15 | |
| Hexachlorobenzene | 0.2682213 | 9.83044 | 9.94 | 0.1263366 | | | 15 | |
| Hexachlorobutadiene | 0.1831598 | 10.92281 | 7.268333 | 5.906172E-02 | | | CCC (20) | |
| Hexachlorocyclopentadiene | 0.3054111 | 20.83046 | 7.98 | 1.012459E-02 | | 0.995583 | SPCC (0.05) | |
| Hexachloroethane | 0.6966021 | 12.04586 | 6.406667 | 0.0798896 | | | 15 | |
| Indeno[1,2,3-cd]pyrene | 1.077617 | 19.94925 | 17.22 | 7.589232E-02 | 0.99883 | | 0.99 | |
| Isophorone | 0.8545704 | 10.21706 | 6.708333 | 0.2732255 | | | 15 | |
| 2-Methylnaphthalene | 0.6103452 | 9.519593 | 7.835 | 7.032883E-02 | | | 15 | |
| Naphthalene | 0.9435535 | 8.810762 | 7.166667 | 0.1144135 | | | 15 | |
| 2-Naphthylamine | 0.1973817 | 70.30818 | 9.226667 | 0.1319527 | | 0.9997195 | 0.99 | |
| 2-Nitroaniline | 0.4262861 | 12.98402 | 8.42 | 0.197675 | | | 15 | |
| 3-Nitroaniline | 0.2826496 | 17.08393 | 8.828334 | 0.2076963 | | 0.9999171 | 0.99 | |
| 4-Nitroaniline | 0.2176045 | 14.39068 | 9.436667 | 0.2975381 | | | 15 | |
| Nitrobenzene | 0.4300719 | 11.81089 | 6.476667 | 0.1871287 | | | 15 | |
| N-Nitrosodimethylamine | 0.8400613 | 28.76955 | 3.696667 | 1.53659 | | 0.9959257 | 0.99 | |
| N-Nitrosodi-N-propylamine | 1.076653 | 11.58564 | 6.321667 | 0.4052324 | | | SPCC (0.05) | |
| N-Nitrosodiphenylamine | 0.7419549 | 12.34644 | 9.511667 | 0.1396196 | | | CCC (20) | |
| Phenanthrene | 0.9937729 | 10.49887 | 10.375 | 0.1003231 | | | 15 | |
| Pyrene | 2.138067 | 8.942857 | 11.93333 | 0.124103 | | | 15 | |
| 1,2,4-Trichlorobenzene | 0.2869532 | 10.57659 | 7.083333 | 7.329928E-02 | | | 15 | |
| 4-Chloro-3-methylphenol | 0.3177075 | 10.26657 | 7.668333 | 0.1285995 | | | CCC (20) | |
| 2-Chlorophenol | 1.374604 | 10.96528 | 5.73 | 0.1570143 | | | 15 | |
| 2,4-Dichlorophenol | 0.2699675 | 12.95964 | 7.003333 | 0.1948306 | | | CCC (20) | |
| 2,4-Dimethylphenol | 0.3857059 | 15.37861 | 6.801667 | 0.2161071 | | 0.9962946 | 0.99 | |
| 4,6-Dinitro-2-methylphenol | 0.1761238 | 27.85428 | 9.456666 | 0.2082746 | | 0.9980605 | 0.99 | |
| 2,4-Dinitrophenol | 0.1462143 | 39.79731 | 8.926667 | 0.1826569 | | 0.9976962 | SPCC (0.05) | |

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Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702018
Instrument: MS-B2
Matrix: Water
Calibration Date: 02/08/17 12:04

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| 2-Methylphenol | 1.371959 | 11.70936 | 6.141667 | 0.1908075 | | | 15 | |
| 3- & 4-Methylphenol | 1.480258 | 10.70448 | 6.298333 | 0.2914271 | | | 15 | |
| 2-Nitrophenol | 0.2071894 | 14.35025 | 6.775 | 8.187219E-02 | | | CCC (20) | |
| 4-Nitrophenol | 0.1127797 | 23.13929 | 8.976667 | 0.2189139 | | 0.9999948 | SPCC (0.05) | |
| Pentachlorophenol | 0.1230338 | 26.74823 | 10.14 | 0.0894594 | | 0.9992445 | CCC (20) | * |
| Phenol | 2.058745 | 13.05009 | 5.576667 | 0.3523955 | | | CCC (20) | |
| 2,4,5-Trichlorophenol | 0.3976562 | 12.9311 | 8.141667 | 9.195427E-02 | | | 15 | |
| 2,4,6-Trichlorophenol | 0.4103541 | 12.1412 | 8.105 | 6.914686E-02 | | | CCC (20) | |
| Carbazole | 0.7535143 | 13.18307 | 10.58667 | 0.1146278 | | | 15 | |
| Methoxychlor | 0.8065558 | 9.587923 | 13.97333 | 0.1409594 | | | 15 | |
| Pyridine | 1.528708 | 16.01701 | 3.711667 | 0.955039 | | 0.9956759 | 0.99 | |
| 2-Fluorophenol (Surrogate) | 1.678108 | 11.50143 | 4.726667 | 0.256536 | | | 15 | |
| Phenol-d5 (Surrogate) | 2.015063 | 10.75858 | 5.565 | 0.3895552 | | | 15 | |
| Nitrobenzene-d5 (Surrogate) | 1.904955 | 10.74991 | 6.458333 | 0.1521518 | | | 15 | |
| 2-Fluorobiphenyl (Surrogate) | 1.174508 | 12.27529 | 8.186667 | 0.1014648 | | | 15 | |
| 2,4,6-Tribromophenol (Surrogate) | 0.1941974 | 12.84434 | 9.643333 | 8.259843E-02 | | | 15 | |
| p-Terphenyl-d14 (Surrogate) | 1.594203 | 6.516989 | 12.14333 | 6.914547E-02 | | | 15 | |

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San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-8270C

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/03/17 07:00 | 3.00 | 7.00 | 02/13/17 09:43 | 10.00 | 40.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/03/17 07:00 | 3.00 | 7.00 | 02/10/17 12:40 | 7.00 | 40.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/03/17 07:00 | 3.00 | 7.00 | 02/13/17 13:09 | 10.00 | 40.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 3:41:00PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements

## For Data Validation of

## Cyanide Analysis
## Wet Chemistry Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

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## Case Narrative

**Analyses Requested**: **Gen-Chem.**
**Submission #: 17-02734**

Method 335.4
Instrument ID: KONE-1
Sample Volume(s): 50ml/50ml

Method 160.1
Instrument ID: Manual
Sample Volume(s): 100ml/100ml

Method 300.0
Instrument ID: IC-5
Sample Volume(s): 20ml/20ml

Method 310.1
Instrument ID: MET-1
Sample Volume(s): 50ml/50ml

Method 353.2
Instrument ID: Kone-1
Volume(s): 20ml/20ml

Method 415.1
Instrument ID: TOC2
Sample Volume(s): 100ml/100ml

Method SM4500SD
Instrument ID: SPEC06
Volume(s):25ml/25ml

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and preparations took place within holding times.

**Calibration:** Initial calibration criteria were met. Frequency and accuracy criteria for initial and continuing calibration verifications were met.

**Blanks**: Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample:** Laboratory control sample analysis was performed at the required frequency. All parameters were within QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TVH-E -D, JP, M, O,U (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS TC BOD MBAS CO

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | | |
|---|---|---|
| Sampler's Signature: | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 14:50 |
| Received By: | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Date: 1-31-17 | Time: 1830 |
| Received By: | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,J,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | MV DLK | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | G,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMPLE\Cooler 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blank Thermometer ID: 207<br>Temperature: (A) 0.1 °C / (C) 0.4 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | JDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | JDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OJT | OJT | | | | | | |
| 8oz / 16oz / ~~32oz~~ ~~VOA~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
I:\SJWPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20

**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PR UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **CN**
**Method:** **EPA-335.4**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-335.4

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03 |
| M028A-R_170131 | 1702734-06 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-335.4

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** KONE-1

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Total Cyanide | 0.0019 | 0.004 | 0.005 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-335.4

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: 170203 1439 CN-016
Sampled: 01/31/17 14:00
Prepared: 02/02/17 09:14
Analyzed: 02/03/17 15:00
Solids: 0.00
Preparation: EPA 335.3 Total
Initial/Final: 50 ml / 50 ml
Batch: B[B0130
Sequence: 1702360
Calibration: UNASSIGNED
Instrument: KONE-1

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 57-12-5 | Total Cyanide | 0.0040 | 0.0019 | 0.0040 | 0.0050 | 1 | U | EPA-335.4 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-335.4

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: 170203 1439 CN-017
Sampled: 01/31/17 14:15
Prepared: 02/02/17 09:14
Analyzed: 02/03/17 15:00
Solids: 0.00
Preparation: EPA 335.3 Total
Initial/Final: 50 ml / 50 ml
Batch: B[B0130
Sequence: 1702360
Calibration: UNASSIGNED
Instrument: KONE-1

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 57-12-5 | Total Cyanide | 0.0040 | 0.0019 | 0.0040 | 0.0050 | 1 | U | EPA-335.4 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-335.4

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: 170203 1439 CN-018
Sampled: 01/31/17 08:35
Prepared: 02/02/17 09:14
Analyzed: 02/03/17 15:00
Solids: 0.00
Preparation: EPA 335.3 Total
Initial/Final: 50 ml / 50 ml
Batch: B[B0130
Sequence: 1702360
Calibration: UNASSIGNED
Instrument: KONE-1

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 57-12-5 | Total Cyanide | 0.0040 | 0.0019 | 0.0040 | 0.0050 | 1 | U | EPA-335.4 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-335.4

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: 170203 1439 CN-019
Sampled: 01/31/17 08:34
Prepared: 02/02/17 09:14
Analyzed: 02/03/17 15:00
Solids: 0.00
Preparation: EPA 335.3 Total
Initial/Final: 50 ml / 50 ml
Batch: B[B0130
Sequence: 1702360
Calibration: UNASSIGNED
Instrument: KONE-1

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 57-12-5 | Total Cyanide | 0.0040 | 0.0019 | 0.0040 | 0.0050 | 1 | U | EPA-335.4 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-335.4

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0130
Batch Matrix: Water
Preparation: EPA 335.3 Total

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | 170203 1439 CN-016 | 02/02/17 09:14 | DOD/CLP |
| EB04_170131 | 1702734-02 | 170203 1439 CN-017 | 02/02/17 09:14 | DOD/CLP |
| M002A-R_170131 | 1702734-03 | 170203 1439 CN-018 | 02/02/17 09:14 | DOD/CLP |
| M028A-R_170131 | 1702734-06 | 170203 1439 CN-019 | 02/02/17 09:14 | DOD/CLP |
| Blank | B[B0130-BLK1 | 170203 1439 CN-004 | 02/02/17 09:14 | |
| LCS | B[B0130-BS1 | 170203 1439 CN-003 | 02/02/17 09:14 | |
| Duplicate | B[B0130-DUP1 | 170203 1439 CN-011 | 02/02/17 09:14 | |
| Matrix Spike | B[B0130-MS1 | 170203 1439 CN-012 | 02/02/17 09:14 | |
| Matrix Spike Dup | B[B0130-MSD1 | 170203 1439 CN-013 | 02/02/17 09:14 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-335.4

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0130-BLK1 | File ID: | 170203 1439 CN-004 |
| Prepared: | 02/02/17 09:14 | Preparation: | EPA 335.3 Total | Initial/Final: | 50 ml / 50 ml |
| Analyzed: | 02/03/17 14:39 | Instrument: | KONE-1 | | |
| Batch: | B[B0130 | Sequence: | 1702360 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 57-12-5 | Total Cyanide | 0.0040 | 0.0019 | 0.0040 | 0.0050 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-335.4

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0130
Preparation: EPA 335.3 Total
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0130-DUP1
Lab Source ID: 1702720-02
Initial/Final: 50 ml / 50 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Total Cyanide | 10 | ND | | ND | | | | EPA-335.4 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-335.4

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0130
Laboratory ID: B[B0130-MS1
Preparation: EPA 335.3 Total
Initial/Final: 50 ml / 50 ml
Source Sample Number: 1702720-02

| COMPOUND | SPIKE ADDED (mg/L) | SAMPLE CONCENTRATION (mg/L) | MS CONCENTRATION (mg/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Total Cyanide | 0.10000 | ND | 0.10112 | 101 | 90 - 110 |

| COMPOUND | SPIKE ADDED (mg/L) | MSD CONCENTRATION (mg/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Total Cyanide | 0.10000 | 0.10081 | 101 | 0.304 | 10 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-335.4

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Matrix: | Water | | |
| Batch: | B[B0130 | Laboratory ID: | B[B0130-BS1 |
| Preparation: | EPA 335.3 Total | Initial/Final: | 50 ml / 50 ml |

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Total Cyanide | 0.15000 | 0.14901 | 99.3 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-335.4

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702360
Instrument: KONE-1
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1702360-CCV1 | 170203 1439 CN-001 | 02/03/17 14:39 |
| Calibration Blank | 1702360-CCB1 | 170203 1439 CN-002 | 02/03/17 14:39 |
| LCS | B[B0130-BS1 | 170203 1439 CN-003 | 02/03/17 14:39 |
| Blank | B[B0130-BLK1 | 170203 1439 CN-004 | 02/03/17 14:39 |
| Calibration Check | 1702360-CCV2 | 170203 1439 CN-006 | 02/03/17 14:41 |
| Calibration Blank | 1702360-CCB2 | 170203 1439 CN-007 | 02/03/17 14:41 |
| Calibration Check | 1702360-CCV3 | 170203 1439 CN-008 | 02/03/17 15:00 |
| Calibration Blank | 1702360-CCB3 | 170203 1439 CN-009 | 02/03/17 15:00 |
| Duplicate | B[B0130-DUP1 | 170203 1439 CN-011 | 02/03/17 15:00 |
| Matrix Spike | B[B0130-MS1 | 170203 1439 CN-012 | 02/03/17 15:00 |
| Matrix Spike Dup | B[B0130-MSD1 | 170203 1439 CN-013 | 02/03/17 15:00 |
| EB03_170131 | 1702734-01 | 170203 1439 CN-016 | 02/03/17 15:00 |
| EB04_170131 | 1702734-02 | 170203 1439 CN-017 | 02/03/17 15:00 |
| M002A-R_170131 | 1702734-03 | 170203 1439 CN-018 | 02/03/17 15:00 |
| M028A-R_170131 | 1702734-06 | 170203 1439 CN-019 | 02/03/17 15:00 |
| Calibration Check | 1702360-CCV4 | 170203 1439 CN-020 | 02/03/17 15:02 |
| Calibration Blank | 1702360-CCB4 | 170203 1439 CN-021 | 02/03/17 15:02 |
| Calibration Check | 1702360-CCV5 | 170203 1439 CN-025 | 02/03/17 15:16 |
| Calibration Blank | 1702360-CCB5 | 170203 1439 CN-026 | 02/03/17 15:16 |
| Calibration Check | 1702360-CCV6 | 170203 1439 CN-028 | 02/03/17 15:27 |
| Calibration Blank | 1702360-CCB6 | 170203 1439 CN-029 | 02/03/17 15:27 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-335.4

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: KONE-1
Project: Alameda
Sequence: 1702360
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1702360-CCB1 | Total Cyanide | 0.00024100 | 0.0019 | | 0.0050 | mg/L | U | EPA-335.4 |
| 1702360-CCB2 | Total Cyanide | -0.0015030 | 0.0019 | | 0.0050 | mg/L | U | EPA-335.4 |
| 1702360-CCB3 | Total Cyanide | -0.00065200 | 0.0019 | | 0.0050 | mg/L | U | EPA-335.4 |
| 1702360-CCB4 | Total Cyanide | -0.0012440 | 0.0019 | | 0.0050 | mg/L | U | EPA-335.4 |
| 1702360-CCB5 | Total Cyanide | -0.00024900 | 0.0019 | | 0.0050 | mg/L | U | EPA-335.4 |
| 1702360-CCB6 | Total Cyanide | -0.0011110 | 0.0019 | | 0.0050 | mg/L | U | EPA-335.4 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-335.4

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: KONE-1
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1702360

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1702360-CCV1 | Total Cyanide | 0.10000 | 0.095741 | 95.7 | mg/L | EPA-335.4 |
| 1702360-CCV2 | Total Cyanide | 0.10000 | 0.099811 | 99.8 | mg/L | EPA-335.4 |
| 1702360-CCV3 | Total Cyanide | 0.10000 | 0.094155 | 94.2 | mg/L | EPA-335.4 |
| 1702360-CCV4 | Total Cyanide | 0.10000 | 0.10159 | 102 | mg/L | EPA-335.4 |
| 1702360-CCV5 | Total Cyanide | 0.10000 | 0.10386 | 104 | mg/L | EPA-335.4 |
| 1702360-CCV6 | Total Cyanide | 0.10000 | 0.10059 | 101 | mg/L | EPA-335.4 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-335.4

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/02/17 09:14 | 3.00 | 14.00 | 02/03/17 15:00 | 3.00 | 14.00 | |
| EB04_170131 | 01/31/17 14:15 | 01/31/17 22:10 | 02/02/17 09:14 | 3.00 | 14.00 | 02/03/17 15:00 | 3.00 | 14.00 | |
| M002A-R_170131 | 01/31/17 08:35 | 01/31/17 22:10 | 02/02/17 09:14 | 3.00 | 14.00 | 02/03/17 15:00 | 3.00 | 14.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/02/17 09:14 | 3.00 | 14.00 | 02/03/17 15:00 | 3.00 | 14.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

## Raw Data From Instrument KONE-1

**Raw Data - Calibration Summary**

Calibration results  Aquakem 7.2AQ1  Page: 1

Laboratory
Analyzer User

27.01.2017 10:53

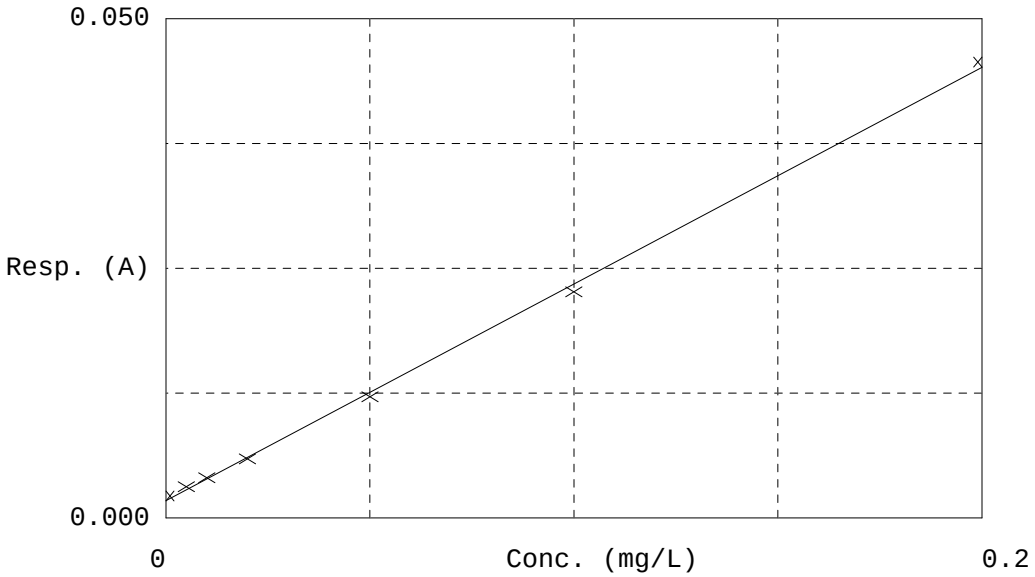
Test  Cyanide

Accepted  27.01.2017  10:53

Factor  4.60714
Bias  0.00175

Coeff. of det.  0.999024

Errors




| | Calibrator | Response | Calc. con. | Conc. | Errors |
|---|---|---|---|---|---|
| 1 | CN-0 | 0.00221 | 0.00216 | 0.00000 | |
| 2 | CN-0.005 | 0.00315 | 0.00644 | 0.00500 | |
| 3 | CN-0.010 | 0.00404 | 0.01056 | 0.01000 | |
| 4 | CN-0.020 | 0.00592 | 0.01924 | 0.02000 | |
| 5 | CN-0.050 | 0.01214 | 0.04788 | 0.05000 | |
| 6 | CN-0.100 | 0.02266 | 0.09634 | 0.10000 | |
| 7 | CN-0.200 | 0.04567 | 0.20237 | 0.20000 | |
| 8 | ICB-CN(control) | 0.00210 | 0.00165 | 0.00000 | |
| 9 | ICV-CN(control) | 0.02305 | 0.09814 | 0.10000 | |

Calibration results Aquakem 7.2AQ1 Page: 1

Laboratory
Analyzer User

27.01.2017 14:01

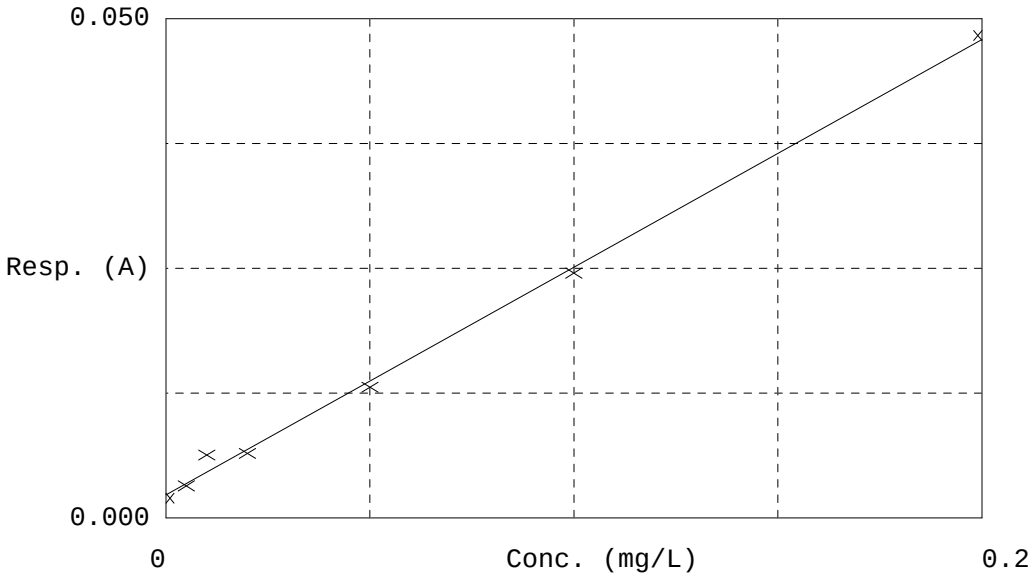
Test Cyanide

Accepted 27.01.2017 12:07

Factor 4.38402
Bias 0.00231

Coeff. of det. 0.997489

Errors




| | Calibrator | Response | Calc. con. | Conc. | Errors |
|---|---|---|---|---|---|
| 1 | CN-0 | 0.00199 | -0.00143 | 0.00000 | |
| 2 | CN-0.005 | 0.00322 | 0.00399 | 0.00500 | |
| 3 | CN-0.010 | 0.00632 | 0.01759 | 0.01000 | |
| 4 | CN-0.020 | 0.00648 | 0.01829 | 0.02000 | |
| 5 | CN-0.050 | 0.01312 | 0.04738 | 0.05000 | |
| 6 | CN-0.100 | 0.02453 | 0.09742 | 0.10000 | |
| 7 | CN-0.200 | 0.04834 | 0.20176 | 0.20000 | |
| 8 | ICB-CN(control) | 0.00194 | -0.00165 | 0.00000 | |
| 9 | ICV-CN(control) | 0.02435 | 0.09662 | 0.10000 | |

Cyanide
Laboratory
Analyzer User
Date : 27.01.2017
Time : 10:53

Last change date 29.01.2016 06:08
Tick length (sec) 7.0

| | | | | | |
|---|---|---|---|---|---|
| Full name | Cyanide | | | | |
| Online Name | | Test In Use | YES | | |
| Test type | Photometric | | LOW | HIGH | |
| | | Test limit | * | 1.00000 mg/L | |
| Result unit | mg/L | Initial absorbance | * | * | A |
| Number of Decim. | 5 | Dilution limit | * | 0.200000 mg/L | |
| | | Secondary dil 1+ | 0.0 | 4.0 | |
| | | Critical limit | * | * | mg/L |
| | | Reflex test limit | * | * | mg/L |
| | | Reflex test | | | |

| | | | | | |
|---|---|---|---|---|---|
| Acceptance | Manual | Reference class | LOW | HIGH | In Use |
| Dilution 1+ | 0.0 | | | | |
| Sample type | | Correction factor | 1.00 | | |
| | | Correction bias | 0.00 | mg/L | |

| | | | |
|---|---|---|---|
| Calibration type | Linear | | |
| Curve direction | Ascending | | |
| Repeat time (d) | 0 | Abs error (mA) | * |
| Points/cal. | Single | Rel error (%) | * |
| Acceptance | Manual | | |
| Response limit (mA) | MIN | MAX | |
| | * | * | |

Bias correction in use NO

Cd reduction NO

| | | |
|---|---|---|
| Type of Calibrators | Separate | |
| Calibrator | Conc. | Dil. ratio |
| CN-0 | 0.000 | 1+0.0 |
| CN-0.005 | 0.005 | 1+0.0 |
| CN-0.010 | 0.010 | 1+0.0 |
| CN-0.020 | 0.020 | 1+0.0 |
| CN-0.050 | 0.050 | 1+0.0 |
| CN-0.100 | 0.100 | 1+0.0 |
| CN-0.200 | 0.200 | 1+0.0 |

| | | | | | |
|---|---|---|---|---|---|
| Manual QC in Use | | YES | Routine QC in Use | | YES |
| Acceptance | | Manual | Interval | Requests | 10 |
| | | | Additional condition | | NO |
| Control | Mean | SD | Control | Mean | SD |
| ICB-CN | 0.00 | 0.00 | CCB-CN | 0.00 | 0.00 |
| ICV-CN | 0.10 | 0.01 | CCV-CN | 0.10 | 0.01 |
| Rules in Use | | 1:1.0*SD | Rules in Use | | 1:1.0*SD |

| | | | |
|---|---|---|---|
| Blank | YES | | |
| | | Normal cuvette | |
| Sample | | Volume (ul) | 100 |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Dilution with | Special | Wash reagent | None |

Cyanide
Laboratory
Analyzer User
Date : 27.01.2017
Time : 14:01

Last change date 29.01.2016 06:08
Tick length (sec) 7.0

| | | | | | |
|---|---|---|---|---|---|
| Full name | Cyanide | | | | |
| Online Name | | Test In Use | YES | | |
| Test type | Photometric | | LOW | HIGH | |
| | | Test limit | * | 1.00000 mg/L | |
| Result unit | mg/L | Initial absorbance | * | * | A |
| Number of Decim. | 5 | Dilution limit | * | 0.200000 mg/L | |
| | | Secondary dil 1+ | 0.0 | 4.0 | |
| | | Critical limit | * | * | mg/L |
| | | Reflex test limit | * | * | mg/L |
| | | Reflex test | | | |

| | | | | | |
|---|---|---|---|---|---|
| Acceptance | Manual | Reference class | LOW | HIGH | In Use |
| Dilution 1+ | 0.0 | | | | |
| Sample type | | Correction factor | 1.00 | | |
| | | Correction bias | 0.00 | mg/L | |

| | | | |
|---|---|---|---|
| Calibration type | Linear | | |
| Curve direction | Ascending | | |
| Repeat time (d) | 0 | Abs error (mA) | * |
| Points/cal. | Single | Rel error (%) | * |
| Acceptance | Manual | | |
| Response limit (mA) | MIN | MAX | |
| | * | * | |

Bias correction in use NO

Cd reduction NO

| | | |
|---|---|---|
| Type of Calibrators | Separate | |
| Calibrator | Conc. | Dil. ratio |
| CN-0 | 0.000 | 1+0.0 |
| CN-0.005 | 0.005 | 1+0.0 |
| CN-0.010 | 0.010 | 1+0.0 |
| CN-0.020 | 0.020 | 1+0.0 |
| CN-0.050 | 0.050 | 1+0.0 |
| CN-0.100 | 0.100 | 1+0.0 |
| CN-0.200 | 0.200 | 1+0.0 |

| | | | | | |
|---|---|---|---|---|---|
| Manual QC in Use | | YES | Routine QC in Use | | YES |
| Acceptance | | Manual | Interval | Requests | 10 |
| | | | Additional condition | | NO |
| Control | Mean | SD | Control | Mean | SD |
| ICB-CN | 0.00 | 0.00 | CCB-CN | 0.00 | 0.00 |
| ICV-CN | 0.10 | 0.01 | CCV-CN | 0.10 | 0.01 |
| Rules in Use | | 1:1.0*SD | Rules in Use | | 1:1.0*SD |

| | | | |
|---|---|---|---|
| Blank | YES | | |
| | | Normal cuvette | |
| Sample | | Volume (ul) | 100 |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Dilution with | Special | Wash reagent | None |

Cyanide Laboratory
Analyzer User
Date : 27.01.2017
Time : 10:53

| | | | |
|---|---|---|---|
| Raw Sample | | | |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Special diluent | CN-Diln | | |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Syringe speed | Normal | | |
| Reagent | CN Buffer | Volume (ul) | 30 |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Reagent | CN-ChlorT | Volume (ul) | 4 |
| Disp. with | Extra | Add. Volume (ul) | 10 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Incubation | | Time (sec) | 312 |
| Measurement | End point | Blank | |
| Resp. Min(A) | * | Resp. Max(A) | * |
| Reagent | CN-PyrBarb | Volume (ul) | 4 |
| Disp. with | Water | Add. Volume (ul) | 56 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Incubation | | Time (sec) | 312 |
| Measurement | End point | | |
| Wavelength (nm) | 575 nm | Side wavel. (nm) | None |
| Meas. type | Fixed timing | | |

Cyanide Laboratory
Analyzer User
Date : 27.01.2017
Time : 14:01

| | | | |
|---|---|---|---|
| Raw Sample | | | |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Special diluent | CN-Diln | | |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Syringe speed | Normal | | |
| Reagent | CN Buffer | Volume (ul) | 30 |
| Disp. with | Extra | Add. Volume (ul) | 20 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Reagent | CN-ChlorT | Volume (ul) | 4 |
| Disp. with | Extra | Add. Volume (ul) | 10 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Incubation | | Time (sec) | 312 |
| Measurement | End point | Blank | |
| Resp. Min(A) | * | Resp. Max(A) | * |
| Reagent | CN-PyrBarb | Volume (ul) | 4 |
| Disp. with | Water | Add. Volume (ul) | 56 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Incubation | | Time (sec) | 312 |
| Measurement | End point | | |
| Wavelength (nm) | 575 nm | Side wavel. (nm) | None |
| Meas. type | Fixed timing | | |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:16:33PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **WET** |
| **Method:** | **EPA-160.1** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-160.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-160.1

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MANUAL

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Total Dissolved Solids @ 180 C | 10 | 10 | 10 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-160.1

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID:
Sampled: 01/31/17 10:04
Prepared: 02/03/17 15:00
Analyzed: 02/03/17 15:00
Solids: 0.00
Preparation: No Prep
Initial/Final: 100 ml / 100 ml
Batch: B[B0336
Sequence: 1702237
Calibration: UNASSIGNED
Instrument: MANUAL

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| --- | Total Dissolved Solids @ 180 C | 820 | 50 | 50 | 50 | 5 | D | EPA-160.1 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-160.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0336
Batch Matrix: Water
Preparation: No Prep

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | | 02/03/17 15:00 | |
| Blank | B[B0336-BLK1 | | 02/03/17 15:00 | |
| LCS | B[B0336-BS1 | | 02/03/17 15:00 | |
| Duplicate | B[B0336-DUP1 | | 02/03/17 15:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-160.1

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0336-BLK1 | File ID: | |
| Prepared: | 02/03/17 15:00 | Preparation: | No Prep | Initial/Final: | 100 ml / 100 ml |
| Analyzed: | 02/03/17 15:00 | Instrument: | MANUAL | | |
| Batch: | B[B0336 | Sequence: | 1702237 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| --- | Total Dissolved Solids @ 180 C | 6.7 | 6.7 | 6.7 | 6.7 | UD |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-160.1

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0336
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0336-DUP1
Lab Source ID: 1702885-01
Initial/Final: 100 ml / 100 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids @ 180 C | 10 | 5850.0 | | 5600.0 | | 4.37 | | EPA-160.1 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-160.1

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Matrix: | Water | | |
| Batch: | B[B0336 | Laboratory ID: | B[B0336-BS1 |
| Preparation: | No Prep | Initial/Final: | 20 ml / 20 ml |

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Total Dissolved Solids @ 180 C | 586.00 | 595.00 | 102 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-160.1

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702237 | Instrument: | MANUAL |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Blank | B[B0336-BLK1 | | 02/03/17 15:00 |
| LCS | B[B0336-BS1 | | 02/03/17 15:00 |
| Duplicate | B[B0336-DUP1 | | 02/03/17 15:00 |
| M034A-R_170131 | 1702734-07 | | 02/03/17 15:00 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-160.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/03/17 15:00 | 3.00 | 7.00 | 02/03/17 15:00 | 3.00 | 7.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

| | |
|---|---|
| Reported: | 3/6/2017 4:16:33PM |
| Project: | Alameda |
| Project Number: | 5023146096 |
| Project Manager: | Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **WET** |
| **Method:** | **EPA-300.0** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-300.0

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** IC5

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Chloride | 0.092 | 0.1 | 0.5 | mg/L |
| Nitrate as NO3 | 0.096 | 0.23 | 0.44 | mg/L |
| Nitrate as N | 0.022 | 0.05 | 0.1 | mg/L |
| Sulfate | 0.14 | 0.2 | 1 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-300.0

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: E020117.seq-18
Sampled: 01/31/17 10:04
Prepared: 02/01/17 15:00
Analyzed: 02/01/17 19:30
Solids: 0.00
Preparation: No Prep
Initial/Final: 20 ml / 20 ml
Batch: B[B0102
Sequence: 1701938
Calibration: UNASSIGNED
Instrument: IC5

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 35 | 0.092 | 0.10 | 0.50 | 1 | | EPA-300.0 |
| 14797-55-8 | Nitrate as N | 0.050 | 0.022 | 0.050 | 0.10 | 1 | U | EPA-300.0 |
| 14808-79-8 | Sulfate | 1.2 | 0.14 | 0.20 | 1.0 | 1 | | EPA-300.0 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0102
Batch Matrix: Water
Preparation: No Prep

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | E020117.seq-18 | 02/01/17 15:00 | |
| Blank | B[B0102-BLK1 | E020117.seq-04 | 02/01/17 15:00 | |
| LCS | B[B0102-BS1 | E020117.seq-05 | 02/01/17 15:00 | |
| Duplicate | B[B0102-DUP1 | E020117.seq-63 | 02/01/17 15:00 | |
| Matrix Spike | B[B0102-MS1 | E020117.seq-64 | 02/01/17 15:00 | |
| Matrix Spike Dup | B[B0102-MSD1 | E020117.seq-65 | 02/01/17 15:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-300.0

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | SDG: | 17-02734 | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | Project: | Alameda | |
| Matrix: | Water | Laboratory ID: | B[B0102-BLK1 | File ID: | E020117.seq-04 |
| Prepared: | 02/01/17 15:00 | Preparation: | No Prep | Initial/Final: | 20 ml / 20 ml |
| Analyzed: | 02/01/17 15:26 | Instrument: | IC5 | | |
| Batch: | B[B0102 | Sequence: | 1701938 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 0.10 | 0.092 | 0.10 | 0.50 | U |
| 14797-55-8 | Nitrate as N | 0.050 | 0.022 | 0.050 | 0.10 | U |
| 14808-79-8 | Sulfate | 0.20 | 0.14 | 0.20 | 1.0 | U |

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Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-300.0

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0102
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0102-DUP1
Lab Source ID: 1702709-02RE1
Initial/Final: 20 ml / 20 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Chloride | 10 | 558.04 | | 548.63 | | 1.70 | | EPA-300.0 |
| Nitrate as NO3 | 10 | ND | | ND | | | | EPA-300.0 |
| Nitrate as N | 10 | ND | | ND | | | | EPA-300.0 |
| Sulfate | 10 | 3022.6 | | 2982.2 | | 1.35 | | EPA-300.0 |

* Values outside of QC limits

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San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-300.0

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0102
Laboratory ID: B[B0102-MS1
Preparation: No Prep
Initial/Final: 19.8 ml / 20 ml
Source Sample Number: 1702709-02RE1

| COMPOUND | SPIKE ADDED (mg/L) | SAMPLE CONCENTRATION (mg/L) | MS CONCENTRATION (mg/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Chloride | 505.05 | 558.04 | 1064.6 | 100 | 80 - 120 |
| Nitrate as NO3 | 223.58 | ND | 221.34 | 99.0 | 80 - 120 |
| Nitrate as N | 50.505 | ND | 50.000 | 99.0 | 80 - 120 |
| Sulfate | 1010.1 | 3022.6 | 3889.5 | 85.8 | 80 - 120 |

| COMPOUND | SPIKE ADDED (mg/L) | MSD CONCENTRATION (mg/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Chloride | 505.05 | 1069.9 | 101 | 0.500 | 10 | 80 - 120 |
| Nitrate as NO3 | 223.58 | 223.13 | 99.8 | 0.805 | 10 | 80 - 120 |
| Nitrate as N | 50.505 | 50.404 | 99.8 | 0.805 | 10 | 80 - 120 |
| Sulfate | 1010.1 | 3886.0 | 85.5 | 0.0889 | 10 | 80 - 120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0102
Laboratory ID: B[B0102-BS1
Preparation: No Prep
Initial/Final: 20 ml / 20 ml

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Chloride | 50.000 | 48.937 | 97.9 | 90 - 110 |
| Nitrate as NO3 | 22.134 | 21.426 | 96.8 | 90 - 110 |
| Nitrate as N | 5.0000 | 4.8400 | 96.8 | 90 - 110 |
| Sulfate | 100.00 | 97.206 | 97.2 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701938
Instrument: IC5
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701938-ICV1 | E020117.seq-02 | 02/01/17 14:51 |
| Initial Cal Blank | 1701938-ICB1 | E020117.seq-03 | 02/01/17 15:09 |
| Blank | B[B0102-BLK1 | E020117.seq-04 | 02/01/17 15:26 |
| LCS | B[B0102-BS1 | E020117.seq-05 | 02/01/17 15:43 |
| Calibration Check | 1701938-CCV1 | E020117.seq-14 | 02/01/17 18:20 |
| Calibration Blank | 1701938-CCB1 | E020117.seq-15 | 02/01/17 18:37 |
| M034A-R_170131 | 1702734-07 | E020117.seq-18 | 02/01/17 19:30 |
| Calibration Check | 1701938-CCV2 | E020117.seq-26 | 02/01/17 21:49 |
| Calibration Blank | 1701938-CCB2 | E020117.seq-27 | 02/01/17 22:06 |
| Calibration Check | 1701938-CCV3 | E020117.seq-38 | 02/02/17 01:26 |
| Calibration Blank | 1701938-CCB3 | E020117.seq-39 | 02/02/17 01:43 |
| Calibration Check | 1701938-CCV4 | E020117.seq-48 | 02/02/17 04:19 |
| Calibration Blank | 1701938-CCB4 | E020117.seq-49 | 02/02/17 04:37 |
| Calibration Check | 1701938-CCV5 | E020117.seq-55 | 02/02/17 06:21 |
| Calibration Blank | 1701938-CCB5 | E020117.seq-56 | 02/02/17 06:39 |
| Calibration Check | 1701938-CCV6 | E020117.seq-57 | 02/02/17 08:17 |
| Calibration Blank | 1701938-CCB6 | E020117.seq-58 | 02/02/17 08:35 |
| Calibration Check | 1701938-CCV7 | E020117.seq-61 | 02/02/17 10:00 |
| Calibration Blank | 1701938-CCB7 | E020117.seq-62 | 02/02/17 10:18 |
| Duplicate | B[B0102-DUP1 | E020117.seq-63 | 02/02/17 10:35 |
| Matrix Spike | B[B0102-MS1 | E020117.seq-64 | 02/02/17 10:56 |
| Matrix Spike Dup | B[B0102-MSD1 | E020117.seq-65 | 02/02/17 11:13 |
| Calibration Check | 1701938-CCV8 | E020117.seq-69 | 02/02/17 12:23 |
| Calibration Blank | 1701938-CCB8 | E020117.seq-70 | 02/02/17 12:44 |
| Calibration Check | 1701938-CCV9 | E020117.seq-76 | 02/02/17 14:29 |
| Calibration Blank | 1701938-CCB9 | E020117.seq-77 | 02/02/17 14:46 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: IC5
Project: Alameda
Sequence: 1701938
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701938-ICB1 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB1 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB2 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB3 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB4 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB5 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB6 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: IC5
Project: Alameda
Sequence: 1701938
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701938-CCB7 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB8 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |
| 1701938-CCB9 | Chloride | 0.0000 | 0.092 | | 0.50 | mg/L | U | EPA-300.0 |
| | Nitrate as NO3 | 0.0000 | 0.096 | | 0.44 | mg/L | U | EPA-300.0 |
| | Nitrate as N | 0.0000 | 0.022 | | 0.10 | mg/L | U | EPA-300.0 |
| | Sulfate | 0.0000 | 0.14 | | 1.0 | mg/L | U | EPA-300.0 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-300.0

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: IC5
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701938

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701938-ICV1 | Chloride | 50.000 | 50.509 | 101 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 21.718 | 98.1 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9060 | 98.1 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 99.567 | 99.6 | mg/L | EPA-300.0 |
| 1701938-CCV1 | Chloride | 50.000 | 50.953 | 102 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.090 | 99.8 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9900 | 99.8 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 99.886 | 99.9 | mg/L | EPA-300.0 |
| 1701938-CCV2 | Chloride | 50.000 | 50.825 | 102 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.134 | 100 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 5.0000 | 100 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 100.67 | 101 | mg/L | EPA-300.0 |
| 1701938-CCV3 | Chloride | 50.000 | 50.971 | 102 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.187 | 100 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 5.0120 | 100 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 101.04 | 101 | mg/L | EPA-300.0 |
| 1701938-CCV4 | Chloride | 50.000 | 50.564 | 101 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.019 | 99.5 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9740 | 99.5 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 99.988 | 100 | mg/L | EPA-300.0 |
| 1701938-CCV5 | Chloride | 50.000 | 50.370 | 101 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 21.979 | 99.3 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9650 | 99.3 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 100.26 | 100 | mg/L | EPA-300.0 |
| 1701938-CCV6 | Chloride | 50.000 | 50.508 | 101 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.028 | 99.5 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9760 | 99.5 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 100.45 | 100 | mg/L | EPA-300.0 |
| 1701938-CCV7 | Chloride | 50.000 | 50.569 | 101 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.081 | 99.8 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9880 | 99.8 | mg/L | EPA-300.0 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-300.0

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: IC5
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701938

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701938-CCV7 | Sulfate | 100.00 | 100.04 | 100 | mg/L | EPA-300.0 |
| 1701938-CCV8 | Chloride | 50.000 | 50.404 | 101 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 21.983 | 99.3 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 4.9660 | 99.3 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 99.567 | 99.6 | mg/L | EPA-300.0 |
| 1701938-CCV9 | Chloride | 50.000 | 50.898 | 102 | mg/L | EPA-300.0 |
| | Nitrate as NO3 | 22.134 | 22.240 | 100 | mg/L | EPA-300.0 |
| | Nitrate as N | 5.0000 | 5.0240 | 100 | mg/L | EPA-300.0 |
| | Sulfate | 100.00 | 101.25 | 101 | mg/L | EPA-300.0 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-300.0

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/01/17 15:00 | 1.00 | 28.00 | 02/01/17 19:30 | 1.00 | 28.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/01/17 15:00 | 1.39 | 2.00 | 02/01/17 19:30 | 1.39 | 2.00 | |

* Holding time not met

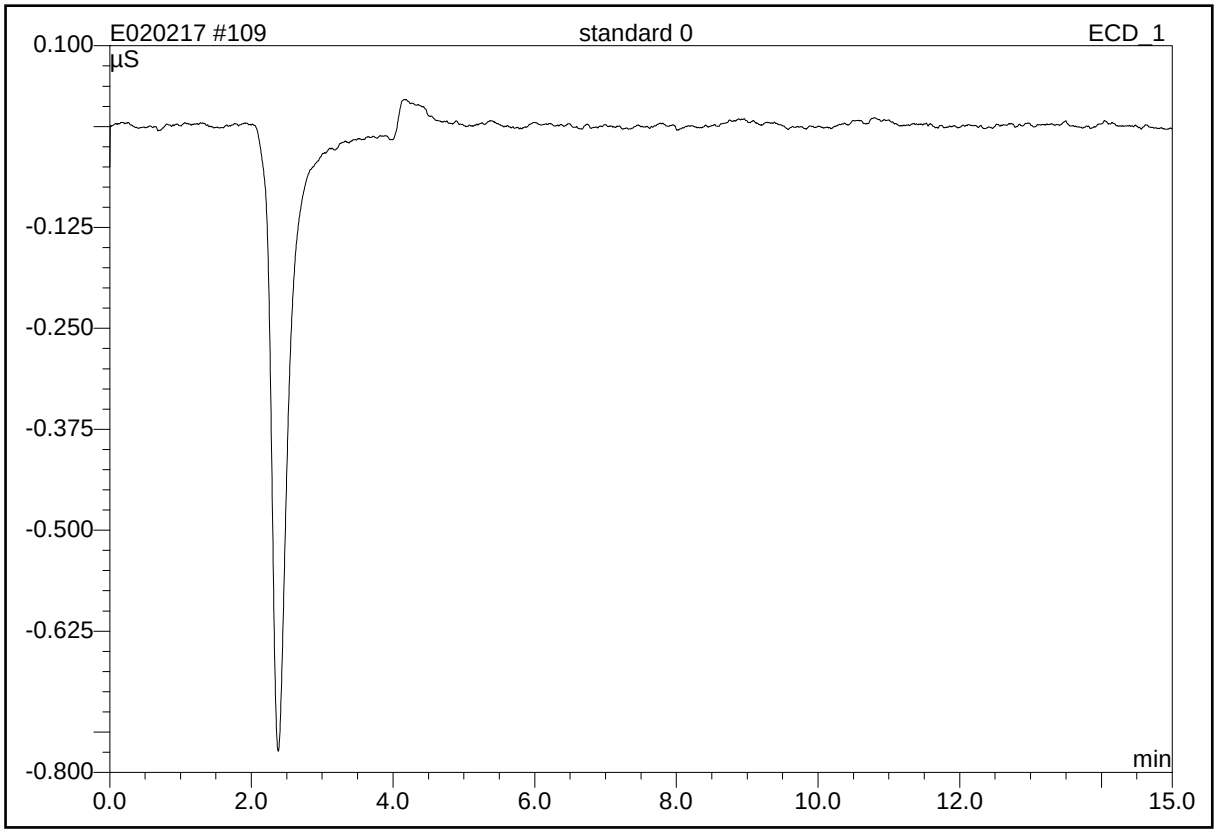
Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

## Raw Data From Instrument IC5

**Raw Data - Calibration Standards**

# 109 standard 0

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 0** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 20:52** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |



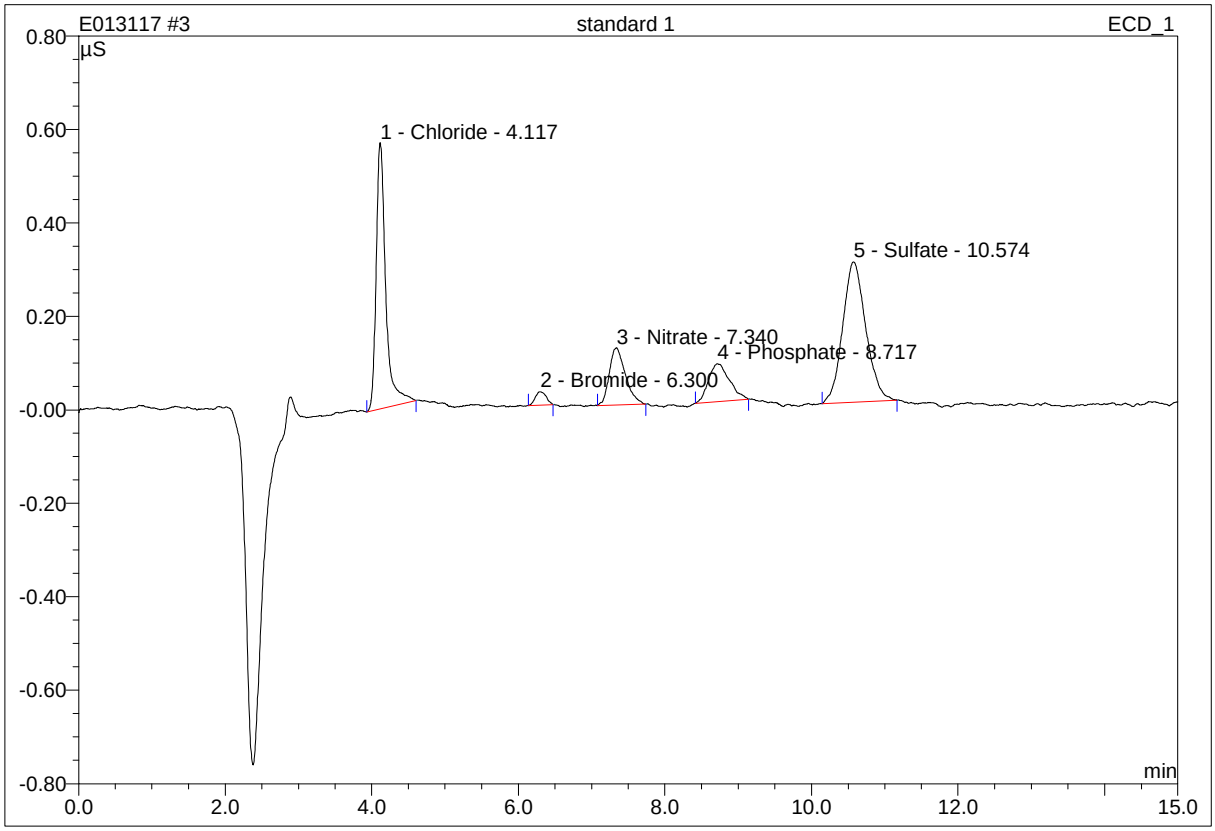

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| **Total:** | | | 0.000 | 0.000 | 0.00 | 0.000 | |

modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider, or baseline errors.
B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

# 3 standard 1

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 21:10** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 4.12 | Chloride | 0.569 | 0.086 | 33.22 | 0.521 | BMB |
| 2 | 6.30 | Bromide | 0.029 | 0.005 | 1.92 | 0.089 | BMB |
| 3 | 7.34 | Nitrate | 0.122 | 0.031 | 12.09 | 0.096 | BMB |
| 4 | 8.72 | Phosphate | 0.081 | 0.027 | 10.36 | 0.177 | BMB |
| 5 | 10.57 | Sulfate | 0.300 | 0.109 | 42.41 | 1.012 | BMB |
| **Total:** | | | 1.101 | 0.258 | 100.00 | 1.895 | |

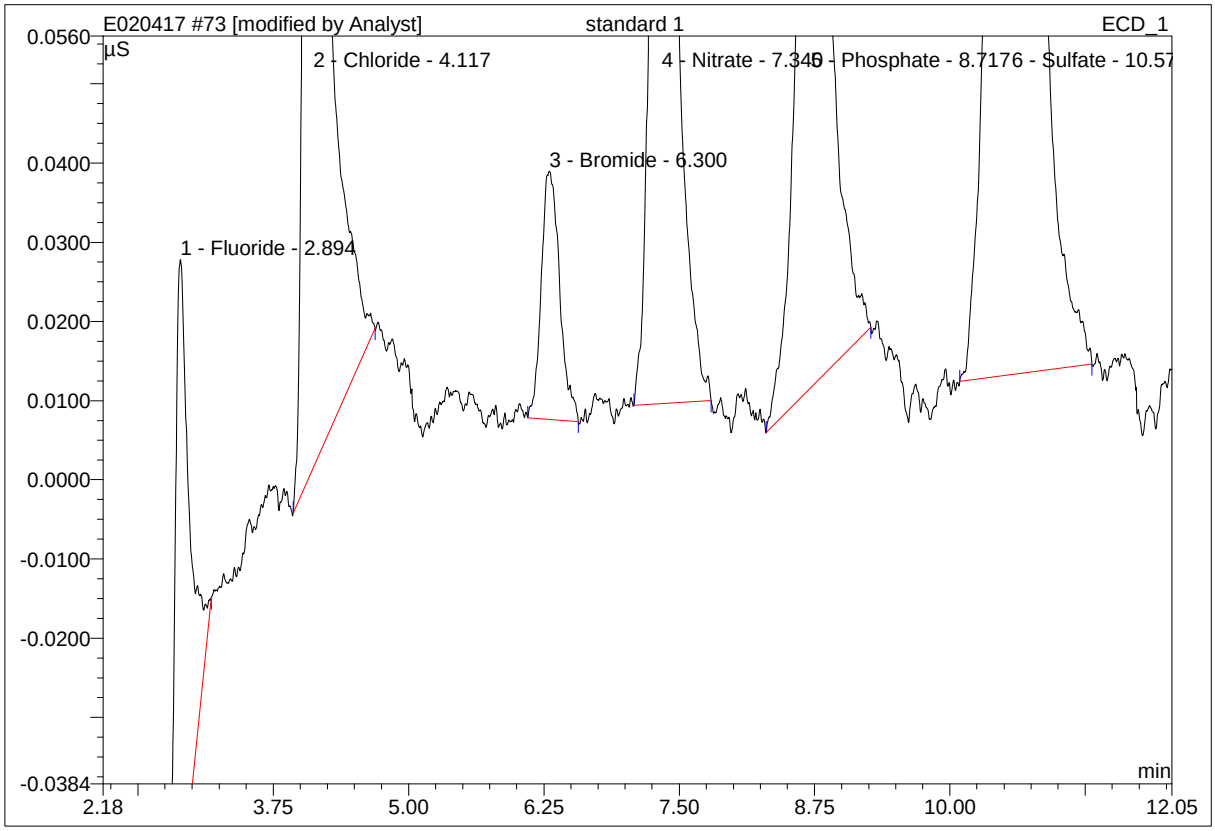
modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.
B = Baseline with direct contact on the left or right side of peak.

b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 73 standard 1

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 21:10** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | Fluoride | 0.081 | 0.013 | 4.58 | 0.053 | BMB* |
| 2 | 4.12 | Chloride | 0.570 | 0.087 | 30.65 | 0.525 | BMB* |
| 3 | 6.30 | Bromide | 0.031 | 0.006 | 2.17 | 0.100 | BMB* |
| 4 | 7.34 | Nitrate | 0.123 | 0.032 | 11.28 | 0.097 | BMB* |
| 5 | 8.72 | Phosphate | 0.087 | 0.032 | 11.24 | 0.195 | BMB* |
| 6 | 10.57 | Sulfate | 0.303 | 0.114 | 40.07 | 1.029 | BMB* |
| **Total:** | | | 1.197 | 0.284 | 100.00 | 1.999 | |

modified on: 01.31.17 22:59 By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.

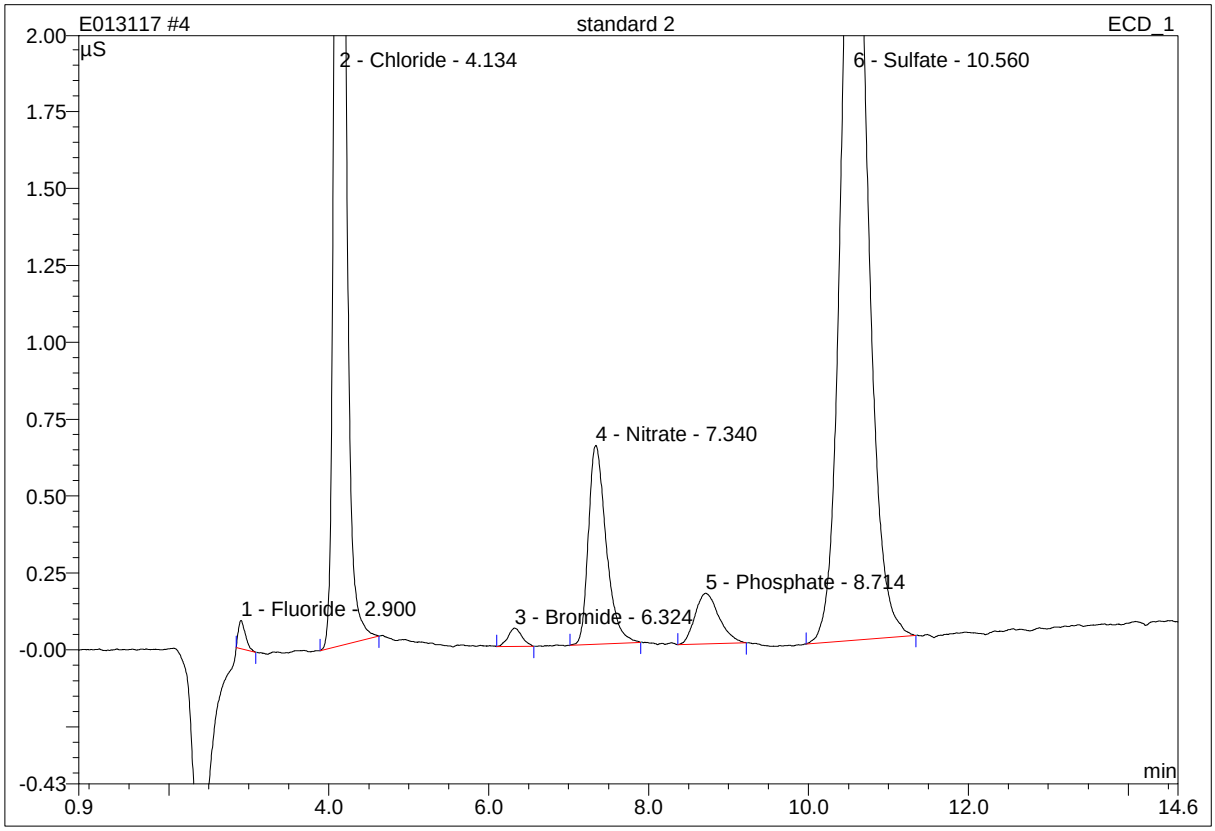
close up/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR15 Build 4656 (243203)

B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 4 standard 2

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 21:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | Fluoride | 0.092 | 0.009 | 0.44 | 0.047 | BMB |
| 2 | 4.13 | Chloride | 5.606 | 0.776 | 36.53 | 3.818 | BMB |
| 3 | 6.32 | Bromide | 0.060 | 0.012 | 0.56 | 0.182 | BMB |
| 4 | 7.34 | Nitrate | 0.646 | 0.166 | 7.82 | 0.430 | BMB |
| 5 | 8.71 | Phosphate | 0.165 | 0.057 | 2.69 | 0.333 | BMB |
| 6 | 10.56 | Sulfate | 3.014 | 1.105 | 51.97 | 7.864 | BMB |
| **Total:** | | | 9.582 | 2.125 | 100.00 | 12.675 | |

modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.

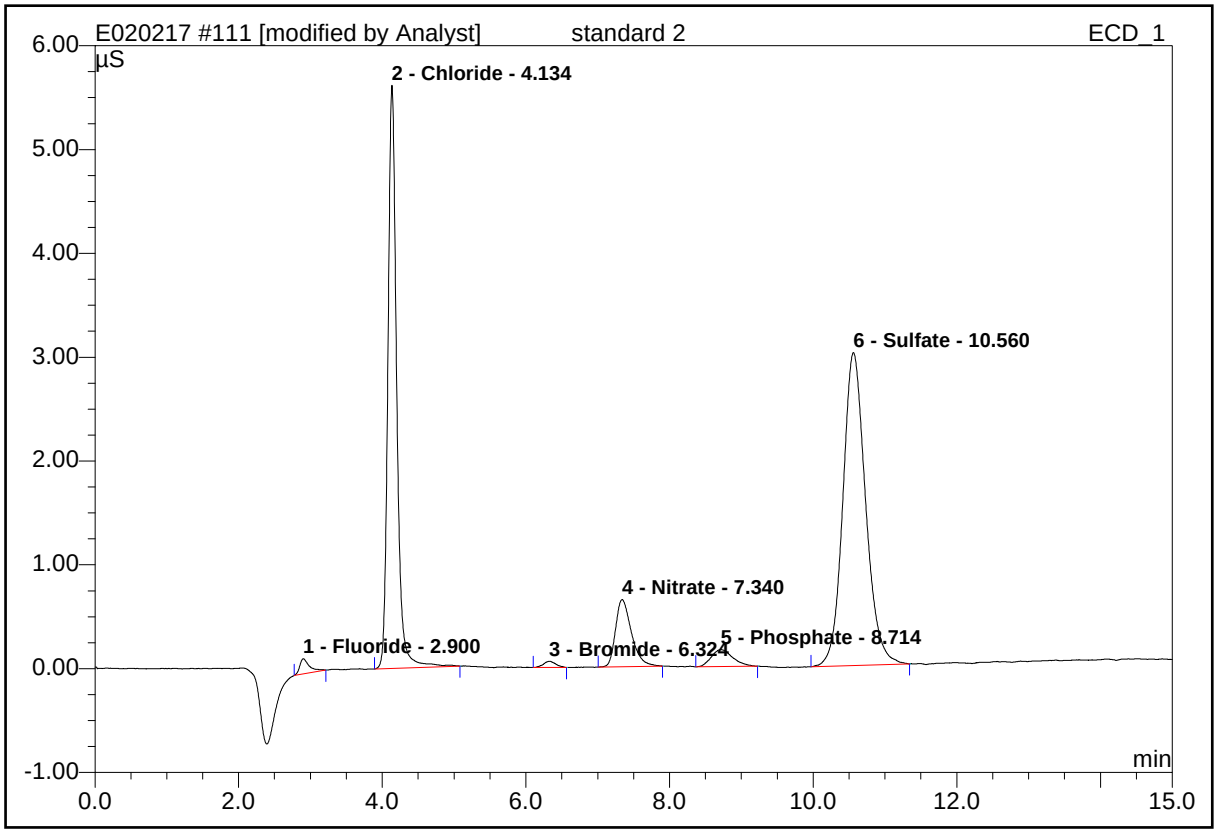
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR15 Build 4656 (243203)

close up/Integration

B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 111 standard 2

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 21:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | Fluoride | 0.147 | 0.023 | 1.06 | 0.093 | BMB* |
| 2 | 4.13 | Chloride | 5.616 | 0.794 | 36.83 | 3.896 | BMB* |
| 3 | 6.32 | Bromide | 0.060 | 0.012 | 0.55 | 0.182 | BMB |
| 4 | 7.34 | Nitrate | 0.646 | 0.166 | 7.70 | 0.430 | BMB* |
| 5 | 8.71 | Phosphate | 0.165 | 0.057 | 2.65 | 0.333 | BMB |
| 6 | 10.56 | Sulfate | 3.014 | 1.105 | 51.21 | 7.864 | BMB |
| **Total:** | | | 9.647 | 2.157 | 100.00 | 12.799 | |

modified on: 01.31.17 23:00 By: OLH/EMW/JSW

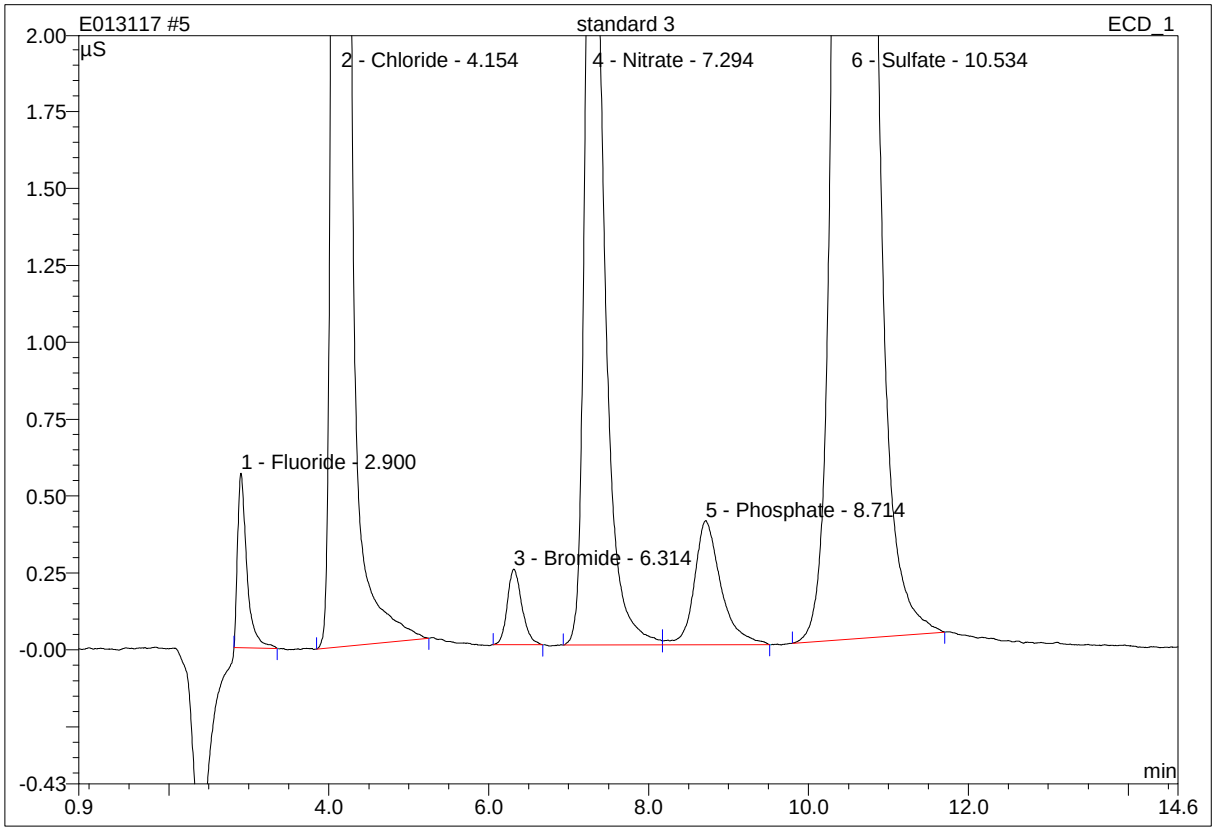
* = Manual integrations due to peak, rider, or baseline errors.

B = Baseline with direct contact on the left or right side of peak.

b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

# 5 standard 3

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 21:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | Fluoride | 0.567 | 0.077 | 0.74 | 0.333 | BMB |
| 2 | 4.15 | Chloride | 26.713 | 3.891 | 37.61 | 18.343 | BMB |
| 3 | 6.31 | Bromide | 0.246 | 0.052 | 0.50 | 0.765 | BMB |
| 4 | 7.29 | Nitrate | 3.067 | 0.808 | 7.81 | 1.976 | BM |
| 5 | 8.71 | Phosphate | 0.403 | 0.156 | 1.50 | 0.862 | MB |
| 6 | 10.53 | Sulfate | 14.867 | 5.361 | 51.83 | 36.484 | BMB |
| **Total:** | | | 45.863 | 10.343 | 100.00 | 58.762 | |

modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.

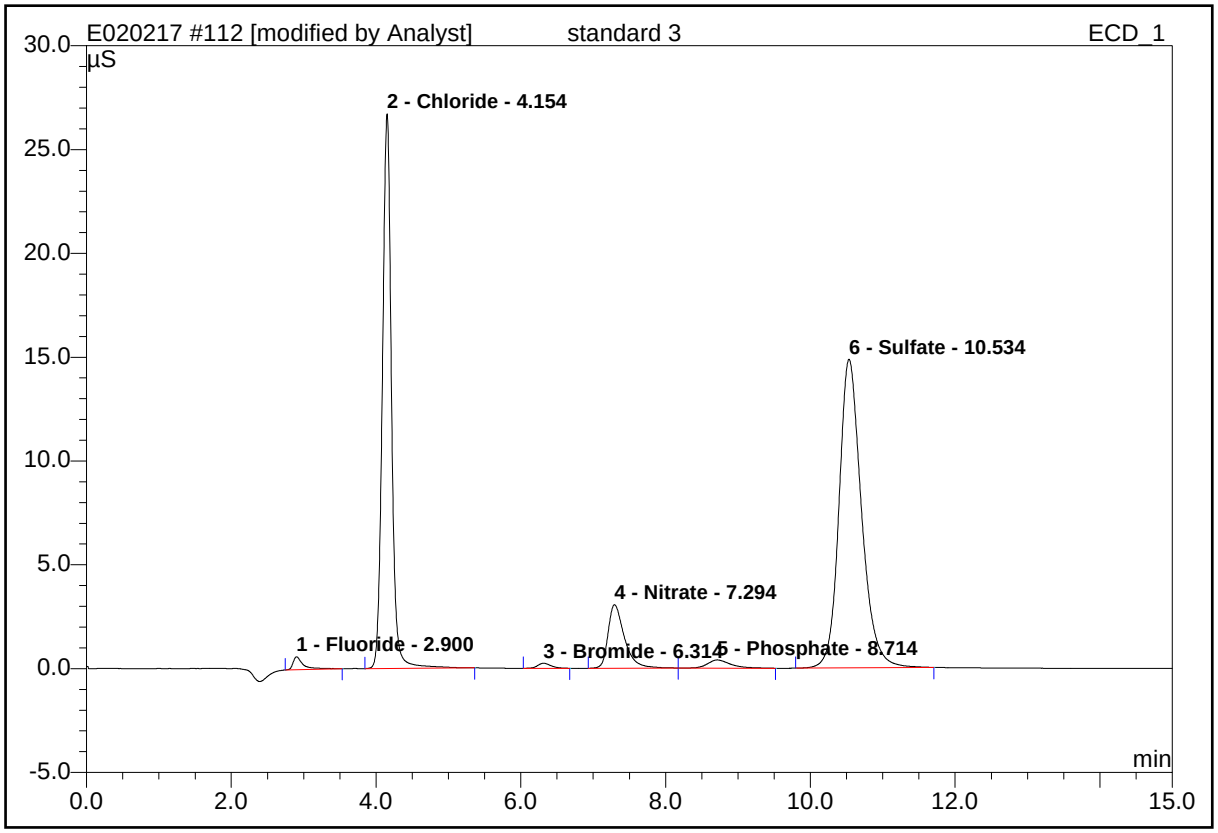
close up/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR15 Build 4656 (243203)

B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 112 standard 3

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 21:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | Fluoride | 0.624 | 0.102 | 0.98 | 0.416 | BMB* |
| 2 | 4.15 | Chloride | 26.715 | 3.895 | 37.61 | 18.360 | BMB* |
| 3 | 6.31 | Bromide | 0.246 | 0.052 | 0.50 | 0.768 | BMB* |
| 4 | 7.29 | Nitrate | 3.063 | 0.800 | 7.72 | 1.961 | BMb* |
| 5 | 8.71 | Phosphate | 0.395 | 0.147 | 1.42 | 0.826 | bMB* |
| 6 | 10.53 | Sulfate | 14.867 | 5.361 | 51.77 | 36.484 | BMB |
| **Total:** | | | 45.910 | 10.356 | 100.00 | 58.815 | |

modified on: 01.31.17 22:59 By: OLH/EMW/JSW

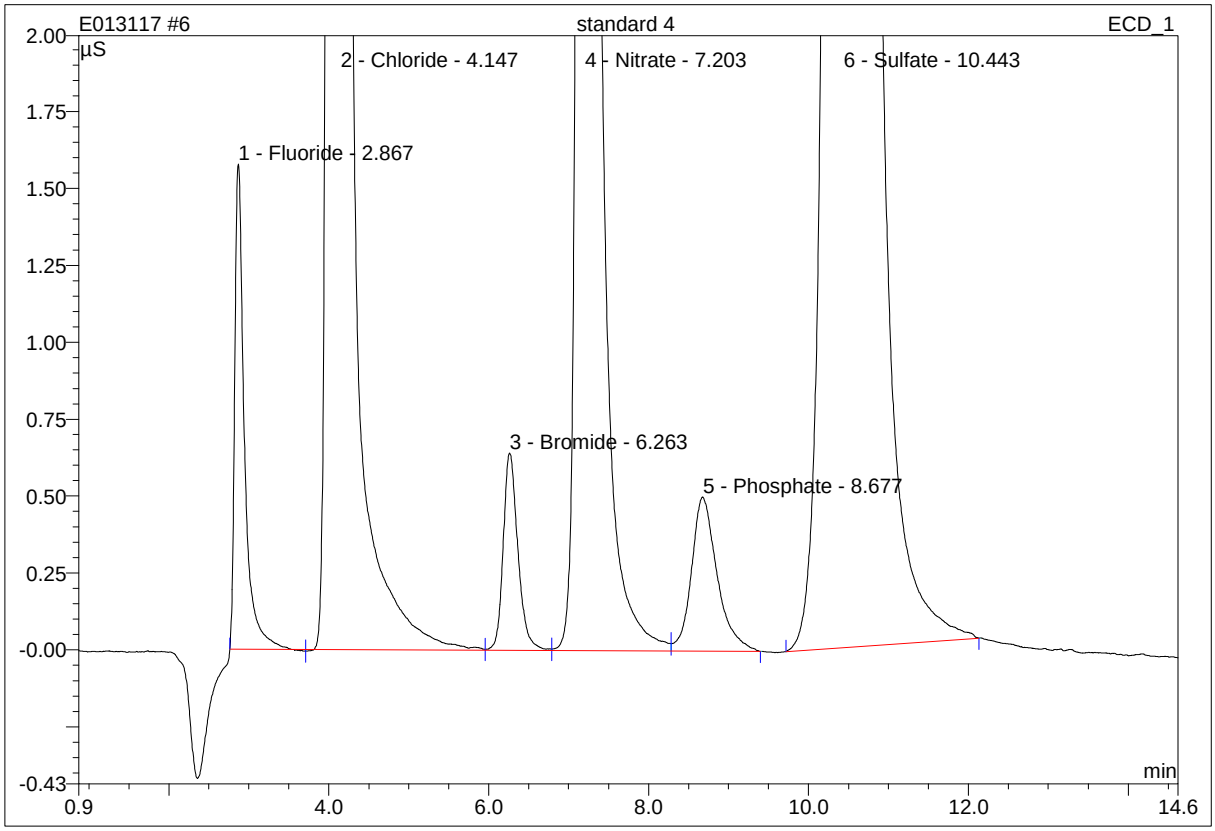
* = Manual integrations due to peak, rider, or baseline errors.

B = Baseline with direct contact on the left or right side of peak.

b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

# 6 standard 4

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.87 | Fluoride | 1.577 | 0.222 | 0.76 | 0.942 | BM |
| 2 | 4.15 | Chloride | 65.210 | 11.159 | 38.05 | 50.463 | M |
| 3 | 6.26 | Bromide | 0.641 | 0.137 | 0.47 | 2.001 | M |
| 4 | 7.20 | Nitrate | 8.248 | 2.139 | 7.29 | 5.001 | M |
| 5 | 8.68 | Phosphate | 0.501 | 0.187 | 0.64 | 1.049 | MB |
| 6 | 10.44 | Sulfate | 42.650 | 15.486 | 52.80 | 100.300 | BMB |
| **Total:** | | | 118.827 | 29.330 | 100.00 | 159.757 | |

modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.

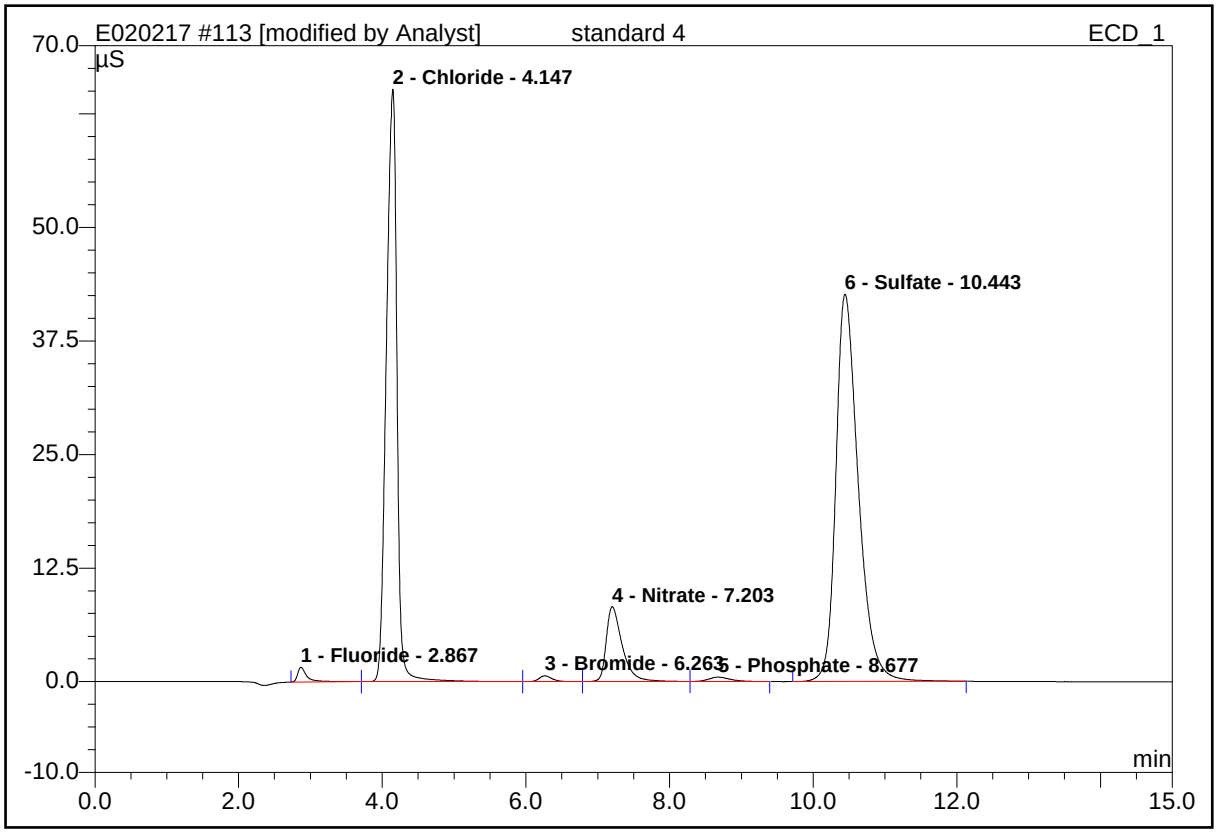
close up/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR15 Build 4656 (243203)

B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 113 standard 4

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.87 | Fluoride | 1.619 | 0.248 | 0.84 | 1.006 | BM * |
| 2 | 4.15 | Chloride | 65.216 | 11.171 | 38.03 | 50.493 | M * |
| 3 | 6.26 | Bromide | 0.644 | 0.139 | 0.47 | 2.025 | M * |
| 4 | 7.20 | Nitrate | 8.251 | 2.143 | 7.29 | 5.005 | M * |
| 5 | 8.68 | Phosphate | 0.502 | 0.187 | 0.64 | 1.052 | MB* |
| 6 | 10.44 | Sulfate | 42.650 | 15.486 | 52.72 | 100.300 | BMB |
| **Total:** | | | 118.882 | 29.373 | 100.00 | 159.882 | |

modified on: 01.31.17 22:59 By: OLH/EMW/JSW

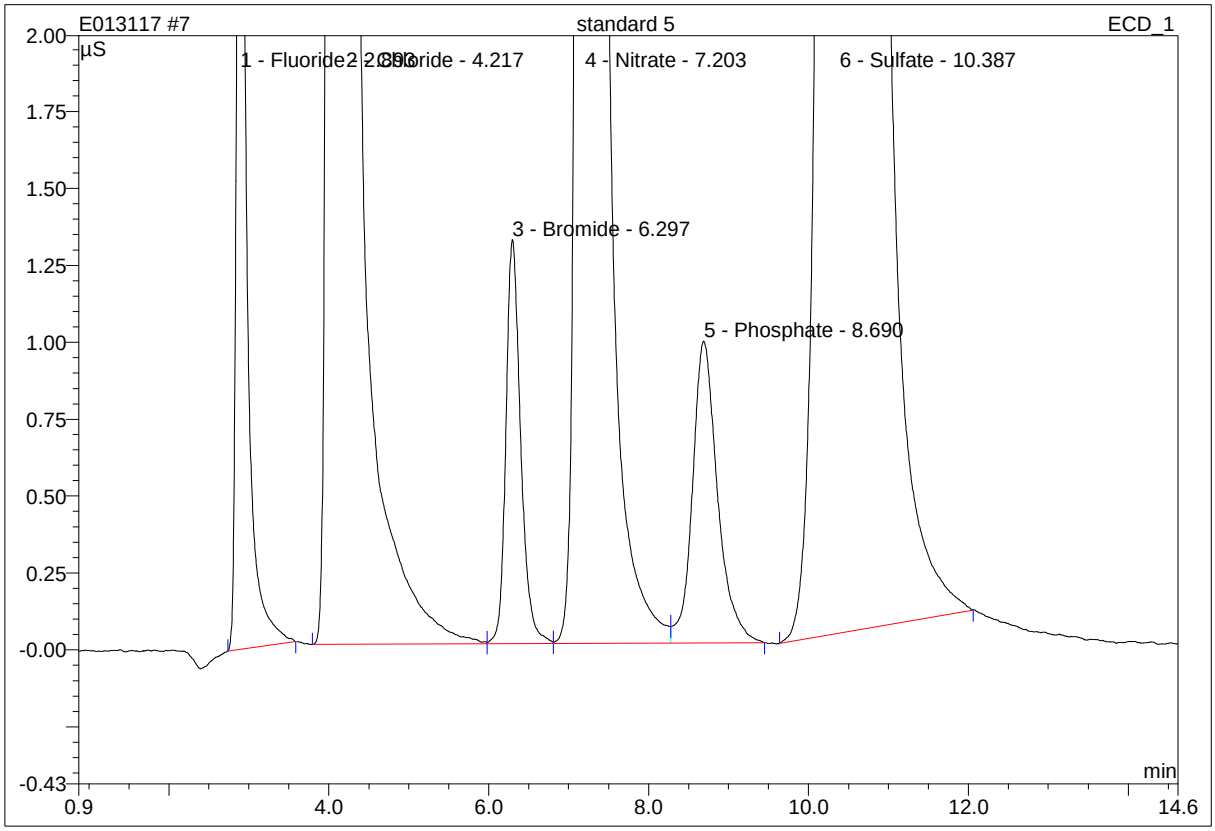
* = Manual integrations due to peak, rider, or baseline errors.

B = Baseline with direct contact on the left or right side of peak.

b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

# 7 standard 5

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | Fluoride | 3.380 | 0.488 | 0.76 | 1.959 | BMB |
| 2 | 4.22 | Chloride | 109.972 | 24.337 | 37.71 | 103.506 | BM |
| 3 | 6.30 | Bromide | 1.313 | 0.282 | 0.44 | 4.051 | M |
| 4 | 7.20 | Nitrate | 18.071 | 4.668 | 7.23 | 10.162 | M |
| 5 | 8.69 | Phosphate | 0.981 | 0.357 | 0.55 | 2.012 | MB |
| 6 | 10.39 | Sulfate | 89.992 | 34.402 | 53.31 | 207.460 | BMB |
| **Total:** | | | 223.710 | 64.535 | 100.00 | 329.151 | |

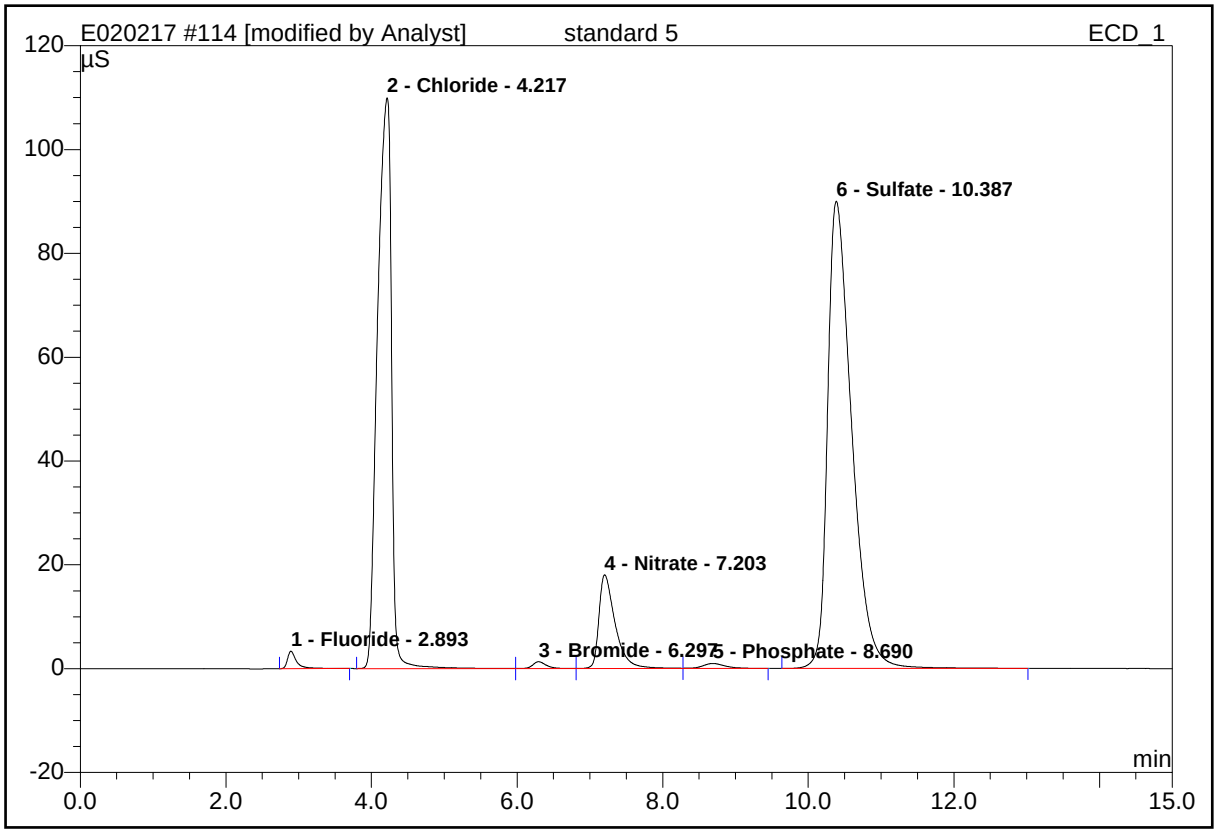
modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.

B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 114 standard 5

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | Fluoride | 3.382 | 0.492 | 0.76 | 1.971 | BMB* |
| 2 | 4.22 | Chloride | 109.972 | 24.337 | 37.63 | 103.506 | BM |
| 3 | 6.30 | Bromide | 1.313 | 0.282 | 0.44 | 4.051 | M |
| 4 | 7.20 | Nitrate | 18.071 | 4.668 | 7.22 | 10.162 | M |
| 5 | 8.69 | Phosphate | 0.981 | 0.357 | 0.55 | 2.012 | MB |
| 6 | 10.39 | Sulfate | 90.019 | 34.543 | 53.41 | 207.923 | BMB* |
| **Total:** | | | 223.739 | 64.680 | 100.00 | 329.625 | |

modified on: 01.31.17 22:59 By: OLH/EMW/JSW

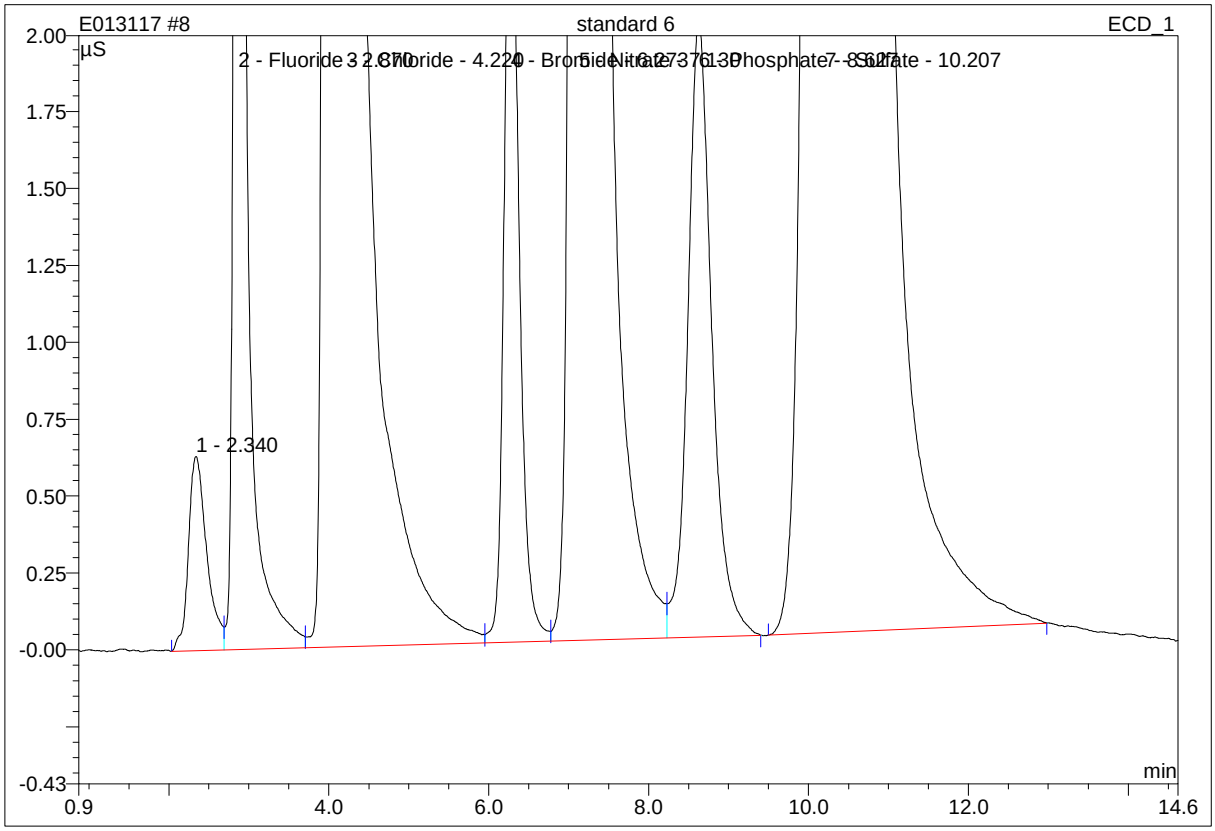
* = Manual integrations due to peak, rider, or baseline errors.

B = Baseline with direct contact on the left or right side of peak.

b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

# 8 standard 6

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |



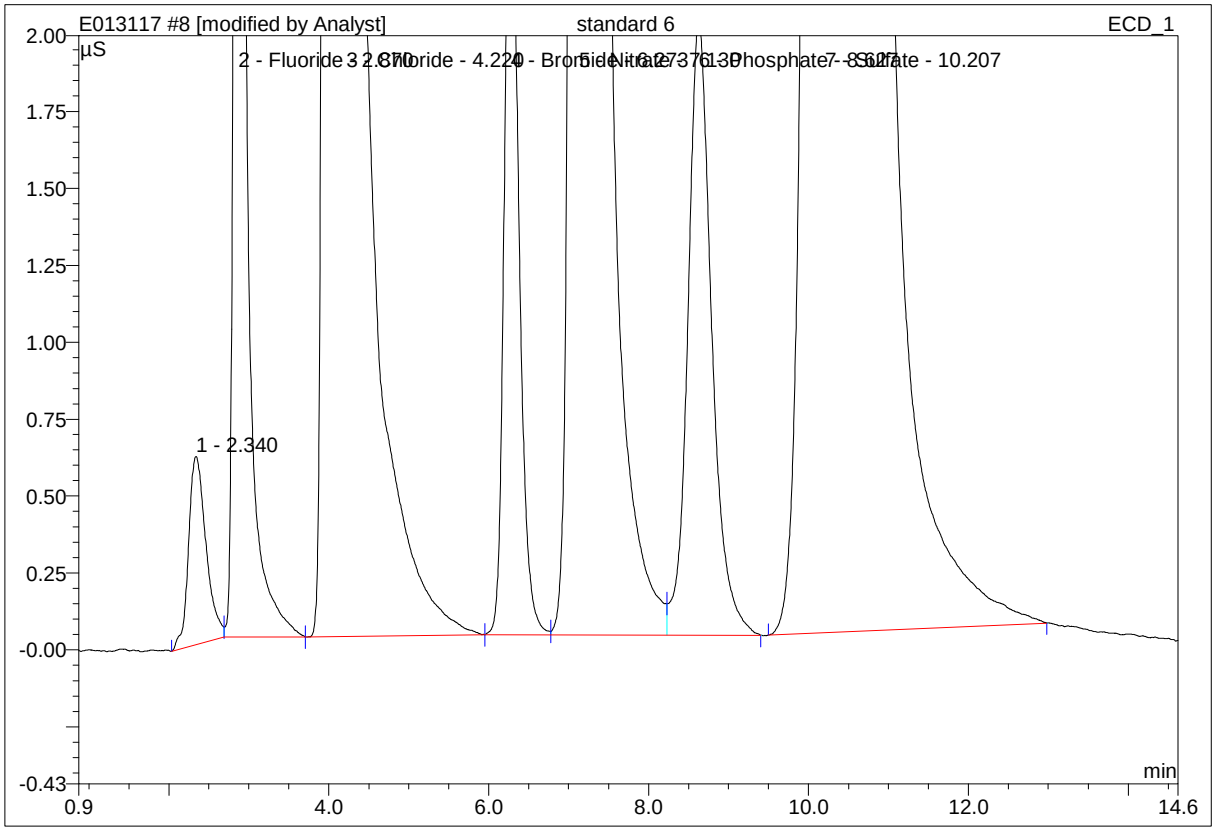

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.34 | n.a. | 0.631 | 0.169 | 0.12 | n.a. | BM |
| 2 | 2.87 | Fluoride | 7.113 | 1.073 | 0.77 | 4.016 | M |
| 3 | 4.22 | Chloride | 167.798 | 51.647 | 37.27 | 198.586 | M |
| 4 | 6.27 | Bromide | 2.730 | 0.583 | 0.42 | 7.986 | M |
| 5 | 7.13 | Nitrate | 39.432 | 10.345 | 7.47 | 19.939 | M |
| 6 | 8.63 | Phosphate | 1.999 | 0.699 | 0.50 | 3.983 | MB |
| 7 | 10.21 | Sulfate | 173.785 | 74.044 | 53.44 | 396.973 | BMB |
| **Total:** | | | 393.488 | 138.558 | 100.00 | 631.482 | |

modified on: n.a. By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.
B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 8 standard 6

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |



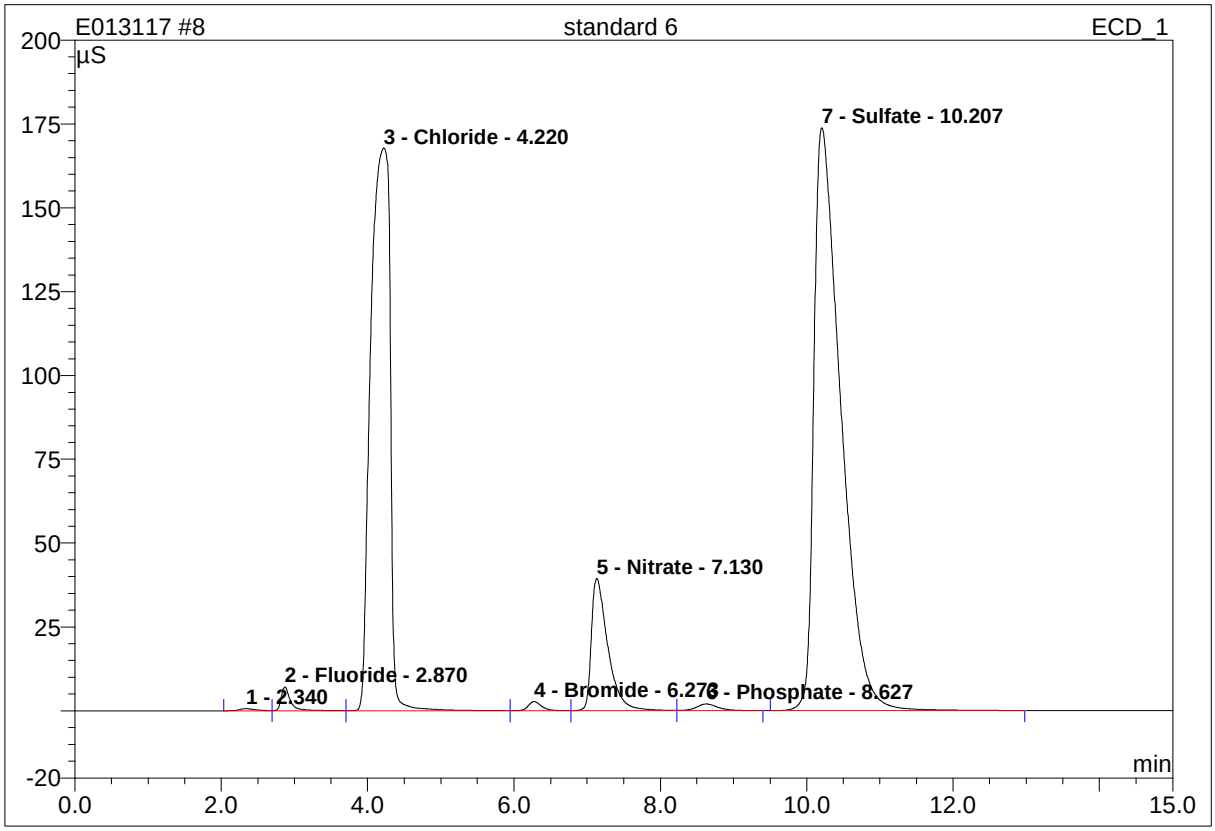

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.34 | n.a. | 0.612 | 0.155 | 0.11 | n.a. | BM * |
| 2 | 2.87 | Fluoride | 7.072 | 1.034 | 0.75 | 4.011 | Mb* |
| 3 | 4.22 | Chloride | 167.765 | 51.578 | 37.27 | 198.571 | bMb* |
| 4 | 6.27 | Bromide | 2.706 | 0.564 | 0.41 | 7.972 | bM * |
| 5 | 7.13 | Nitrate | 39.415 | 10.323 | 7.46 | 19.937 | M * |
| 6 | 8.63 | Phosphate | 1.993 | 0.693 | 0.50 | 3.982 | MB* |
| 7 | 10.21 | Sulfate | 173.785 | 74.044 | 53.50 | 396.973 | BMB |
| **Total:** | | | 393.347 | 138.390 | 100.00 | 631.446 | |

modified on: 01.31.17 22:59 By: OLH/EMW/JSW

* = Manual integrations due to peak, rider or baseline error.
B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R= Rider
BMB = This peak type is for resolved peaks.

# 8 standard 6

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.34 | n.a. | 0.631 | 0.169 | 0.12 | n.a. | BM |
| 2 | 2.87 | Fluoride | 7.113 | 1.073 | 0.77 | 3.979 | M |
| 3 | 4.22 | Chloride | 167.798 | 51.647 | 37.27 | 198.557 | M |
| 4 | 6.27 | Bromide | 2.730 | 0.583 | 0.42 | 7.980 | M |
| 5 | 7.13 | Nitrate | 39.432 | 10.345 | 7.47 | 19.942 | M |
| 6 | 8.63 | Phosphate | 1.999 | 0.699 | 0.50 | 3.987 | MB |
| 7 | 10.21 | Sulfate | 173.785 | 74.044 | 53.44 | 397.124 | BMB |
| **Total:** | | | 393.488 | 138.558 | 100.00 | 631.569 | |

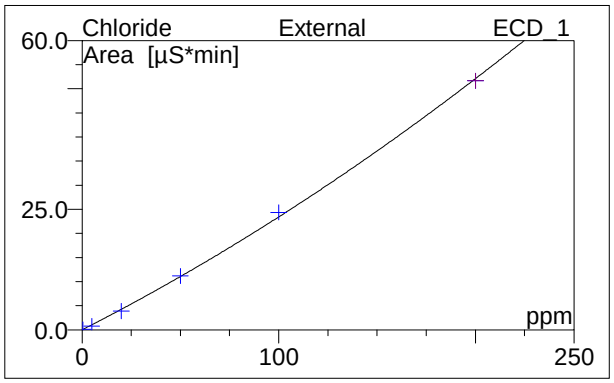
modified on: n.a. By: OLH/EMW/JSW

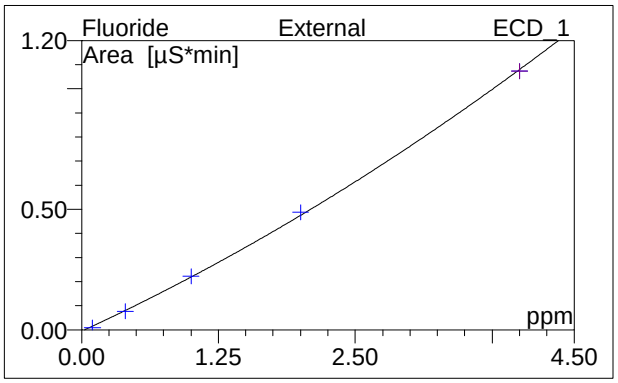
* = Manual integrations due to peak, rider, or baseline errors.

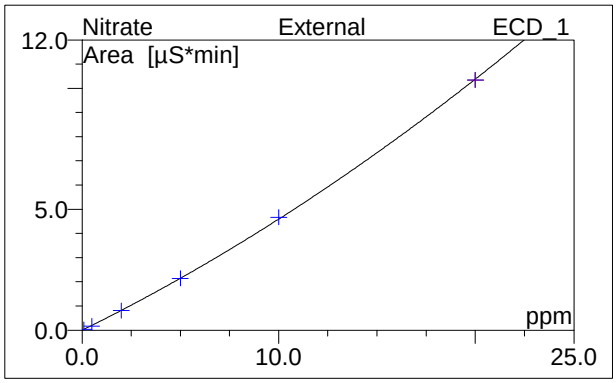
B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

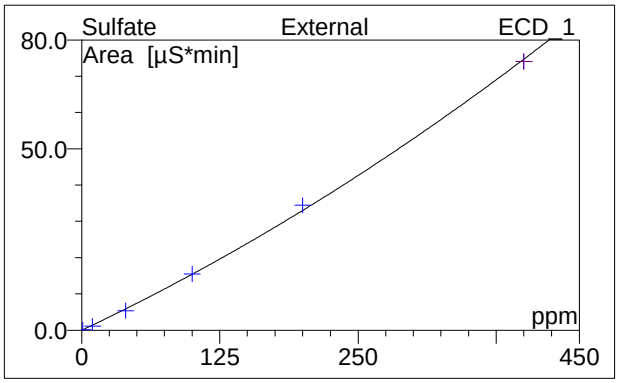
# 8 standard 6

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |



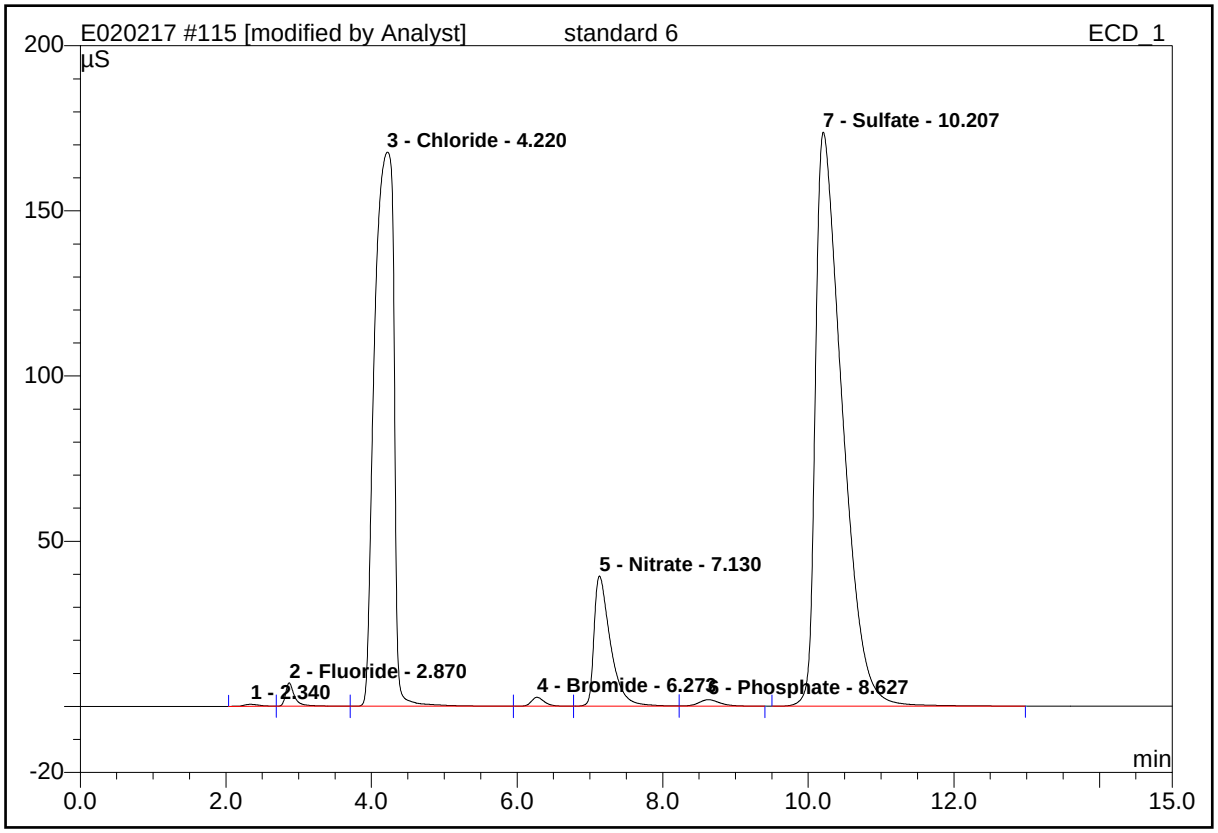




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Coeff.Det. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.34 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 | 2.87 | Fluoride | XA0QOff | 5 | 99.8046 | -0.0060 | 0.2091 | 0.0156 |
| 3 | 4.22 | Chloride | XA0QOff | 6 | 99.8677 | -0.0237 | 0.2081 | 0.0003 |
| 4 | 6.27 | Bromide | XA0QOff | 6 | 99.9699 | -0.0010 | 0.0667 | 0.0008 |
| 5 | 7.13 | Nitrate | XA0QOff | 6 | 99.9667 | -0.0072 | 0.4000 | 0.0060 |
| 6 | 8.63 | Phosphate | XA0QOff | 6 | 99.5449 | -0.0061 | 0.1883 | -0.0029 |
| 7 | 10.21 | Sulfate | XA0QOff | 6 | 99.8744 | -0.0358 | 0.1435 | 0.0001 |
| **Average:** | | | | | 99.8380 | -0.0133 | 0.2026 | 0.0033 |

# 115 standard 6

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **IC5** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount ppm | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.34 | n.a. | 0.612 | 0.155 | 0.11 | n.a. | BM * |
| 2 | 2.87 | Fluoride | 7.072 | 1.034 | 0.75 | 4.011 | Mb* |
| 3 | 4.22 | Chloride | 167.765 | 51.578 | 37.27 | 198.571 | bMb* |
| 4 | 6.27 | Bromide | 2.706 | 0.564 | 0.41 | 7.972 | bM * |
| 5 | 7.13 | Nitrate | 39.415 | 10.323 | 7.46 | 19.937 | M * |
| 6 | 8.63 | Phosphate | 1.993 | 0.693 | 0.50 | 3.982 | MB* |
| 7 | 10.21 | Sulfate | 173.785 | 74.044 | 53.50 | 396.973 | BMB |
| **Total:** | | | 393.347 | 138.390 | 100.00 | 631.446 | |

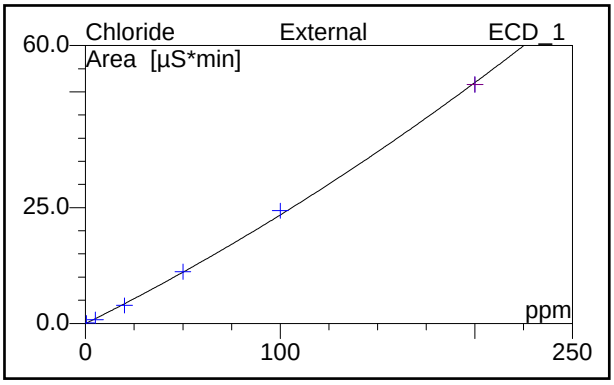
modified on: 01.31.17 22:59 By: OLH/EMW/JSW

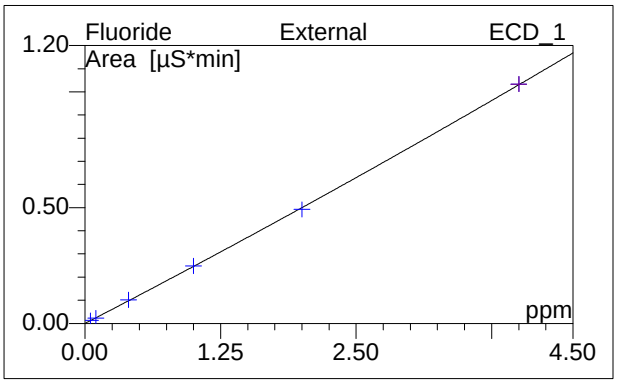
* = Manual integrations due to peak, rider, or baseline errors.

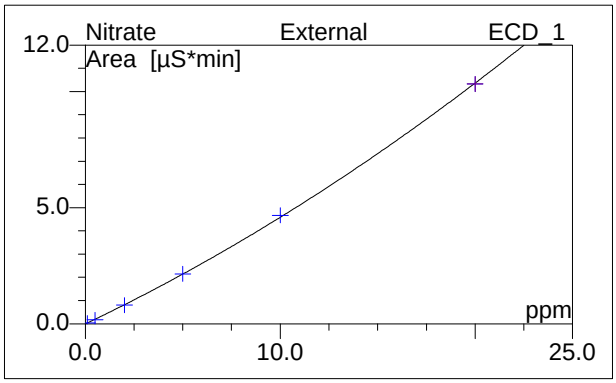
B = Baseline with direct contact on the left or right side of peak.
b = Baseline is below non resolved peaks drawn from peak end to peak end.
M = Main
R = Rider
BMB = This peak type is for resolved peaks.

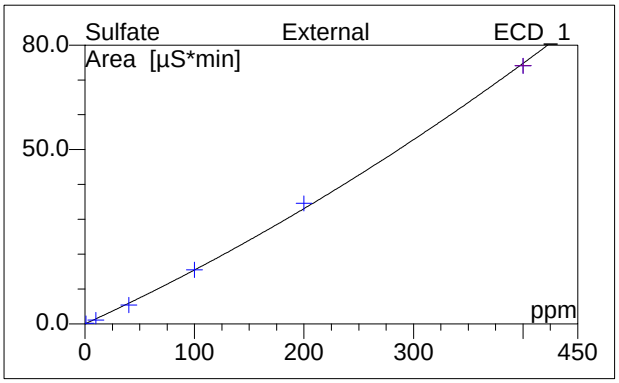
# 115 standard 6

| | | | |
|---|---|---|---|
| *Sample Name:* | **standard 6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **IC5** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **IC5 ANION** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **1/31/2017 22:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **15.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Coeff.Det. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.34 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 | 2.87 | Fluoride | XA0QOff | 6 | 99.9748 | 0.0002 | 0.2422 | 0.0038 |
| 3 | 4.22 | Chloride | XA0QOff | 6 | 99.8743 | -0.0224 | 0.2087 | 0.0003 |
| 4 | 6.27 | Bromide | XA0QOff | 6 | 99.9649 | -0.0007 | 0.0686 | 0.0003 |
| 5 | 7.13 | Nitrate | XA0QOff | 6 | 99.9647 | -0.0069 | 0.3997 | 0.0059 |
| 6 | 8.63 | Phosphate | XA0QOff | 6 | 99.7015 | -0.0039 | 0.1840 | -0.0022 |
| 7 | 10.21 | Sulfate | XA0QOff | 6 | 99.8655 | -0.0342 | 0.1440 | 0.0001 |
| **Average:** | | | | | 99.8909 | -0.0113 | 0.2079 | 0.0014 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **WET**
**Method:** **EPA-310.1**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-310.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-310.1

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MET-1

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Total Alkalinity as CaCO3 | 4.1 | 4.1 | 4.1 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-310.1

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: Tiamo020217-011
Sampled: 01/31/17 10:04
Prepared: 02/02/17 11:00
Analyzed: 02/02/17 12:29
Solids: 0.00
Preparation: No Prep
Initial/Final: 50 ml / 50 ml
Batch: B[B0069
Sequence: 1701955
Calibration: UNASSIGNED
Instrument: MET-1

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| --- | Total Alkalinity as CaCO3 | 600 | 8.2 | 8.2 | 8.2 | 2 | D | EPA-310.1 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-310.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0069
Batch Matrix: Water
Preparation: No Prep

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | Tiamo020217-011 | 02/02/17 11:00 | |
| Blank | B[B0069-BLK1 | Tiamo020217-007 | 02/02/17 11:00 | |
| LCS | B[B0069-BS3 | Tiamo020217-006 | 02/02/17 11:00 | |
| Duplicate | B[B0069-DUP1 | Tiamo020217-010 | 02/02/17 11:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-310.1

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0069-BLK1 | File ID: | Tiamo020217-007 |
| Prepared: | 02/02/17 11:00 | Preparation: | No Prep | Initial/Final: | 50 ml / 50 ml |
| Analyzed: | 02/02/17 11:49 | Instrument: | MET-1 | | |
| Batch: | B[B0069 | Sequence: | 1701955 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| --- | Total Alkalinity as CaCO3 | 4.1 | 4.1 | 4.1 | 4.1 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-310.1

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0069
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0069-DUP1
Lab Source ID: 1702723-03
Initial/Final: 50 ml / 50 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Total Alkalinity as CaCO3 | 10 | 152.89 | | 151.52 | | 0.900 | | EPA-310.1 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-310.1

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Matrix: | Water | | |
| Batch: | B[B0069 | Laboratory ID: | B[B0069-BS3 |
| Preparation: | No Prep | Initial/Final: | 50 ml / 50 ml |

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Total Alkalinity as CaCO3 | 100.00 | 109.23 | 109 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-310.1

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701955 | Instrument: | MET-1 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| LCS | B[B0069-BS3 | Tiamo020217-006 | 02/02/17 11:43 |
| Blank | B[B0069-BLK1 | Tiamo020217-007 | 02/02/17 11:49 |
| Duplicate | B[B0069-DUP1 | Tiamo020217-010 | 02/02/17 12:23 |
| M034A-R_170131 | 1702734-07 | Tiamo020217-011 | 02/02/17 12:29 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-310.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 11:00 | 2.00 | 14.00 | 02/02/17 12:29 | 2.00 | 14.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

| | |
|---|---|
| Reported: | 3/6/2017 4:16:33PM |
| Project: | Alameda |
| Project Number: | 5023146096 |
| Project Manager: | Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **WET** |
| **Method:** | **EPA-353.2** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-353.2

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** KONE-1

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Nitrite as N | 0.01 | 0.03 | 0.05 | mg/L |
| Nitrite as NO2 | 0.04 | 0.1 | 0.17 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-353.2

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: 170131 2339 NO2-284
Sampled: 01/31/17 10:04
Prepared: 02/01/17 08:26
Analyzed: 02/01/17 14:14
Solids: 0.00
Preparation: No Prep
Initial/Final: 20 ml / 20 ml
Batch: B[B0116
Sequence: 1702091
Calibration: UNASSIGNED
Instrument: KONE-1

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 14797-65-0 | Nitrite as N | 0.030 | 0.010 | 0.030 | 0.050 | 1 | U | EPA-353.2 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0116
Batch Matrix: Water
Preparation: No Prep

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | 170131 2339 NO2-284 | 02/01/17 08:26 | |
| Blank | B[B0116-BLK1 | 170131 2339 NO2-276 | 02/01/17 08:26 | |
| LCS | B[B0116-BS1 | 170131 2339 NO2-275 | 02/01/17 08:26 | |
| Duplicate | B[B0116-DUP1 | 170131 2339 NO2-290 | 02/01/17 08:26 | |
| Matrix Spike | B[B0116-MS1 | 170131 2339 NO2-291 | 02/01/17 08:26 | |
| Matrix Spike Dup | B[B0116-MSD1 | 170131 2339 NO2-292 | 02/01/17 08:26 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-353.2

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0116-BLK1 | File ID: | 170131 2339 NO2-276 |
| Prepared: | 02/01/17 08:26 | Preparation: | No Prep | Initial/Final: | 20 ml / 20 ml |
| Analyzed: | 02/01/17 14:14 | Instrument: | KONE-1 | | |
| Batch: | B[B0116 | Sequence: | 1702091 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 14797-65-0 | Nitrite as N | 0.030 | 0.010 | 0.030 | 0.050 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-353.2

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0116
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0116-DUP1
Lab Source ID: 1702709-06
Initial/Final: 20 ml / 20 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Nitrite as N | 10 | ND | | ND | | | | EPA-353.2 |
| Nitrite as NO2 | 10 | ND | | ND | | | | EPA-353.2 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-353.2

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0116
Laboratory ID: B[B0116-MS1
Preparation: No Prep
Initial/Final: 19 ml / 20 ml
Source Sample Number: 1702709-06

| COMPOUND | SPIKE ADDED (mg/L) | SAMPLE CONCENTRATION (mg/L) | MS CONCENTRATION (mg/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Nitrite as N | 0.52632 | ND | 0.51894 | 98.6 | 90 - 110 |
| Nitrite as NO2 | 1.7289 | ND | 1.7045 | 98.6 | 90 - 110 |

| COMPOUND | SPIKE ADDED (mg/L) | MSD CONCENTRATION (mg/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Nitrite as N | 0.52632 | 0.52404 | 99.6 | 0.978 | 10 | 90 - 110 |
| Nitrite as NO2 | 1.7289 | 1.7212 | 99.6 | 0.978 | 10 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0116
Laboratory ID: B[B0116-BS1
Preparation: No Prep
Initial/Final: 20 ml / 20 ml

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Nitrite as N | 0.50000 | 0.49427 | 98.9 | 90 - 110 |
| Nitrite as NO2 | 1.6425 | 1.6234 | 98.8 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702091
Instrument: KONE-1
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1702091-CCV1 | 170131 2339 NO2-118 | 02/01/17 09:09 |
| Calibration Blank | 1702091-CCB1 | 170131 2339 NO2-119 | 02/01/17 09:09 |
| Calibration Check | 1702091-CCV2 | 170131 2339 NO2-127 | 02/01/17 09:11 |
| Calibration Blank | 1702091-CCB2 | 170131 2339 NO2-128 | 02/01/17 09:11 |
| Calibration Check | 1702091-CCV3 | 170131 2339 NO2-130 | 02/01/17 09:13 |
| Calibration Blank | 1702091-CCB3 | 170131 2339 NO2-131 | 02/01/17 09:13 |
| Calibration Check | 1702091-CCV4 | 170131 2339 NO2-142 | 02/01/17 09:25 |
| Calibration Blank | 1702091-CCB4 | 170131 2339 NO2-143 | 02/01/17 09:25 |
| Calibration Check | 1702091-CCV5 | 170131 2339 NO2-149 | 02/01/17 09:28 |
| Calibration Blank | 1702091-CCB5 | 170131 2339 NO2-150 | 02/01/17 09:28 |
| Calibration Check | 1702091-CCV6 | 170131 2339 NO2-152 | 02/01/17 09:35 |
| Calibration Blank | 1702091-CCB6 | 170131 2339 NO2-153 | 02/01/17 09:35 |
| Calibration Check | 1702091-CCV7 | 170131 2339 NO2-155 | 02/01/17 09:40 |
| Calibration Blank | 1702091-CCB7 | 170131 2339 NO2-156 | 02/01/17 09:40 |
| Calibration Check | 1702091-CCV8 | 170131 2339 NO2-189 | 02/01/17 10:47 |
| Calibration Blank | 1702091-CCB8 | 170131 2339 NO2-190 | 02/01/17 10:47 |
| Calibration Check | 1702091-CCV9 | 170131 2339 NO2-195 | 02/01/17 10:49 |
| Calibration Blank | 1702091-CCB9 | 170131 2339 NO2-196 | 02/01/17 10:49 |
| Calibration Check | 1702091-CCVA | 170131 2339 NO2-197 | 02/01/17 10:59 |
| Calibration Blank | 1702091-CCBA | 170131 2339 NO2-198 | 02/01/17 10:59 |
| Calibration Check | 1702091-CCVB | 170131 2339 NO2-201 | 02/01/17 11:01 |
| Calibration Blank | 1702091-CCBB | 170131 2339 NO2-202 | 02/01/17 11:01 |
| Calibration Check | 1702091-CCVC | 170131 2339 NO2-239 | 02/01/17 12:44 |
| Calibration Blank | 1702091-CCBC | 170131 2339 NO2-240 | 02/01/17 12:44 |
| Calibration Check | 1702091-CCVD | 170131 2339 NO2-251 | 02/01/17 12:50 |
| Calibration Blank | 1702091-CCBD | 170131 2339 NO2-252 | 02/01/17 12:50 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702091
Instrument: KONE-1
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1702091-CCVE | 170131 2339 NO2-263 | 02/01/17 12:51 |
| Calibration Blank | 1702091-CCBE | 170131 2339 NO2-264 | 02/01/17 12:51 |
| Calibration Check | 1702091-CCVF | 170131 2339 NO2-265 | 02/01/17 13:38 |
| Calibration Blank | 1702091-CCBF | 170131 2339 NO2-266 | 02/01/17 13:38 |
| Calibration Check | 1702091-CCVG | 170131 2339 NO2-271 | 02/01/17 13:39 |
| Calibration Blank | 1702091-CCBG | 170131 2339 NO2-272 | 02/01/17 13:39 |
| Calibration Check | 1702091-CCVH | 170131 2339 NO2-273 | 02/01/17 14:14 |
| Calibration Blank | 1702091-CCBH | 170131 2339 NO2-274 | 02/01/17 14:14 |
| LCS | B[B0116-BS1 | 170131 2339 NO2-275 | 02/01/17 14:14 |
| Blank | B[B0116-BLK1 | 170131 2339 NO2-276 | 02/01/17 14:14 |
| M034A-R_170131 | 1702734-07 | 170131 2339 NO2-284 | 02/01/17 14:14 |
| Calibration Check | 1702091-CCVI | 170131 2339 NO2-285 | 02/01/17 14:16 |
| Calibration Blank | 1702091-CCBI | 170131 2339 NO2-286 | 02/01/17 14:16 |
| Calibration Check | 1702091-CCVJ | 170131 2339 NO2-287 | 02/01/17 14:29 |
| Calibration Blank | 1702091-CCBJ | 170131 2339 NO2-288 | 02/01/17 14:29 |
| Duplicate | B[B0116-DUP1 | 170131 2339 NO2-290 | 02/01/17 14:29 |
| Matrix Spike | B[B0116-MS1 | 170131 2339 NO2-291 | 02/01/17 14:29 |
| Matrix Spike Dup | B[B0116-MSD1 | 170131 2339 NO2-292 | 02/01/17 14:29 |
| Calibration Check | 1702091-CCVK | 170131 2339 NO2-293 | 02/01/17 14:31 |
| Calibration Blank | 1702091-CCBK | 170131 2339 NO2-294 | 02/01/17 14:31 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: KONE-1
Project: Alameda
Sequence: 1702091
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1702091-CCB1 | Nitrite as N | 0.0032200 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.010576 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB2 | Nitrite as N | 0.0025560 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.0083952 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB3 | Nitrite as N | 0.0017680 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.0058070 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB4 | Nitrite as N | 0.0054730 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.017976 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB5 | Nitrite as N | 0.0023450 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.0077022 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB6 | Nitrite as N | 0.0020960 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.0068843 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB7 | Nitrite as N | 0.0016700 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.0054851 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB8 | Nitrite as N | 0.0042760 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.014045 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCB9 | Nitrite as N | 0.0038040 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.012494 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBA | Nitrite as N | 0.0047620 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.015641 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBB | Nitrite as N | 0.0034700 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.011397 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBC | Nitrite as N | 0.0053710 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.017641 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBD | Nitrite as N | 0.0046130 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.015151 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBE | Nitrite as N | 0.0046880 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.015398 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: KONE-1
Project: Alameda
Sequence: 1702091
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1702091-CCBF | Nitrite as N | 0.0057980 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.019044 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBG | Nitrite as N | 0.0051300 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.016849 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBH | Nitrite as N | 0.0061060 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.020055 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBI | Nitrite as N | 0.0055020 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.018071 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBJ | Nitrite as N | 0.0060000 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.019707 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |
| 1702091-CCBK | Nitrite as N | 0.0060600 | 0.010 | | 0.050 | mg/L | U | EPA-353.2 |
| | Nitrite as NO2 | 0.019904 | 0.040 | | 0.17 | mg/L | U | EPA-353.2 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-353.2

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: KONE-1
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1702091

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1702091-CCV1 | Nitrite as N | 0.50000 | 0.49978 | 100 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6415 | 99.9 | mg/L | EPA-353.2 |
| 1702091-CCV2 | Nitrite as N | 0.50000 | 0.49364 | 98.7 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6214 | 98.7 | mg/L | EPA-353.2 |
| 1702091-CCV3 | Nitrite as N | 0.50000 | 0.52299 | 105 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.7178 | 105 | mg/L | EPA-353.2 |
| 1702091-CCV4 | Nitrite as N | 0.50000 | 0.49704 | 99.4 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6325 | 99.4 | mg/L | EPA-353.2 |
| 1702091-CCV5 | Nitrite as N | 0.50000 | 0.49895 | 99.8 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6388 | 99.8 | mg/L | EPA-353.2 |
| 1702091-CCV6 | Nitrite as N | 0.50000 | 0.50031 | 100 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6433 | 100 | mg/L | EPA-353.2 |
| 1702091-CCV7 | Nitrite as N | 0.50000 | 0.49585 | 99.2 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6286 | 99.2 | mg/L | EPA-353.2 |
| 1702091-CCV8 | Nitrite as N | 0.50000 | 0.50522 | 101 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6594 | 101 | mg/L | EPA-353.2 |
| 1702091-CCV9 | Nitrite as N | 0.50000 | 0.50484 | 101 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6582 | 101 | mg/L | EPA-353.2 |
| 1702091-CCVA | Nitrite as N | 0.50000 | 0.50042 | 100 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6436 | 100 | mg/L | EPA-353.2 |
| 1702091-CCVB | Nitrite as N | 0.50000 | 0.50265 | 101 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6509 | 101 | mg/L | EPA-353.2 |
| 1702091-CCVC | Nitrite as N | 0.50000 | 0.51180 | 102 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6810 | 102 | mg/L | EPA-353.2 |
| 1702091-CCVD | Nitrite as N | 0.50000 | 0.51788 | 104 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.7010 | 104 | mg/L | EPA-353.2 |
| 1702091-CCVE | Nitrite as N | 0.50000 | 0.50956 | 102 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6736 | 102 | mg/L | EPA-353.2 |
| 1702091-CCVF | Nitrite as N | 0.50000 | 0.51391 | 103 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6879 | 103 | mg/L | EPA-353.2 |
| 1702091-CCVG | Nitrite as N | 0.50000 | 0.51241 | 102 | mg/L | EPA-353.2 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-353.2

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: KONE-1
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1702091

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1702091-CCVG | Nitrite as NO2 | 1.6425 | 1.6830 | 102 | mg/L | EPA-353.2 |
| 1702091-CCVH | Nitrite as N | 0.50000 | 0.51629 | 103 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6957 | 103 | mg/L | EPA-353.2 |
| 1702091-CCVI | Nitrite as N | 0.50000 | 0.51852 | 104 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.7031 | 104 | mg/L | EPA-353.2 |
| 1702091-CCVJ | Nitrite as N | 0.50000 | 0.51756 | 104 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.6999 | 103 | mg/L | EPA-353.2 |
| 1702091-CCVK | Nitrite as N | 0.50000 | 0.52108 | 104 | mg/L | EPA-353.2 |
| | Nitrite as NO2 | 1.6425 | 1.7115 | 104 | mg/L | EPA-353.2 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-353.2

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/01/17 08:26 | 1.17 | 2.00 | 02/01/17 14:14 | 1.17 | 2.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

## Raw Data From Instrument KONE-1

**Raw Data - Calibration Summary**

Laboratory
Analyzer User

01.02.2017 09:00

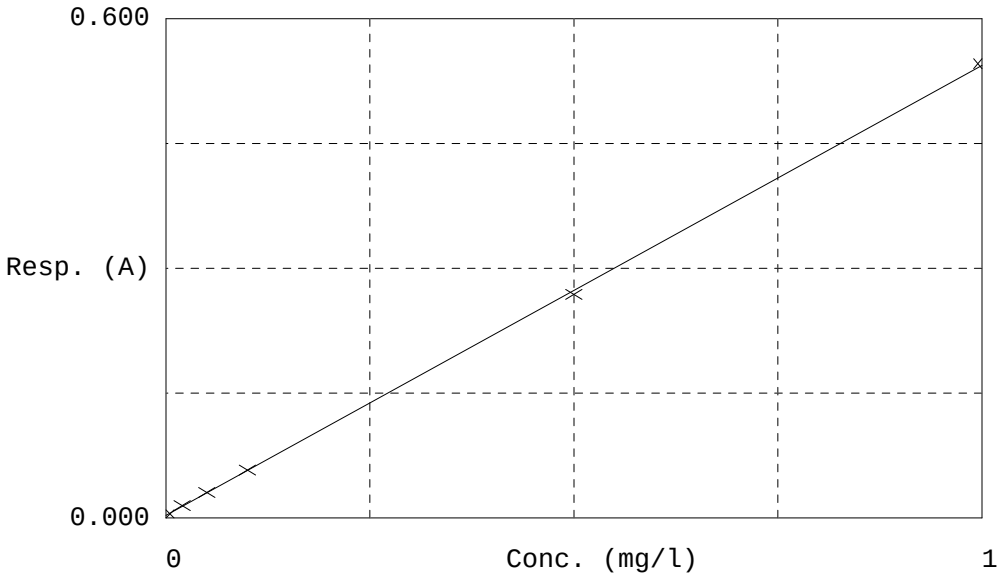
Test NO2

Accepted 01.02.2017 08:54

Factor 1.84952
Bias 0.00325

Coeff. of det. 0.999876

Errors




| | Calibrator | Response | Calc. con. | Conc. | Errors |
|---|---|---|---|---|---|
| 1 | NO2-0 | 0.00393 | 0.00126 | 0.00000 | |
| 2 | NO2-0.02 | 0.01508 | 0.02188 | 0.02000 | |
| 3 | NO2-0.05 | 0.03072 | 0.05081 | 0.05000 | |
| 4 | NO2-0.10 | 0.05760 | 0.10052 | 0.10000 | |
| 5 | NO2-0.50 | 0.26889 | 0.49131 | 0.50000 | |
| 6 | NO2-1.00 | 0.54620 | 1.00421 | 1.00000 | |
| 7 | ICB-NO2(control | 0.00553 | 0.00422 | 0.00000 | |
| 8 | ICV-NO2(control | 0.26982 | 0.49303 | 0.50000 | |

NO2 Laboratory
Analyzer User
Date : 01.02.2017
Time : 09:00

Last change date 04.02.2016 12:17
Tick length (sec) 7.0

| | | | | | |
|---|---|---|---|---|---|
| Full name | Nitrite as N | | | | |
| Online Name | | Test In Use | YES | | |
| Test type | Photometric | | LOW | HIGH | |
| | | Test limit | * | 5.00000 mg/l | |
| Result unit | mg/l | Initial absorbance | -0.050 | * | A |
| Number of Decim. | 5 | Dilution limit | * | 1.000000 mg/l | |
| | | Secondary dil 1+ | 0.0 | 4.0 | |
| | | Critical limit | * | * | mg/l |
| | | Reflex test limit | * | * | mg/l |
| | | Reflex test | | | |

| | | | | | |
|---|---|---|---|---|---|
| Acceptance | Manual | Reference class | LOW | HIGH | In Use |
| Dilution 1+ | 0.0 | | | | |
| Sample type | Water | Correction factor | 1.00 | | |
| | Raw water | Correction bias | 0.00 | mg/l | |
| | Sewage | | | | |
| Calibration type | Linear | | | | |
| Curve direction | Ascending | | | | |
| Repeat time (d) | 0 | Abs error (mA) | * | | |
| Points/cal. | Single | Rel error (%) | * | | |
| Acceptance | Manual | | | | |
| Response limit (mA) | MIN | MAX | | | |
| | * | * | | | |
| Bias correction in use | NO | | | | |
| Cd reduction | NO | | | | |
| Type of Calibrators | Separate | | | | |
| Calibrator | Conc. | Dil. ratio | | | |
| NO2-0 | 0.000 | 1+0.0 | | | |
| NO2-0.02 | 0.020 | 1+0.0 | | | |
| NO2-0.05 | 0.050 | 1+0.0 | | | |
| NO2-0.10 | 0.100 | 1+0.0 | | | |
| NO2-0.50 | 0.500 | 1+0.0 | | | |
| NO2-1.00 | 1.000 | 1+0.0 | | | |
| Manual QC in Use | YES | Routine QC in Use | YES | | |
| Acceptance | Manual | Interval Requests | 10 | | |
| | | Additional condition | NO | | |

| Control | Mean | SD | Control | Mean | SD |
|---|---|---|---|---|---|
| ICB-NO2 | 0.00 | 0.01 | CCB-NO2 | 0.00 | 0.01 |
| ICV-NO2 | 0.50 | 0.05 | CCV-NO2 | 0.50 | 0.05 |

| | | | |
|---|---|---|---|
| Rules in Use | 1:1.0*SD | Rules in Use | 1:1.0*SD |
| Blank | YES | | |
| | | Normal cuvette | |
| Sample | | Volume (ul) | 32 |
| Disp. with | Extra | Add. Volume (ul) | 30 |
| Dilution with | Water | Wash reagent | None |

NO2 Laboratory
Analyzer User
Date : 01.02.2017
Time : 09:00

| | | | |
|---|---|---|---|
| Reagent | NO2 Buffer | Volume (ul) | 120 |
| Disp. with | Extra | Add. Volume (ul) | 30 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Measurement | End point | Blank | |
| Resp. Min(A) | * | Resp. Max(A) | * |
| Reagent | NO2 color | Volume (ul) | 32 |
| Disp. with | Extra | Add. Volume (ul) | 30 |
| Wash reagent | None | | |
| Syringe speed | Normal | | |
| Incubation | | Time (sec) | 360 |
| Measurement | End point | | |
| Wavelength (nm) | 540 nm | Side wavel. (nm) | None |
| Meas. type | Fixed timing | | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **WET**
**Method:** **EPA-415.1**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-415.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-415.1

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** TOC2

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Non-Volatile Organic Carbon | 0.3 | 0.3 | 1 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-415.1

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: 20170203_0819-017
Sampled: 01/31/17 10:04
Prepared: 02/03/17 07:00
Analyzed: 02/03/17 12:34
Solids: 0.00
Preparation: General Preparation
Initial/Final: 100 ml / 100 ml
Batch: B[B0164
Sequence: 1702019
Calibration: UNASSIGNED
Instrument: TOC2

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| --- | Non-Volatile Organic Carbon | 85 | 15 | 15 | 50 | 50 | D | EPA-415.1 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-415.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0164
Batch Matrix: Water
Preparation: General Preparation

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | 20170203_0819-017 | 02/03/17 07:00 | |
| Blank | B[B0164-BLK1 | 20170203_0819-006 | 02/03/17 07:00 | |
| LCS | B[B0164-BS1 | 20170203_0819-007 | 02/03/17 07:00 | |
| Duplicate | B[B0164-DUP1 | 20170206_0734-013 | 02/03/17 07:00 | |
| Matrix Spike | B[B0164-MS1 | 20170206_0734-014 | 02/03/17 07:00 | |
| Matrix Spike Dup | B[B0164-MSD1 | 20170206_0734-015 | 02/03/17 07:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-415.1

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0164-BLK1 | File ID: | 20170203_0819-006 |
| Prepared: | 02/03/17 07:00 | Preparation: | General Preparation | Initial/Final: | 100 ml / 100 ml |
| Analyzed: | 02/03/17 09:55 | Instrument: | TOC2 | | |
| Batch: | B[B0164 | Sequence: | 1702019 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| --- | Non-Volatile Organic Carbon | 0.30 | 0.30 | 0.30 | 1.0 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-415.1

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0164
Preparation: General Preparation
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0164-DUP1
Lab Source ID: 1702924-03
Initial/Final: 100 ml / 100 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Non-Volatile Organic Carbon | 10 | ND | | ND | | | | EPA-415.1 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-415.1

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0164
Laboratory ID: B[B0164-MS1
Preparation: General Preparation
Initial/Final: 100 ml / 100 ml
Source Sample Number: 1702924-03

| COMPOUND | SPIKE ADDED (mg/L) | SAMPLE CONCENTRATION (mg/L) | MS CONCENTRATION (mg/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Non-Volatile Organic Carbon | 50.000 | ND | 42.780 | 85.6 | 80 - 120 |

| COMPOUND | SPIKE ADDED (mg/L) | MSD CONCENTRATION (mg/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Non-Volatile Organic Carbon | 50.000 | 43.490 | 87.0 | 1.65 | 10 | 80 - 120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-415.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0164
Laboratory ID: B[B0164-BS1
Preparation: General Preparation
Initial/Final: 100 ml / 100 ml

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Non-Volatile Organic Carbon | 5.0000 | 5.0460 | 101 | 85 - 115 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-415.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702019
Instrument: TOC2
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1702019-ICV1 | 20170203_0819-003 | 02/03/17 09:13 |
| Initial Cal Blank | 1702019-ICB1 | 20170203_0819-004 | 02/03/17 09:26 |
| MRL Check | 1702019-CRL1 | 20170203_0819-005 | 02/03/17 09:41 |
| Blank | B[B0164-BLK1 | 20170203_0819-006 | 02/03/17 09:55 |
| LCS | B[B0164-BS1 | 20170203_0819-007 | 02/03/17 10:09 |
| Calibration Check | 1702019-CCV1 | 20170203_0819-012 | 02/03/17 11:23 |
| Calibration Blank | 1702019-CCB1 | 20170203_0819-013 | 02/03/17 11:36 |
| M034A-R_170131 | 1702734-07 | 20170203_0819-017 | 02/03/17 12:34 |
| Calibration Check | 1702019-CCV2 | 20170203_0819-024 | 02/03/17 14:15 |
| Calibration Blank | 1702019-CCB2 | 20170203_0819-025 | 02/03/17 14:28 |
| Calibration Check | 1702019-CCV3 | 20170203_0819-036 | 02/03/17 17:07 |
| Calibration Blank | 1702019-CCB3 | 20170203_0819-037 | 02/03/17 17:21 |
| Calibration Check | 1702019-CCV6 | 20170206_0734-001 | 02/06/17 07:40 |
| Calibration Blank | 1702019-CCB6 | 20170206_0734-002 | 02/06/17 07:54 |
| Calibration Check | 1702019-CCV7 | 20170206_0734-009 | 02/06/17 09:35 |
| Calibration Blank | 1702019-CCB7 | 20170206_0734-010 | 02/06/17 09:49 |
| Duplicate | B[B0164-DUP1 | 20170206_0734-013 | 02/06/17 10:31 |
| Matrix Spike | B[B0164-MS1 | 20170206_0734-014 | 02/06/17 10:46 |
| Matrix Spike Dup | B[B0164-MSD1 | 20170206_0734-015 | 02/06/17 11:00 |
| Calibration Check | 1702019-CCV8 | 20170206_0734-020 | 02/06/17 12:11 |
| Calibration Blank | 1702019-CCB8 | 20170206_0734-021 | 02/06/17 12:25 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-415.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: TOC2
Project: Alameda
Sequence: 1702019
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1702019-ICB1 | Non-Volatile Organic Carbon | 0.0000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |
| 1702019-CCB1 | Non-Volatile Organic Carbon | 0.015000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |
| 1702019-CCB2 | Non-Volatile Organic Carbon | 0.0040000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |
| 1702019-CCB3 | Non-Volatile Organic Carbon | 0.060000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |
| 1702019-CCB6 | Non-Volatile Organic Carbon | 0.052000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |
| 1702019-CCB7 | Non-Volatile Organic Carbon | 0.067000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |
| 1702019-CCB8 | Non-Volatile Organic Carbon | 0.011000 | 0.30 | | 1.0 | mg/L | U | EPA-415.1 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-415.1

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: TOC2
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1702019

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1702019-ICV1 | Non-Volatile Organic Carbon | 5.0000 | 4.8960 | 97.9 | mg/L | EPA-415.1 |
| 1702019-CCV1 | Non-Volatile Organic Carbon | 5.0000 | 5.0710 | 101 | mg/L | EPA-415.1 |
| 1702019-CCV2 | Non-Volatile Organic Carbon | 5.0000 | 5.0310 | 101 | mg/L | EPA-415.1 |
| 1702019-CCV3 | Non-Volatile Organic Carbon | 5.0000 | 5.1430 | 103 | mg/L | EPA-415.1 |
| 1702019-CCV6 | Non-Volatile Organic Carbon | 5.0000 | 5.3300 | 107 | mg/L | EPA-415.1 |
| 1702019-CCV7 | Non-Volatile Organic Carbon | 5.0000 | 5.1610 | 103 | mg/L | EPA-415.1 |
| 1702019-CCV8 | Non-Volatile Organic Carbon | 5.0000 | 5.0360 | 101 | mg/L | EPA-415.1 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-415.1

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/03/17 07:00 | 3.00 | 28.00 | 02/03/17 12:34 | 3.00 | 28.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

## Raw Data From Instrument TOC2

**Raw Data - Calibration Summary**

O·I·CORPORATION

**Date Prepared:** 02/03/2017 **By:**

**Date Approved:** **By:**

TOC

**OI Corporation**
**College Station, TX 77845 USA**

**No Customer**
**None, None - None**

**Sample Results Summary**

| Spl # | Vial # | Sample ID | Num Rep | Act Rep | Method | Type | Dil | Customer ID | Mode | Avg. Area (cts) | Avg. Mass (ug) | Avg. Conc (PPM) | Std. Dev | % RSD | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | - | Clean Up | 6 | 6 | DefaultCleanUpMethod | Clean Up | 1 : 1 | 00000000 | TIC | 391 | 0.000 | 0.000 | 105 | 26.81 | |
| | | | | | | | | | TOC | 4,296 | 0.000 | 0.000 | 774 | 18.01 | |
| 3 | 1 | TOC-RW | 4 | 4 | 170202 - 5 mls - Feb 02, 2017; 12-32-00 PM | Standard | 1 : 1 | 00000000 | TOC | 3,437 | 0.000 | 0.000 | 37 | 1.09 | |
| 4 | 2 | TOC-Std#1-1.000 PPM | 4 | 4 | 170202 - 5 mls - Feb 02, 2017; 12-32-00 PM | Standard | 1 : 1 | 00000000 | TOC | 23,927 | 5.000 | 1.000 | 359 | 1.50 | |
| 5 | 3 | TOC-Std#2-5.000 PPM | 4 | 4 | 170202 - 5 mls - Feb 02, 2017; 12-32-00 PM | Standard | 1 : 1 | 00000000 | TOC | 104,376 | 25.000 | 5.000 | 1,072 | 1.03 | |
| 6 | 4 | TOC-Std#3-10.000 PPM | 4 | 4 | 170202 - 5 mls - Feb 02, 2017; 12-32-00 PM | Standard | 1 : 1 | 00000000 | TOC | 204,913 | 50.000 | 10.000 | 3,090 | 1.51 | |

O·I·CORPORATION

**Date Prepared:** 02/03/2017 **By:**

**Date Approved:** **By:**

TOC

**OI Corporation**
**College Station, TX 77845 USA**

**No Customer**
**None, None - None**

**Sample Results**

**Spl #:** 1 **Sample ID :** Clean Up **Type :** Clean Up **Date:** 02/02/2017 **Status:** Passed
**Vial #:** - **Method :** DefaultCleanUpMethod **Dilution** 1 : 1 **Customer ID:** 00000000

| Rep # | Time | TIC Area (cts) | TIC Mass (ugC) | TIC Conc (PPM) | TOC Area (cts) | TOC Mass (ugC) | TOC Conc (PPM) |
|---|---|---|---|---|---|---|---|
| 1 | 12:44 pm | 580 | 0.000 | 0.000 | 5,241 | 0.000 | 0.000 |
| 2 | 12:52 pm | 276 | 0.000 | 0.000 | 5,339 | 0.000 | 0.000 |
| 3 | 1:00 pm | 377 | 0.000 | 0.000 | 3,785 | 0.000 | 0.000 |
| 4 | 1:07 pm | 392 | 0.000 | 0.000 | 3,861 | 0.000 | 0.000 |
| 5 | 1:15 pm | 317 | 0.000 | 0.000 | 3,681 | 0.000 | 0.000 |
| 6 | 1:23 pm | 405 | 0.000 | 0.000 | 3,868 | 0.000 | 0.000 |
| | **Avg.** | 391 | 0.000 | 0.000 | 4,296 | 0.000 | 0.000 |
| | **Std.Dev.** | 105 | | | 774 | | |
| | **% RSD.** | 26.81 | | | 18.01 | | |

**Spl #:** 3 **Sample ID :** TOC-RW **Type :** Standard **Date:** 02/02/2017 **Status:** Passed
**Vial #:** 1 **Method :** 170202 - 5 mls - Feb 02, 2017 **Dilution** 1 : 1 **Customer ID:** 00000000

| Rep # | Time | TIC Area (cts) | TIC Mass (ugC) | TIC Conc (PPM) | TOC Area (cts) | TOC Mass (ugC) | TOC Conc (PPM) |
|---|---|---|---|---|---|---|---|
| 1 | 1:52 pm | - | - | - | 3,450 | 0.000 | 0.000 |
| 2 | 1:57 pm | - | - | - | 3,484 | 0.000 | 0.000 |
| 3 | 2:03 pm | - | - | - | 3,405 | 0.000 | 0.000 |
| 4 | 2:09 pm | - | - | - | 3,409 | 0.000 | 0.000 |
| | **Avg.** | - | - | - | 3,437 | 0.000 | 0.000 |
| | **Std.Dev.** | | | | 37 | | |
| | **% RSD.** | | | | 1.09 | | |

O·I·CORPORATION

**Date Prepared:** 02/03/2017 **By:**

**Date Approved:** **By:**

TOC

**OI Corporation**
**College Station, TX 77845 USA**

**No Customer**
**None, None - None**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Spl #:** | 4 | **Sample ID :** | TOC-Std#1-1.000 PPM | **Type :** | Standard | **Date:** | 02/02/2017 | **Status:** | Passed |
| **Vial #:** | 2 | **Method :** | 170202 - 5 mls - Feb 02, 2017 | **Dilution** | 1 : 1 | **Customer ID:** | 00000000 | | |

| Rep # | Time | TIC Area (cts) | TIC Mass (ugC) | TIC Conc (PPM) | TOC Area (cts) | TOC Mass (ugC) | TOC Conc (PPM) |
|---|---|---|---|---|---|---|---|
| 1 | 2:18 pm | - | - | - | 24,253 | 5.000 | 1.000 |
| 2 | 2:23 pm | - | - | - | 23,431 | 5.000 | 1.000 |
| 3 | 2:30 pm | - | - | - | 24,113 | 5.000 | 1.000 |
| 4 | 2:35 pm | - | - | - | 23,912 | 5.000 | 1.000 |
| | **Avg.** | - | - | - | 23,927 | 5.000 | 1.000 |
| | **Std.Dev.** | | | | 359 | | |
| | **% RSD.** | | | | 1.50 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Spl #:** | 5 | **Sample ID :** | TOC-Std#2-5.000 PPM | **Type :** | Standard | **Date:** | 02/02/2017 | **Status:** | Passed |
| **Vial #:** | 3 | **Method :** | 170202 - 5 mls - Feb 02, 2017 | **Dilution** | 1 : 1 | **Customer ID:** | 00000000 | | |

| Rep # | Time | TIC Area (cts) | TIC Mass (ugC) | TIC Conc (PPM) | TOC Area (cts) | TOC Mass (ugC) | TOC Conc (PPM) |
|---|---|---|---|---|---|---|---|
| 1 | 2:44 pm | - | - | - | 105,158 | 25.000 | 5.000 |
| 2 | 2:49 pm | - | - | - | 103,461 | 25.000 | 5.000 |
| 3 | 2:56 pm | - | - | - | 105,440 | 25.000 | 5.000 |
| 4 | 3:01 pm | - | - | - | 103,446 | 25.000 | 5.000 |
| | **Avg.** | - | - | - | 104,376 | 25.000 | 5.000 |
| | **Std.Dev.** | | | | 1,072 | | |
| | **% RSD.** | | | | 1.03 | | |

O·I·CORPORATION

**Date Prepared:** 02/03/2017 **By:**

**Date Approved:** **By:**

TOC

**OI Corporation**
**College Station, TX 77845 USA**

**No Customer**
**None, None - None**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Spl #:** | 6 | **Sample ID :** | TOC-Std#3-10.000 PPM | **Type :** | Standard | **Date:** | 02/02/2017 | **Status:** | Passed |
| **Vial #:** | 4 | **Method :** | 170202 - 5 mls - Feb 02, 2017 | **Dilution** | 1 : 1 | **Customer ID:** | 00000000 | | |

| Rep # | Time | TIC Area (cts) | TIC Mass (ugC) | TIC Conc (PPM) | TOC Area (cts) | TOC Mass (ugC) | TOC Conc (PPM) |
|---|---|---|---|---|---|---|---|
| 1 | 3:10 pm | - | - | - | 207,672 | 50.000 | 10.000 |
| 2 | 3:15 pm | - | - | - | 202,531 | 50.000 | 10.000 |
| 3 | 3:22 pm | - | - | - | 207,489 | 50.000 | 10.000 |
| 4 | 3:27 pm | - | - | - | 201,960 | 50.000 | 10.000 |
| | **Avg.** | - | - | - | 204,913 | 50.000 | 10.000 |
| | **Std.Dev.** | | | | 3,090 | | |
| | **% RSD.** | | | | 1.51 | | |

O·I·CORPORATION

**Date Prepared:** 02/03/2017 **By:**

**Date Approved:** **By:**

TOC

**OI Corporation**
**College Station, TX 77845 USA**

**No Customer**
**None, None - None**

## Method Summary

**Method Details**

| | |
|---|---|
| Method Name: | 170202 - 5 mls - Feb 02, 2017 |
| Date Created: | 02/02/2017 |
| Time Created: | 12:32 |
| Created By: | ALW |

**Pre-Processing**

| | |
|---|---|
| Sample Dilution: | Disabled |
| Dilution Mode: | Automatic |
| Dilution Factor: | 1 : 1 |
| Sample Stirring in A/S: | Enabled |

**Times**

| | React | Detect |
|---|---|---|
| TIC | 01:30 | 03:00 |
| TOC | 02:00 | 03:15 |

**Temp**

| | React | Detect |
|---|---|---|
| TIC | 70 | 70 |
| TOC | 98 | 98 |

**Analysis Mode:** NPOC Only

| | |
|---|---|
| Sparging Mode: | Internal |
| Pre-Acid Volume (mL): | 1.000 |
| Sparge Time (mm:ss): | 02:00 |

**Outlier Removal Criteria**

| | |
|---|---|
| Additional Replicates: | 0 |
| Max. % RSD. | 3.00 |

**Peak Detection Parameters**

| | |
|---|---|
| Signal-to-Noise Ratio: | 3 |
| Minimum Peak Width (min:sec): | 00:30 |
| Peak Resolution to BaseLine(%): | 99 |

**Volumes**

| | |
|---|---|
| Sample Volume (mL): | 5.000 |
| Acid Volume (mL): | 0.500 |
| Persulfate Volume(mL): | 1.000 |

**Rinses**

| | |
|---|---|
| Rinse Volume (mL): | 10.000 |
| Rinses Per Sample: | 1 |
| Rinses Per Replicate: | 0 |

**Other**

| | |
|---|---|
| SysPressure: | 20.00 |

## Calibration Summary

**Calibration Generation**

| | |
|---|---|
| Generation Mode: | Manual |
| # of Stds: | 5 |
| Dilution Factor: | 10 : 1 |
| Dilution Volume (mL): | 1.000 |
| Add Zero as Std #1: | No |

**Calibration Pass/Fail Criteria**

| Parameter | Low | High | Failure |
|---|---|---|---|
| RF (ugC/K-cts) | - | - | - |
| R2 | 0.995 | 1.000 | Abort |
| Offset (area) (cts) | - | - | - |
| Offset (mass) (ugC) | - | - | - |

**Calibration Mode**

| | |
|---|---|
| Primary Mode: | TOC |
| User for ALL Modes: | Enabled |

**Checks, QC's and Actions**

| Type | Target (PPM) | Tolerance (+/- %) | 1st Failure | 2nd Failure |
|---|---|---|---|---|
| CK Std | n/a | 10,000.00 | Continue | Continue |
| QC #1 | 5.000 | 10,000.00 | Continue | Continue |
| QC #2 | 5.000 | 15,000.00 | Continue | Continue |
| QC #3 | 1.000 | 50,000.00 | Continue | Continue |
| QC #4 | 0.001 | 100,000.00 | Continue | Continue |
| SST | 0.000 | 0.00 | Continue | Continue |

O·I·CORPORATION

**Date Prepared:** 02/03/2017 **By:**

**Date Approved:** **By:**

TOC

**OI Corporation**
**College Station, TX 77845 USA**

**No Customer**
**None, None - None**

**Calibration Details**

| | | |
|---|---|---|
| Calibration Mode: | TOC | |
| Date Calibrated: | 02/02/2017 | |
| Time Calibrated: | 3:27 pm | |
| Calibrated By: | ALW | |
| RF (ugC/k-cts): | | 0.2483 |
| R2: | | 0.9997 |
| Offset (area)(cts): | | 3626 |
| Offset (mass)(ugC): | | -0.901 |
| Reagent Blank (cts): | | 1,744 |

**Calibration Settings**

| | |
|---|---|
| Stock Conc. For Dilutions: (PPM) | 1,000.000 |
| # of Reagent Blanks: | 2 |
| Total Flowrate w/EFC: | 50 ml/min |
| Check Standards: | Subtract Offset |
| Regression type: | Unweighted |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **WET**
**Method:** **SM-4500SD**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## SM-4500SD

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## SM-4500SD

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** SPEC06

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Total Sulfide | 0.05 | 0.1 | 0.1 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## SM-4500SD

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID:
Sampled: 01/31/17 10:04
Prepared: 02/01/17 13:00
Analyzed: 02/01/17 13:00
Solids: 0.00
Preparation: No Prep
Initial/Final: 25 ml / 25 ml
Batch: B[B0092
Sequence: 1701806
Calibration: UNASSIGNED
Instrument: SPEC06

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 18496-25-8 | Total Sulfide | 0.50 | 0.25 | 0.50 | 0.50 | 5 | UD | SM-4500SD |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## SM-4500SD

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0092
Batch Matrix: Water
Preparation: No Prep

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | | 02/01/17 13:00 | |
| Blank | B[B0092-BLK1 | | 02/01/17 13:00 | |
| LCS | B[B0092-BS1 | | 02/01/17 13:00 | |
| Duplicate | B[B0092-DUP1 | | 02/01/17 13:00 | |
| Matrix Spike | B[B0092-MS1 | | 02/01/17 13:00 | |
| Matrix Spike Dup | B[B0092-MSD1 | | 02/01/17 13:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## SM-4500SD

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0092-BLK1 | File ID: | |
| Prepared: | 02/01/17 13:00 | Preparation: | No Prep | Initial/Final: | 25 ml / 25 ml |
| Analyzed: | 02/01/17 13:00 | Instrument: | SPEC06 | | |
| Batch: | B[B0092 | Sequence: | 1701806 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 18496-25-8 | Total Sulfide | 0.10 | 0.050 | 0.10 | 0.10 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## SM-4500SD

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0092
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0092-DUP1
Lab Source ID: 1702613-07
Initial/Final: 25 ml / 25 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Total Sulfide | 10 | ND | | ND | | | | SM-4500SD |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## SM-4500SD

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0092
Laboratory ID: B[B0092-MS1
Preparation: No Prep
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (mg/L) | SAMPLE CONCENTRATION (mg/L) | MS CONCENTRATION (mg/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Total Sulfide | 0.50000 | ND | 0.41197 | 82.4 | 80 - 120 |

| COMPOUND | SPIKE ADDED (mg/L) | MSD CONCENTRATION (mg/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Total Sulfide | 0.50000 | 0.41004 | 82.0 | 0.470 | 10 | 80 - 120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## SM-4500SD

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0092
Laboratory ID: B[B0092-BS1
Preparation: No Prep
Initial/Final: 25 ml / 25 ml

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Total Sulfide | 0.50000 | 0.51433 | 103 | 90 - 110 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## SM-4500SD

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701806 | Instrument: | SPEC06 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701806-ICV1 | | 02/01/17 13:00 |
| Initial Cal Blank | 1701806-ICB1 | | 02/01/17 13:00 |
| LCS | B[B0092-BS1 | | 02/01/17 13:00 |
| Blank | B[B0092-BLK1 | | 02/01/17 13:00 |
| Calibration Check | 1701806-CCV1 | | 02/01/17 13:00 |
| Calibration Blank | 1701806-CCB1 | | 02/01/17 13:00 |
| Duplicate | B[B0092-DUP1 | | 02/01/17 13:00 |
| Matrix Spike | B[B0092-MS1 | | 02/01/17 13:00 |
| Matrix Spike Dup | B[B0092-MSD1 | | 02/01/17 13:00 |
| Calibration Check | 1701806-CCV2 | | 02/01/17 13:00 |
| Calibration Blank | 1701806-CCB2 | | 02/01/17 13:00 |
| M034A-R_170131 | 1702734-07 | | 02/01/17 13:00 |
| Calibration Check | 1701806-CCV3 | | 02/01/17 13:00 |
| Calibration Blank | 1701806-CCB3 | | 02/01/17 13:00 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## SM-4500SD

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: SPEC06
Project: Alameda
Sequence: 1701806
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701806-CCB1 | Total Sulfide | 0.0000 | 0.050 | | 0.10 | mg/L | U | SM-4500SD |
| 1701806-CCB2 | Total Sulfide | 0.0000 | 0.050 | | 0.10 | mg/L | U | SM-4500SD |
| 1701806-CCB3 | Total Sulfide | 0.0000 | 0.050 | | 0.10 | mg/L | U | SM-4500SD |
| 1701806-ICB1 | Total Sulfide | 0.0000 | 0.050 | | 0.10 | mg/L | U | SM-4500SD |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## SM-4500SD

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: SPEC06
Control Limt: +/- %

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701806

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701806-CCV1 | Total Sulfide | 0.50000 | 0.51433 | 103 | mg/L | SM-4500SD |
| 1701806-CCV2 | Total Sulfide | 0.50000 | 0.51433 | 103 | mg/L | SM-4500SD |
| 1701806-CCV3 | Total Sulfide | 0.50000 | 0.51433 | 103 | mg/L | SM-4500SD |
| 1701806-ICV1 | Total Sulfide | 0.50000 | 0.50660 | 101 | mg/L | SM-4500SD |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## SM-4500SD

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/01/17 13:00 | 1.00 | 7.00 | 02/01/17 13:00 | 1.00 | 7.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:16:33PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# GC Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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## Case Narrative

**Analyses Requested: 8015B-FFP**
**Submission # 17-02734**

Instrument ID: GC-2
Model: HP-5890

Column Types
Primary: ZB-5 15M x 0.25 mm x 0.25 Film Thickness µm

Detector: FID

Samples were received refrigerated to <6.0°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and extractions took place within holding times.

**Calibration:** Initial calibration criteria were met. Frequency and accuracy criteria for initial calibration verification (ICV) were met. Frequency and accuracy criteria for continuing calibration verification (CCV) were met.

**Blanks:** Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL.
Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample**: Laboratory control sample analysis was performed at the required frequency. All parameters were met.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TVH-E -D, JP, M, Oil (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | RUSH 24 Hour | RUSH 48 Hour | RUSH 72 Hour | RUSH 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS OC BOD MBAS CO

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | | |
|---|---|---|
| Sampler's Signature: | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 14:50 |
| Received By: | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Date: 1-31-17 | Time: 1830 |
| Received By: | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,G,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920
A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Blank Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.4 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OJT | OJT | | | | | | |
| 8oz / 16oz / ~~32oz~~ ~~VAR~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init 658

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 6 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | |
| 2oz Cr* | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | |
| PT CYANIDE | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | |
| PtA PHENOLICS | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | |
| QT EPA 1664 | | | | | | | | |
| PT ODOR | | | | | | | | |
| RADIOLOGICAL | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | |
| QT EPA 525 | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | |
| 40ml EPA 547 | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | |
| 8oz EPA 548 | | | | | | | | |
| QT EPA 549 | | | | | | | | |
| QT EPA 8015M | | | | | | | | |
| QT EPA 8270 | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | |
| 8oz / 16oz / 32oz AMBER Ambers | N | J | | | | | | |
| SOIL SLEEVE for metals preserved | | | "AA" | | | | | |
| PCB VIAL | | | | | | | | |
| PLASTIC BAG | | | | | | | | |
| TEDLAR BAG | | | | | | | | |
| FERROUS IRON | | | | | | | | |
| ENCORE | | | | | | | | |
| SMART KIT | | | | | | | | |
| SUMMA CANISTER | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C

Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PR UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:18:29PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **GC** |
| **Method:** | **EPA-8015B/FFP** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |
| M034A-R_170131 | 1702734-07RE1 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8015B/FFP

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** GC-2

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| TPH - Kerosene | 11 | 30 | 40 | ug/L |
| TPH - Diesel (FFP) | 6.8 | 30 | 40 | ug/L |
| TPH - Motor Oil | 13 | 70 | 100 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B/FFP

**EB03_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-01 | File ID: | 09FEB027.D |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/02/17 12:25 | Analyzed: | 02/09/17 21:59 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 1 ml |
| Batch: | B[B0409 | Sequence: | 1702462 | Calibration: | 1702019 |
| Instrument: | GC-2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | TPH - Kerosene | 1 | 30 | 11 | 30 | 40 | U |
| --- | TPH - Diesel (FFP) | 1 | 54 | 6.8 | 30 | 40 | |
| --- | TPH - Motor Oil | 1 | 70 | 13 | 70 | 100 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| Tetracosane (Surrogate) | 20.000 | 18.109 | 90.5 | 37 - 134 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B/FFP

**M028A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-06 | File ID: | 10FEB003.D |
| Sampled: | 01/31/17 08:34 | Prepared: | 02/02/17 12:25 | Analyzed: | 02/10/17 10:19 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Batch: | B[B0409 | Sequence: | 1702487 | Calibration: | 1702019 |
| Instrument: | GC-2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | TPH - Kerosene | 0.99 | 30 | 11 | 30 | 40 | U |
| --- | TPH - Diesel (FFP) | 0.99 | 840 | 6.8 | 30 | 40 | |
| --- | TPH - Motor Oil | 0.99 | 300 | 13 | 70 | 100 | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| Tetracosane (Surrogate) | 20.000 | 12.620 | 63.1 | 37 - 134 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B/FFP

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07 | File ID: | 09FEB022.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 12:25 | Analyzed: | 02/09/17 20:06 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Batch: | B[B0409 | Sequence: | 1702462 | Calibration: | 1702019 |
| Instrument: | GC-2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | TPH - Kerosene | 4.95 | 150 | 57 | 150 | 200 | UD |
| --- | TPH - Motor Oil | 4.95 | 1500 | 66 | 350 | 500 | D |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| Tetracosane (Surrogate) | 20.000 | 18.622 | 93.1 | 37 - 134 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B/FFP

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07RE1 | File ID: | 10FEB004.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 12:25 | Analyzed: | 02/10/17 11:30 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 0.99 ml |
| Batch: | B[B0409 | Sequence: | 1702487 | Calibration: | 1702019 |
| Instrument: | GC-2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | TPH - Diesel (FFP) | 49.5 | 26000 | 340 | 1500 | 2000 | D |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0409
Batch Matrix: Water
Preparation: EPA 3510B

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | 09FEB027.D | 02/02/17 12:25 | Jet Fuel, Diesel, motor oil |
| M028A-R_170131 | 1702734-06 | 10FEB003.D | 02/02/17 12:25 | Jet Fuel, Diesel, motor oil |
| M034A-R_170131 | 1702734-07 | 09FEB022.D | 02/02/17 12:25 | Jet Fuel, Diesel, motor oil |
| M034A-R_170131 | 1702734-07RE1 | 10FEB004.D | 02/02/17 12:25 | Added 2/13/2017 by AS1 |
| Blank | B[B0409-BLK1 | 09FEB014.D | 02/02/17 12:25 | |
| LCS | B[B0409-BS1 | 09FEB013.D | 02/02/17 12:25 | |
| Matrix Spike | B[B0409-MS1 | 09FEB015.D | 02/02/17 12:25 | |
| Matrix Spike Dup | B[B0409-MSD1 | 09FEB016.D | 02/02/17 12:25 | |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8015B/FFP

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0409-BLK1 | File ID: | 09FEB014.D |
| Prepared: | 02/02/17 12:25 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 1 ml |
| Analyzed: | 02/09/17 17:05 | Instrument: | GC-2 | | |
| Batch: | B[B0409 | Sequence: | 1702462 | Calibration: | 1702019 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| --- | TPH - Kerosene | 30 | 11 | 30 | 40 | U |
| --- | TPH - Diesel (FFP) | 30 | 6.8 | 30 | 40 | U |
| --- | TPH - Motor Oil | 70 | 13 | 70 | 100 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| Tetracosane (Surrogate) | 20.000 | 11.544 | 57.7 | 37 - 134 | |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8015B/FFP

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0409
Laboratory ID: B[B0409-MS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 0.99 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| TPH - Diesel (FFP) | 500.00 | 247.34 | 571.47 | 64.8 | 50 - 127 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| TPH - Diesel (FFP) | 500.00 | 665.82 | 83.7 | 15.3 | 24 | 50 - 127 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Matrix: | Water | | |
| Batch: | B[B0409 | Laboratory ID: | B[B0409-BS1 |
| Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 1 ml |

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| TPH - Diesel (FFP) | 500.00 | 319.28 | 63.9 | 52 - 128 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702459 | Instrument: | GC-2 |
| Matrix: | Water | Calibration: | 1702019 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Cal Standard | 1702459-CAL1 | 02FEB026.D | 02/02/17 21:49 |
| Cal Standard | 1702459-CAL2 | 02FEB027.D | 02/02/17 22:12 |
| Cal Standard | 1702459-CAL3 | 02FEB028.D | 02/02/17 22:35 |
| Cal Standard | 1702459-CAL4 | 02FEB029.D | 02/02/17 22:58 |
| Cal Standard | 1702459-CAL5 | 02FEB030.D | 02/02/17 23:21 |
| Cal Standard | 1702459-CAL6 | 02FEB031.D | 02/02/17 23:44 |
| Initial Cal Check | 1702459-ICV1 | 02FEB032.D | 02/03/17 00:07 |
| Initial Cal Blank | 1702459-ICB1 | 02FEB033.D | 02/03/17 00:30 |
| Cal Standard | 1702459-CALC | 06FEB005.D | 02/06/17 10:33 |
| Cal Standard | 1702459-CALB | 06FEB006.D | 02/06/17 11:18 |
| Cal Standard | 1702459-CALA | 06FEB007.D | 02/06/17 12:12 |
| Cal Standard | 1702459-CAL9 | 06FEB008.D | 02/06/17 12:49 |
| Cal Standard | 1702459-CAL8 | 06FEB009.D | 02/06/17 13:13 |
| Cal Standard | 1702459-CAL7 | 06FEB010.D | 02/06/17 13:36 |
| Initial Cal Check | 1702459-ICV2 | 06FEB011.D | 02/06/17 14:13 |
| Initial Cal Blank | 1702459-ICB2 | 06FEB012.D | 02/06/17 14:36 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702462 | Instrument: | GC-2 |
| Matrix: | Water | Calibration: | 1702019 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1702462-CCV2 | 09FEB010.D | 02/09/17 15:04 |
| Calibration Blank | 1702462-CCB2 | 09FEB012.D | 02/09/17 16:18 |
| LCS | B[B0409-BS1 | 09FEB013.D | 02/09/17 16:42 |
| Blank | B[B0409-BLK1 | 09FEB014.D | 02/09/17 17:05 |
| Matrix Spike | B[B0409-MS1 | 09FEB015.D | 02/09/17 17:28 |
| Matrix Spike Dup | B[B0409-MSD1 | 09FEB016.D | 02/09/17 17:51 |
| M034A-R_170131 | 1702734-07 | 09FEB022.D | 02/09/17 20:06 |
| Calibration Check | 1702462-CCV4 | 09FEB024.D | 02/09/17 20:51 |
| Calibration Blank | 1702462-CCB3 | 09FEB026.D | 02/09/17 21:36 |
| EB03_170131 | 1702734-01 | 09FEB027.D | 02/09/17 21:59 |
| Calibration Check | 1702462-CCV6 | 09FEB034.D | 02/10/17 00:39 |
| Calibration Blank | 1702462-CCB4 | 09FEB036.D | 02/10/17 01:25 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702487 | Instrument: | GC-2 |
| Matrix: | Water | Calibration: | 1702019 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1702487-CCV1 | 10FEB001.D | 02/10/17 08:57 |
| Calibration Blank | 1702487-CCB1 | 10FEB002.D | 02/10/17 09:21 |
| M028A-R_170131 | 1702734-06 | 10FEB003.D | 02/10/17 10:19 |
| M034A-R_170131 | 1702734-07RE1 | 10FEB004.D | 02/10/17 11:30 |
| Calibration Check | 1702487-CCV2 | 10FEB010.D | 02/10/17 14:18 |
| Calibration Blank | 1702487-CCB2 | 10FEB012.D | 02/10/17 16:11 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 02FEB032.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702459 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1702459-ICV1 | Injection Time: | 00:07 |

| | (1) CAL | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Kerosene | A | 500000 | 496240 | 28.97574 | 28.75788 | | -0.8 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 06FEB011.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702459 | Injection Date: | 02/06/17 |
| Lab Sample ID: | 1702459-ICV2 | Injection Time: | 14:13 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Diesel (FFP) | A | 500000 | 482090 | 33.81912 | 32.60784 | | -3.6 | 15 |
| TPH - Hydraulic Oil / Motor Oil | A | 1000000 | 1071100 | 24.59064 | 26.33932 | | 7.1 | 15 |
| TPH - Motor Oil | A | 1000000 | 1071100 | 24.59064 | 26.33932 | | 7.1 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 09FEB010.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702462 | Injection Date: | 02/09/17 |
| Lab Sample ID: | 1702462-CCV2 | Injection Time: | 15:04 |

| | (1) CAL | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Diesel (FFP) | A | 500000 | 473980 | 33.81912 | 32.05918 | | -5.2 | 15 |
| TPH - Hydraulic Oil / Motor Oil | A | 1000000 | 951700 | 24.59064 | 23.40296 | | -4.8 | 15 |
| TPH - Motor Oil | A | 1000000 | 951700 | 24.59064 | 23.40296 | | -4.8 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 09FEB024.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702462 | Injection Date: | 02/09/17 |
| Lab Sample ID: | 1702462-CCV4 | Injection Time: | 20:51 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Diesel (FFP) | A | 500000 | 496430 | 33.81912 | 33.5778 | | -0.7 | 15 |
| TPH - Hydraulic Oil / Motor Oil | A | 1000000 | 972000 | 24.59064 | 23.90217 | | -2.8 | 15 |
| TPH - Motor Oil | A | 1000000 | 972000 | 24.59064 | 23.90217 | | -2.8 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 09FEB034.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702462 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702462-CCV6 | Injection Time: | 00:39 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Diesel (FFP) | A | 500000 | 504170 | 33.81912 | 34.10108 | | 0.8 | 15 |
| TPH - Hydraulic Oil / Motor Oil | A | 1000000 | 953340 | 24.59064 | 23.4433 | | -4.7 | 15 |
| TPH - Motor Oil | A | 1000000 | 953340 | 24.59064 | 23.44331 | | -4.7 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 10FEB001.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702487 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702487-CCV1 | Injection Time: | 08:57 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Diesel (FFP) | A | 500000 | 485100 | 33.81912 | 32.8113 | | -3.0 | 15 |
| TPH - Hydraulic Oil / Motor Oil | A | 1000000 | 932710 | 24.59064 | 22.93599 | | -6.7 | 15 |
| TPH - Motor Oil | A | 1000000 | 932710 | 24.59064 | 22.93599 | | -6.7 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-2 | Calibration: | 1702019 |
| Lab File ID: | 10FEB010.D | Calibration Date: | 02/02/17 21:49 |
| Sequence: | 1702487 | Injection Date: | 02/10/17 |
| Lab Sample ID: | 1702487-CCV2 | Injection Time: | 14:18 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| TPH - Diesel (FFP) | A | 500000 | 493720 | 33.81912 | 33.39438 | | -1.3 | 15 |
| TPH - Hydraulic Oil / Motor Oil | A | 1000000 | 957000 | 24.59064 | 23.5333 | | -4.3 | 15 |
| TPH - Motor Oil | A | 1000000 | 957000 | 24.59064 | 23.5333 | | -4.3 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702459
Instrument: GC-2
Matrix: Water
Calibration: 1702019

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Initial Cal Blank (1702459-ICB1 )** | | | Lab File ID: 02FEB033.D | | Analyzed: 02/03/17 00:30 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |
| **Cal Standard (1702459-CALC )** | | | Lab File ID: 06FEB005.D | | Analyzed: 02/06/17 10:33 | | | |
| Tetracosane (Surrogate) | 40000 | 106 | | 9.55 | 9.541667 | 0.0083 | +/-1.0 | |
| **Cal Standard (1702459-CALB )** | | | Lab File ID: 06FEB006.D | | Analyzed: 02/06/17 11:18 | | | |
| Tetracosane (Surrogate) | 30000 | 109 | | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702459-CALA )** | | | Lab File ID: 06FEB007.D | | Analyzed: 02/06/17 12:12 | | | |
| Tetracosane (Surrogate) | 20000 | 104 | | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702459-CAL9 )** | | | Lab File ID: 06FEB008.D | | Analyzed: 02/06/17 12:49 | | | |
| Tetracosane (Surrogate) | 10000 | 108 | | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702459-CAL8 )** | | | Lab File ID: 06FEB009.D | | Analyzed: 02/06/17 13:13 | | | |
| Tetracosane (Surrogate) | 5000.0 | 112 | | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702459-CAL7 )** | | | Lab File ID: 06FEB010.D | | Analyzed: 02/06/17 13:36 | | | |
| Tetracosane (Surrogate) | 2000.0 | 101 | | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Initial Cal Check (1702459-ICV2 )** | | | Lab File ID: 06FEB011.D | | Analyzed: 02/06/17 14:13 | | | |
| Tetracosane (Surrogate) | 20000 | 99.4 | 85 - 115 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Initial Cal Blank (1702459-ICB2 )** | | | Lab File ID: 06FEB012.D | | Analyzed: 02/06/17 14:36 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702462
Instrument: GC-2
Matrix: Water
Calibration: 1702019

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702462-CCV2 )** | | | Lab File ID: 09FEB010.D | | Analyzed: 02/09/17 15:04 | | | |
| Tetracosane (Surrogate) | 20000 | 98.3 | 85 - 115 | 9.55 | 9.541667 | 0.0083 | +/-1.0 | |
| **Calibration Blank (1702462-CCB2 )** | | | Lab File ID: 09FEB012.D | | Analyzed: 02/09/17 16:18 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |
| **LCS (B[B0409-BS1 )** | | | Lab File ID: 09FEB013.D | | Analyzed: 02/09/17 16:42 | | | |
| Tetracosane (Surrogate) | 20.000 | 71.8 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Blank (B[B0409-BLK1 )** | | | Lab File ID: 09FEB014.D | | Analyzed: 02/09/17 17:05 | | | |
| Tetracosane (Surrogate) | 20.000 | 57.7 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Matrix Spike (B[B0409-MS1 )** | | | Lab File ID: 09FEB015.D | | Analyzed: 02/09/17 17:28 | | | |
| Tetracosane (Surrogate) | 20.000 | 78.9 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Matrix Spike Dup (B[B0409-MSD1 )** | | | Lab File ID: 09FEB016.D | | Analyzed: 02/09/17 17:51 | | | |
| Tetracosane (Surrogate) | 20.000 | 92.7 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **M034A-R_170131 (1702734-07 )** | | | Lab File ID: 09FEB022.D | | Analyzed: 02/09/17 20:06 | | | |
| Tetracosane (Surrogate) | 20.000 | 93.1 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Check (1702462-CCV4 )** | | | Lab File ID: 09FEB024.D | | Analyzed: 02/09/17 20:51 | | | |
| Tetracosane (Surrogate) | 20000 | 103 | 85 - 115 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Blank (1702462-CCB3 )** | | | Lab File ID: 09FEB026.D | | Analyzed: 02/09/17 21:36 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |
| **EB03_170131 (1702734-01 )** | | | Lab File ID: 09FEB027.D | | Analyzed: 02/09/17 21:59 | | | |
| Tetracosane (Surrogate) | 20.000 | 90.5 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Check (1702462-CCV6 )** | | | Lab File ID: 09FEB034.D | | Analyzed: 02/10/17 00:39 | | | |
| Tetracosane (Surrogate) | 20000 | 105 | 85 - 115 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Blank (1702462-CCB4 )** | | | Lab File ID: 09FEB036.D | | Analyzed: 02/10/17 01:25 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8015B/FFP

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702487 | Instrument: | GC-2 |
| Matrix: | Water | Calibration: | 1702019 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1702487-CCV1 )** | | | Lab File ID: 10FEB001.D | | Analyzed: 02/10/17 08:57 | | | |
| Tetracosane (Surrogate) | 20000 | 101 | 85 - 115 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Blank (1702487-CCB1 )** | | | Lab File ID: 10FEB002.D | | Analyzed: 02/10/17 09:21 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 10FEB003.D | | Analyzed: 02/10/17 10:19 | | | |
| Tetracosane (Surrogate) | 20.000 | 63.1 | 37 - 134 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Check (1702487-CCV2 )** | | | Lab File ID: 10FEB010.D | | Analyzed: 02/10/17 14:18 | | | |
| Tetracosane (Surrogate) | 20000 | 103 | 85 - 115 | 9.54 | 9.541667 | -0.0017 | +/-1.0 | |
| **Calibration Blank (1702487-CCB2 )** | | | Lab File ID: 10FEB012.D | | Analyzed: 02/10/17 16:11 | | | |
| Tetracosane (Surrogate) | | | 37 - 134 | | 9.541667 | Null Found | +/-1.0 | |

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San Diego, CA 92123

Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## EPA-8015B/FFP

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702459
Calibration: 1702019

SDG: 17-02734
Project: Alameda
Instrument: GC-2

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 6L02004 | 8015M FFP KERSENE IC1 | 1702459-CAL1 | 02FEB026.D | 02/02/17 21:49 |
| 6L02016 | 8015M FFP KERSENE IC2 | 1702459-CAL2 | 02FEB027.D | 02/02/17 22:12 |
| 6L02017 | 8015M FFP KERSENE IC3 | 1702459-CAL3 | 02FEB028.D | 02/02/17 22:35 |
| 6L02018 | 8015M FFP KERSENE IC4 | 1702459-CAL4 | 02FEB029.D | 02/02/17 22:58 |
| 6L02019 | 8015M FFP KERSENE IC5 | 1702459-CAL5 | 02FEB030.D | 02/02/17 23:21 |
| 6L02020 | 8015M FFP KERSENE IC6 | 1702459-CAL6 | 02FEB031.D | 02/02/17 23:44 |
| 6L02028 | 8015M Diesel/MOTOR OIL IC6 | 1702459-CALC | 06FEB005.D | 02/06/17 10:33 |
| 6L02027 | 8015M Diesel/MOTOR OIL IC5 | 1702459-CALB | 06FEB006.D | 02/06/17 11:18 |
| 6L02026 | 8015M Diesel/MOTOR OIL IC4 | 1702459-CALA | 06FEB007.D | 02/06/17 12:12 |
| 6L02025 | 8015M Diesel/MOTOR OIL IC3 | 1702459-CAL9 | 06FEB008.D | 02/06/17 12:49 |
| 6L02024 | 8015M Diesel/MOTOR OIL IC2 | 1702459-CAL8 | 06FEB009.D | 02/06/17 13:13 |
| 6L02023 | 8015M Diesel/MOTOR OIL IC1 | 1702459-CAL7 | 06FEB010.D | 02/06/17 13:36 |

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Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8015B/FFP

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Calibration: 1702019
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: GC-2
Calibration Date: 02/02/17 21:49

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| TPH - Kerosene | 40000 | 30.32873 | 200000 | 28.08054 | 400000 | 28.57178 | 500000 | 29.7999 | 800000 | 28.74158 | 1000000 | 28.3319 |
| TPH - Diesel (FFP) | | | | | | | | | | | | |
| TPH - Hydraulic Oil / Motor Oil | | | | | | | | | | | | |
| TPH - Motor Oil | | | | | | | | | | | | |
| Tetracosane (Surrogate) | | | | | | | | | | | | |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702019
Instrument: GC-2
Matrix: Water
Calibration Date: 02/02/17 21:49

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| TPH - Kerosene | | | | | | | | | | | | |
| TPH - Diesel (FFP) | 40000 | 39.00357 | 200000 | 34.8903 | 400000 | 32.104 | 500000 | 32.1653 | 800000 | 32.30655 | 1000000 | 32.44496 |
| TPH - Hydraulic Oil / Motor Oil | 100000 | ~~54.30882~~ | 500000 | 28.39012 | 800000 | 24.69642 | 1000000 | 23.45617 | 1500000 | 23.43379 | 2000000 | 22.9767 |
| TPH - Motor Oil | 100000 | ~~54.30882~~ | 500000 | 28.39012 | 800000 | 24.69642 | 1000000 | 23.45617 | 1500000 | 23.43379 | 2000000 | 22.9767 |
| Tetracosane (Surrogate) | 2000 | 31.776 | 5000 | 35.068 | 10000 | 33.9825 | 20000 | 32.7567 | 30000 | 34.25453 | 40000 | 33.14468 |

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Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702019
Instrument: GC-2
Matrix: Water
Calibration Date: 02/02/17 21:49

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| TPH - Kerosene | 28.97574 | 3.065033 | 7.5 | 0 | | | 20 | |
| TPH - Diesel (FFP) | 33.81912 | 8.138637 | 7.62 | 1.739022E-02 | | | 20 | |
| TPH - Hydraulic Oil / Motor Oil | 24.59064 | 9.019521 | 11.89 | 2.546523E-02 | | | 20 | |
| TPH - Motor Oil | 24.59064 | 9.019521 | 11.89 | 2.546523E-02 | | | 20 | |
| Tetracosane (Surrogate) | 33.49707 | 3.509929 | 9.541667 | 4.025077E-02 | | | 20 | |

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Reported: 3/6/2017 4:18:29PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY

## EPA-8015B/FFP

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/02/17 12:25 | 2.00 | 7.00 | 02/09/17 21:59 | 7.00 | 40.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/02/17 12:25 | 2.00 | 7.00 | 02/10/17 10:19 | 8.00 | 40.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 12:25 | 2.00 | 7.00 | 02/09/17 20:06 | 7.00 | 40.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 12:25 | 2.00 | 7.00 | 02/10/17 11:30 | 8.00 | 40.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:18:29PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# GC Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

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Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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## Case Narrative

**Analyses Requested: 8015-TPH Gas**
**Submission # 17-02734**

Instrument ID: GC-V9
Model: HP 5890 Series II

Column Types
Primary: DB-1 30m x 53mm

Detector: FID

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and extractions took place within holding times.

**Calibration:** Initial calibration criteria were met. Frequency and accuracy criteria for initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

**Blanks:** Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL.
Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample**: Laboratory control sample analysis was performed at the required frequency. All parameter were within QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TVH-E -D, JP, M, O,U (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS TC BOD MBAS CO

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | Date: | Time: |
|---|---|---|
| Sampler's Signature: | 1-31-17 | 1416 |
| Relinquished By/Affiliation: | 1/31/17 | 14:50 |
| Received By: | 1/31/17 | 14:50 |
| Relinquished By/Affiliation: | 1-31-17 | 1830 |
| Received By: | 1/31/17 | 18:30 |
| Relinquished By/Affiliation: | 1/31/17 | 2210 |
| Received By (LAB): | 1/31 | 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,G,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____ | YES ☐ NO ☐ W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Blank Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.4 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.98 Container: Amber Thermometer ID: 207<br>Temperature: (A) 0.1 °C / (C) 0.2 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Grit | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OJT | OJT | | | | | | |
| 8oz / 16oz / ~~32oz~~ ~~AR~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016
A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.12 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
I:\SJWPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20

**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PR UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:19:41PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **GC** |
| **Method:** | **EPA-8015B** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8015B

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** GC-V9

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Gasoline Range Organics (C4 - C12) | 15 | 25 | 50 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B

**EB03_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-01 | | File ID: | 02FEB23.D | |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/02/17 08:00 | | Analyzed: | 02/02/17 18:11 | |
| Solids: | | Preparation: | GC | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | B[B0076 | Sequence: | 1701889 | Calibration: | 1611027 | Instrument: | GC-V9 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | Gasoline Range Organics (C4 - C12) | 1 | 25 | 15 | 25 | 50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene (FID Surrogate) | 40.000 | 36.150 | 90.4 | 70 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B

**M028A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-06 | File ID: | 02FEB24.D |
| Sampled: | 01/31/17 08:34 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/02/17 18:32 |
| Solids: | | Preparation: | GC | Initial/Final: | 5 ml / 5 ml |
| Batch: | B[B0076 | Sequence: | 1701889 | Calibration: | 1611027 |
| Instrument: | GC-V9 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | Gasoline Range Organics (C4 - C12) | 1 | 120 | 15 | 25 | 50 | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene (FID Surrogate) | 40.000 | 37.518 | 93.8 | 70 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8015B

**M034A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-07 | | File ID: | 02FEB63.D | |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 08:00 | | Analyzed: | 02/03/17 08:11 | |
| Solids: | | Preparation: | GC | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | B[B0076 | Sequence: | 1701889 | Calibration: | 1611027 | Instrument: | GC-V9 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| --- | Gasoline Range Organics (C4 - C12) | 20 | 18000 | 300 | 500 | 1000 | D |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene (FID Surrogate) | 40.000 | 42.976 | 107 | 70 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0076
Batch Matrix: Water
Preparation: GC

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | 02FEB23.D | 02/02/17 08:00 | |
| M028A-R_170131 | 1702734-06 | 02FEB24.D | 02/02/17 08:00 | |
| M034A-R_170131 | 1702734-07 | 02FEB63.D | 02/02/17 08:00 | |
| Blank | B[B0076-BLK1 | 02FEB05.D | 02/01/17 14:00 | |
| LCS | B[B0076-BS1 | 02FEB14.D | 02/01/17 14:00 | |
| LCS | B[B0076-BS1 | 02FEB09.D | 02/01/17 14:00 | |
| Matrix Spike | B[B0076-MS1 | 02FEB11.D | 02/01/17 14:00 | |
| Matrix Spike | B[B0076-MS1 | 02FEB07.D | 02/01/17 14:00 | |
| Matrix Spike Dup | B[B0076-MSD1 | 02FEB13.D | 02/01/17 14:00 | |
| Matrix Spike Dup | B[B0076-MSD1 | 02FEB08.D | 02/01/17 14:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8015B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0076-BLK1 | File ID: | 02FEB05.D |
| Prepared: | 02/01/17 14:00 | Preparation: | GC | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 02/02/17 09:50 | Instrument: | GC-V9 | | |
| Batch: | B[B0076 | Sequence: | 1701889 | Calibration: | 1611027 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| --- | Gasoline Range Organics (C4 - C12) | 25 | 15 | 25 | 50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene (FID Surrogate) | 40.000 | 38.421 | 96.1 | 70 - 130 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8015B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0076
Laboratory ID: B[B0076-MS1
Preparation: GC
Initial/Final: 5 ml / 5 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Gasoline Range Organics (C4 - C12) | 1000.0 | 110.91 | 1056.0 | 94.5 | 70 - 130 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics (C4 - C12) | 1000.0 | 1037.5 | 92.7 | 1.77 | 20 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0076
Laboratory ID: B[B0076-BS1
Preparation: GC
Initial/Final: 5 ml / 5 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Gasoline Range Organics (C4 - C12) | 1000.0 | 1020.2 | 102 | 85 - 115 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1620256 | Instrument: | GC-V9 |
| Matrix: | Water | Calibration: | 1611027 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Cal Standard | 1620256-CAL1 | 13NOV03.D | 11/13/16 10:48 |
| Cal Standard | 1620256-CAL2 | 13NOV04.D | 11/13/16 11:08 |
| Cal Standard | 1620256-CAL3 | 13NOV05.D | 11/13/16 11:28 |
| Cal Standard | 1620256-CAL4 | 13NOV06.D | 11/13/16 11:48 |
| Cal Standard | 1620256-CAL5 | 13NOV07.D | 11/13/16 12:09 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1620257 | Instrument: | GC-V9 |
| Matrix: | Water | Calibration: | 1611027 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Cal Standard | 1620257-CAL1 | 13NOV11.D | 11/13/16 13:29 |
| Cal Standard | 1620257-CAL2 | 13NOV14.D | 11/13/16 14:30 |
| Cal Standard | 1620257-CAL3 | 13NOV15.D | 11/13/16 14:50 |
| Cal Standard | 1620257-CAL4 | 13NOV16.D | 11/13/16 15:10 |
| Cal Standard | 1620257-CAL5 | 13NOV17.D | 11/13/16 15:31 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701889
Instrument: GC-V9
Matrix: Water
Calibration: 1611027

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1701889-CCV1 | 02FEB02.D | 02/02/17 08:23 |
| Calibration Check | 1701889-CCV1 | 02FEB03.D | 02/02/17 09:07 |
| Calibration Blank | 1701889-CCB1 | 02FEB04.D | 02/02/17 09:30 |
| Blank | B[B0076-BLK1 | 02FEB05.D | 02/02/17 09:50 |
| Matrix Spike | B[B0076-MS1 | 02FEB11.D | 02/02/17 13:20 |
| Matrix Spike | B[B0076-MS1 | 02FEB07.D | 02/02/17 10:37 |
| Matrix Spike Dup | B[B0076-MSD1 | 02FEB13.D | 02/02/17 14:09 |
| Matrix Spike Dup | B[B0076-MSD1 | 02FEB08.D | 02/02/17 11:11 |
| LCS | B[B0076-BS1 | 02FEB14.D | 02/02/17 14:45 |
| LCS | B[B0076-BS1 | 02FEB09.D | 02/02/17 11:46 |
| Calibration Check | 1701889-CCV2 | 02FEB17.D | 02/02/17 16:09 |
| Calibration Check | 1701889-CCV2 | 02FEB16.D | 02/02/17 15:48 |
| Calibration Blank | 1701889-CCB2 | 02FEB18.D | 02/02/17 16:29 |
| EB03_170131 | 1702734-01 | 02FEB23.D | 02/02/17 18:11 |
| M028A-R_170131 | 1702734-06 | 02FEB24.D | 02/02/17 18:32 |
| Calibration Check | 1701889-CCV3 | 02FEB30.D | 02/02/17 20:35 |
| Calibration Check | 1701889-CCV3 | 02FEB31.D | 02/02/17 20:56 |
| Calibration Blank | 1701889-CCB3 | 02FEB32.D | 02/02/17 21:16 |
| Calibration Check | 1701889-CCV4 | 02FEB45.D | 02/03/17 01:43 |
| Calibration Check | 1701889-CCV4 | 02FEB44.D | 02/03/17 01:23 |
| Calibration Blank | 1701889-CCB4 | 02FEB46.D | 02/03/17 02:04 |
| Calibration Check | 1701889-CCV5 | 02FEB59.D | 02/03/17 06:29 |
| Calibration Check | 1701889-CCV5 | 02FEB58.D | 02/03/17 06:08 |
| Calibration Blank | 1701889-CCB5 | 02FEB60.D | 02/03/17 06:49 |
| M034A-R_170131 | 1702734-07 | 02FEB63.D | 02/03/17 08:11 |
| Calibration Check | 1701889-CCV6 | 02FEB67.D | 02/03/17 09:33 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701889 | Instrument: | GC-V9 |
| Matrix: | Water | Calibration: | 1611027 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1701889-CCV6 | 02FEB68.D | 02/03/17 09:53 |
| Calibration Blank | 1701889-CCB6 | 02FEB69.D | 02/03/17 10:13 |
| Initial Cal Check | 1701889-ICV1 | 13NOV08.D | 11/13/16 12:29 |
| Initial Cal Check | 1701889-ICV1 | 13NOV19.D | 11/13/16 16:11 |
| Initial Cal Blank | 1701889-ICB1 | 13NOV10.D | 11/13/16 13:09 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 02FEB03.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701889-CCV1 | Injection Time: | 09:07 |

| | (1) CAL | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 940.26 | 2965.393 | 2788.257 | | -6.0 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 02FEB17.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701889-CCV2 | Injection Time: | 16:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 1135.9 | 2965.393 | 3368.259 | | 13.6 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 02FEB31.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701889-CCV3 | Injection Time: | 20:56 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 920.79 | 2965.393 | 2730.494 | | -7.9 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 02FEB45.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701889-CCV4 | Injection Time: | 01:43 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 872.43 | 2965.393 | 2587.085 | | -12.8 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 02FEB59.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701889-CCV5 | Injection Time: | 06:29 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 1102.8 | 2965.393 | 3270.11 | | 10.3 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 02FEB68.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701889-CCV6 | Injection Time: | 09:53 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 1015.0 | 2965.393 | 3009.989 | | 1.5 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V9 | Calibration: | 1611027 |
| Lab File ID: | 13NOV19.D | Calibration Date: | 11/13/16 10:00 |
| Sequence: | 1701889 | Injection Date: | 11/13/16 |
| Lab Sample ID: | 1701889-ICV1 | Injection Time: | 16:11 |

| | (1) CAL | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Gasoline Range Organics (C4 - C12) | A | 1000.0 | 1008.4 | 2965.393 | 2990.209 | | 0.8 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1620256 | Instrument: | GC-V9 |
| Matrix: | Water | Calibration: | 1611027 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1620256-CAL1 )** | | | Lab File ID: 13NOV03.D | | Analyzed: 11/13/16 10:48 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 103 | | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Cal Standard (1620256-CAL2 )** | | | Lab File ID: 13NOV04.D | | Analyzed: 11/13/16 11:08 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 105 | | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Cal Standard (1620256-CAL3 )** | | | Lab File ID: 13NOV05.D | | Analyzed: 11/13/16 11:28 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 101 | | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Cal Standard (1620256-CAL4 )** | | | Lab File ID: 13NOV06.D | | Analyzed: 11/13/16 11:48 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 99.0 | | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Cal Standard (1620256-CAL5 )** | | | Lab File ID: 13NOV07.D | | Analyzed: 11/13/16 12:09 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 104 | | 4.24 | 4.24 | 0.0000 | +/-1.0 | |

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Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY
## EPA-8015B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701889
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: GC-V9
Calibration: 1611027

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Initial Cal Check (1701889-ICV1 )** | | | Lab File ID: 13NOV08.D | | Analyzed: 11/13/16 12:29 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 99.7 | 85 - 115 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Initial Cal Blank (1701889-ICB1 )** | | | Lab File ID: 13NOV10.D | | Analyzed: 11/13/16 13:09 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 96.0 | 70 - 130 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Calibration Check (1701889-CCV1 )** | | | Lab File ID: 02FEB02.D | | Analyzed: 02/02/17 08:23 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 101 | 85 - 115 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Calibration Blank (1701889-CCB1 )** | | | Lab File ID: 02FEB04.D | | Analyzed: 02/02/17 09:30 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 101 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Blank (B[B0076-BLK1 )** | | | Lab File ID: 02FEB05.D | | Analyzed: 02/02/17 09:50 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 96.1 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Matrix Spike (B[B0076-MS1 )** | | | Lab File ID: 02FEB07.D | | Analyzed: 02/02/17 10:37 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 112 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Matrix Spike Dup (B[B0076-MSD1 )** | | | Lab File ID: 02FEB08.D | | Analyzed: 02/02/17 11:11 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 118 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **LCS (B[B0076-BS1 )** | | | Lab File ID: 02FEB09.D | | Analyzed: 02/02/17 11:46 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 102 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Calibration Check (1701889-CCV2 )** | | | Lab File ID: 02FEB16.D | | Analyzed: 02/02/17 15:48 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 104 | 85 - 115 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Calibration Blank (1701889-CCB2 )** | | | Lab File ID: 02FEB18.D | | Analyzed: 02/02/17 16:29 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 99.1 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **EB03_170131 (1702734-01 )** | | | Lab File ID: 02FEB23.D | | Analyzed: 02/02/17 18:11 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 90.4 | 70 - 130 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 02FEB24.D | | Analyzed: 02/02/17 18:32 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 93.8 | 70 - 130 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Calibration Check (1701889-CCV3 )** | | | Lab File ID: 02FEB30.D | | Analyzed: 02/02/17 20:35 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 91.2 | 85 - 115 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |

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Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8015B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701889 | Instrument: | GC-V9 |
| Matrix: | Water | Calibration: | 1611027 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Blank (1701889-CCB3 )** | | | Lab File ID: 02FEB32.D | | Analyzed: 02/02/17 21:16 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 93.0 | 70 - 130 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Calibration Check (1701889-CCV4 )** | | | Lab File ID: 02FEB44.D | | Analyzed: 02/03/17 01:23 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 91.7 | 85 - 115 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Calibration Blank (1701889-CCB4 )** | | | Lab File ID: 02FEB46.D | | Analyzed: 02/03/17 02:04 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 86.2 | 70 - 130 | 4.24 | 4.24 | 0.0000 | +/-1.0 | |
| **Calibration Check (1701889-CCV5 )** | | | Lab File ID: 02FEB58.D | | Analyzed: 02/03/17 06:08 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 109 | 85 - 115 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Calibration Blank (1701889-CCB5 )** | | | Lab File ID: 02FEB60.D | | Analyzed: 02/03/17 06:49 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 106 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **M034A-R_170131 (1702734-07 )** | | | Lab File ID: 02FEB63.D | | Analyzed: 02/03/17 08:11 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 107 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Calibration Check (1701889-CCV6 )** | | | Lab File ID: 02FEB67.D | | Analyzed: 02/03/17 09:33 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 105 | 85 - 115 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |
| **Calibration Blank (1701889-CCB6 )** | | | Lab File ID: 02FEB69.D | | Analyzed: 02/03/17 10:13 | | | |
| a,a,a-Trifluorotoluene (FID Surrogate | 40.000 | 107 | 70 - 130 | 4.23 | 4.24 | -0.0100 | +/-1.0 | |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## EPA-8015B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1620256
Calibration: 1611027

SDG: 17-02734
Project: Alameda
Instrument: GC-V9

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 6K16035 | 8015/8020 combo water-GCV9 CAL 1 | 1620256-CAL1 | 13NOV03.D | 11/13/16 10:48 |
| 6K16036 | 8015/8020 combo water-GCV9 CAL 2 | 1620256-CAL2 | 13NOV04.D | 11/13/16 11:08 |
| 6K16037 | 8015/8020 combo water-GCV9 CAL 3 | 1620256-CAL3 | 13NOV05.D | 11/13/16 11:28 |
| 6K16038 | 8015/8020 combo water-GCV9 CAL 4 | 1620256-CAL4 | 13NOV06.D | 11/13/16 11:48 |
| 6K16039 | 8015/8020 combo water-GCV9 CAL 5 | 1620256-CAL5 | 13NOV07.D | 11/13/16 12:09 |

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Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## EPA-8015B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1620257
Calibration: 1611027

SDG: 17-02734
Project: Alameda
Instrument: GC-V9

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 6K16035 | 8015/8020 combo water-GCV9 CAL 1 | 1620257-CAL1 | 13NOV11.D | 11/13/16 13:29 |
| 6K16036 | 8015/8020 combo water-GCV9 CAL 2 | 1620257-CAL2 | 13NOV14.D | 11/13/16 14:30 |
| 6K16037 | 8015/8020 combo water-GCV9 CAL 3 | 1620257-CAL3 | 13NOV15.D | 11/13/16 14:50 |
| 6K16038 | 8015/8020 combo water-GCV9 CAL 4 | 1620257-CAL4 | 13NOV16.D | 11/13/16 15:10 |
| 6K16039 | 8015/8020 combo water-GCV9 CAL 5 | 1620257-CAL5 | 13NOV17.D | 11/13/16 15:31 |

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Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA

## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1611027
Instrument: GC-V9
Matrix: Water
Calibration Date: 11/13/16 10:00

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Gasoline Range Organics (C4 - C1 | 50 | 2516.98 | 500 | 3345.316 | 1000 | 2985.378 | 1500 | 2977.865 | 2000 | 3001.426 | | |
| a,a,a-Trifluorotoluene (FID Surroga | | | | | | | | | | | 40 | 2867.15 |

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Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1611027
Instrument: GC-V9
Matrix: Water
Calibration Date: 11/13/16 10:00

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Gasoline Range Organics (C4 - C1 | | | | | | | | | | | | |
| a,a,a-Trifluorotoluene (FID Surroga | 40 | 2901.35 | 40 | 2790.7 | 40 | 2738.625 | 40 | 2869.125 | | | | |

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Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1611027
Instrument: GC-V9
Matrix: Water
Calibration Date: 11/13/16 10:00

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (C4 - C12) | 2965.393 | 9.93621 | 5.39 | 1.694303E-02 | | | 20 | |
| a,a,a-Trifluorotoluene (FID Surrogate) | 2833.39 | 2.356885 | 4.24 | 9.552089E-03 | | | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-8015B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/02/17 08:00 | 2.00 | 14.00 | 02/02/17 18:11 | 2.00 | 14.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/02/17 08:00 | 2.00 | 14.00 | 02/02/17 18:32 | 2.00 | 14.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 08:11 | 3.00 | 14.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:19:41PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements

## For Data Validation of

## Mercury Analysis
## Metals Analysis (using ppb units)
## Metals Analysis (using ppm units)

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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## Case Narrative

**Analyses Requested: Metals**
**Submission Number: 17-02734**

Method 7470A
Instrument ID: CETAC2
Sample Volume(s): 20ml
Digest Volume(s): 50ml

Method 6010B-PPB
Instrument ID: PE Optima 8300 (PE-OP3)
Sample Volume(s): 50ml
Digest Volume(s): 50ml

Method 6010B-PPM
Instrument ID: PE Optima 8300 (PE-OP3)
Sample Volume(s): 50ml
Digest Volume(s): 50ml

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and preparations took place within holding times.

**Calibration:** An initial calibration criterion was met. Frequency and accuracy criteria for initial calibration verification and continuing calibration verifications were met.

**Blanks**: Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample:** Laboratory control sample analysis was performed at the required frequency. All parameters were within QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met. EPA Method 6010B-PPB batch ID B[B0096-MS2 the matrix spike recoveries for Iron were outside QC limits. Sample concentration for Iron was greater than four times the spike level. EPA Method 6010B-PPM batch ID B[B0096-MS1 the matrix spike recovery for Calcium, Magnesium and the matrix spike duplicate recovery for Sodium, Potassium were outside QC limits. Sample concentration for Calcium, Magnesium, Sodium and Potassium were greater than four times the spike level.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TPH-E -D, JP, M, Oil (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | RUSH 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS OC BOD MBAS CO

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | | |
|---|---|---|
| Sampler's Signature: | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 14:50 |
| Received By: | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Date: 1-31-17 | Time: 1830 |
| Received By: | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,J,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMPLE\Cooler 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____ | YES ☐ NO ☐ W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Blank Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.4 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OGT | OGT | | | | | | |
| 8oz / 16oz / ~~32oz VOA~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.12 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PK UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

| | |
|---|---|
| Reported: | 3/6/2017 4:30:42PM |
| Project: | Alameda |
| Project Number: | 5023146096 |
| Project Manager: | Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **HG** |
| **Method:** | **EPA-7470A** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03 |
| M003E-R_170131 | 1702734-04 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-7470A

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** CETAC2

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Mercury | 0.03 | 0.05 | 0.2 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-7470A

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: 020317 R2 W-013
Sampled: 01/31/17 14:00
Prepared: 02/02/17 10:30
Analyzed: 02/03/17 13:00
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Batch: B[B0129
Sequence: 1701954
Calibration: UNASSIGNED
Instrument: CETAC2

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | 1 | U | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-7470A

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: 020317 R2 W-023
Sampled: 01/31/17 14:15
Prepared: 02/02/17 10:30
Analyzed: 02/03/17 13:21
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Batch: B[B0129
Sequence: 1701954
Calibration: UNASSIGNED
Instrument: CETAC2

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | 1 | U | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-7470A

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: 020317 R2 W-024
Sampled: 01/31/17 08:35
Prepared: 02/02/17 10:30
Analyzed: 02/03/17 13:23
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Batch: B[B0129
Sequence: 1701954
Calibration: UNASSIGNED
Instrument: CETAC2

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | 1 | U | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-7470A

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: 020617 R1 W-017
Sampled: 01/31/17 13:25
Prepared: 02/03/17 12:15
Analyzed: 02/06/17 09:26
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Batch: B[B0340
Sequence: 1702005
Calibration: UNASSIGNED
Instrument: CETAC2

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | 1 | U | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-7470A

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: 020617 R1 W-018
Sampled: 01/31/17 08:34
Prepared: 02/03/17 12:15
Analyzed: 02/06/17 09:28
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Batch: B[B0340
Sequence: 1702005
Calibration: UNASSIGNED
Instrument: CETAC2

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | 1 | U | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-7470A

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: 020317 R2 W-025
Sampled: 01/31/17 10:04
Prepared: 02/02/17 10:30
Analyzed: 02/03/17 13:25
Solids: 0.00
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Batch: B[B0129
Sequence: 1701954
Calibration: UNASSIGNED
Instrument: CETAC2

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.080 | 0.030 | 0.050 | 0.20 | 1 | J | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0129
Batch Matrix: Water
Preparation: EPA 7470A

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | 020317 R2 W-013 | 02/02/17 10:30 | |
| EB04_170131 | 1702734-02 | 020317 R2 W-023 | 02/02/17 10:30 | |
| M002A-R_170131 | 1702734-03 | 020317 R2 W-024 | 02/02/17 10:30 | |
| M034A-R_170131 | 1702734-07 | 020317 R2 W-025 | 02/02/17 10:30 | |
| Blank | B[B0129-BLK1 | 020317 R2 W-011 | 02/02/17 10:30 | |
| LCS | B[B0129-BS1 | 020317 R2 W-012 | 02/02/17 10:30 | |
| EB03_170131 | B[B0129-DUP1 | 020317 R2 W-014 | 02/02/17 10:30 | |
| EB03_170131 | B[B0129-MS1 | 020317 R2 W-015 | 02/02/17 10:30 | |
| EB03_170131 | B[B0129-MSD1 | 020317 R2 W-016 | 02/02/17 10:30 | |
| EB03_170131 | B[B0129-PS1 | 020317 R2 W-017 | 02/02/17 10:30 | [Spk] 20ml->50ml; 25ml->25ml; Spiked 24.9ml |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0340
Batch Matrix: Water
Preparation: EPA 7470A

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M003E-R_170131 | 1702734-04 | 020617 R1 W-017 | 02/03/17 12:15 | |
| M028A-R_170131 | 1702734-06 | 020617 R1 W-018 | 02/03/17 12:15 | |
| Blank | B[B0340-BLK1 | 020617 R1 W-010 | 02/03/17 12:15 | |
| LCS | B[B0340-BS1 | 020617 R1 W-011 | 02/03/17 12:15 | |
| Duplicate | B[B0340-DUP1 | 020617 R1 W-013 | 02/03/17 12:15 | |
| Matrix Spike | B[B0340-MS1 | 020617 R1 W-014 | 02/03/17 12:15 | |
| Matrix Spike Dup | B[B0340-MSD1 | 020617 R1 W-015 | 02/03/17 12:15 | |
| Post Spike | B[B0340-PS1 | 020617 R1 W-016 | 02/03/17 12:15 | [Spk] 20ml->50ml; 25ml->25ml; Spiked 24.9ml |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-7470A

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0129-BLK1 | File ID: | 020317 R2 W-011 |
| Prepared: | 02/02/17 10:30 | Preparation: | EPA 7470A | Initial/Final: | 20 ml / 50 ml |
| Analyzed: | 02/03/17 12:55 | Instrument: | CETAC2 | | |
| Batch: | B[B0129 | Sequence: | 1701954 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | U |

AMEC Environmental & Infrastructure
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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-7470A

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0340-BLK1 | File ID: | 020617 R1 W-010 |
| Prepared: | 02/03/17 12:15 | Preparation: | EPA 7470A | Initial/Final: | 20 ml / 50 ml |
| Analyzed: | 02/06/17 09:11 | Instrument: | CETAC2 | | |
| Batch: | B[B0340 | Sequence: | 1702005 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | 0.050 | 0.030 | 0.050 | 0.20 | U |

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Project Manager: Kelli Miller

**EB03_170131**

# DUPLICATES

## EPA-7470A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0129
Preparation: EPA 7470A
Source Sample Name: EB03_170131

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0129-DUP1
Lab Source ID: 1702734-01
Initial/Final: 20 ml / 50 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (ug/L) | C | DUPLICATE CONCENTRATION (ug/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Mercury | 20 | ND | | ND | | | | EPA-7470A |

* Values outside of QC limits

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San Diego, CA 92123

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Project: Alameda
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Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-7470A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0340
Preparation: EPA 7470A
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0340-DUP1
Lab Source ID: 1702889-02
Initial/Final: 20 ml / 50 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (ug/L) | C | DUPLICATE CONCENTRATION (ug/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Mercury | 20 | ND | | ND | | | | EPA-7470A |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-7470A

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0129
Laboratory ID: B[B0129-MS1
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Source Sample Number: 1702734-01

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Mercury | 1.0000 | ND | 1.0350 | 104 | 82 - 119 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Mercury | 1.0000 | 1.0450 | 104 | 0.962 | 20 | 82 - 119 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-7470A

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0340
Laboratory ID: B[B0340-MS1
Preparation: EPA 7470A
Initial/Final: 20 ml / 50 ml
Source Sample Number: 1702889-02

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Mercury | 1.0000 | ND | 1.0000 | 100 | 82 - 119 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Mercury | 1.0000 | 1.0425 | 104 | 4.16 | 20 | 82 - 119 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-7470A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Matrix: | Water | | |
| Batch: | B[B0129 | Laboratory ID: | B[B0129-BS1 |
| Preparation: | EPA 7470A | Initial/Final: | 20 ml / 50 ml |

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Mercury | 1.0000 | 1.0150 | 102 | 82 - 119 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-7470A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Matrix: | Water | | |
| Batch: | B[B0340 | Laboratory ID: | B[B0340-BS1 |
| Preparation: | EPA 7470A | Initial/Final: | 20 ml / 50 ml |

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Mercury | 1.0000 | 1.0100 | 101 | 82 - 119 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-7470A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701954 | Instrument: | CETAC2 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701954-ICV1 | 020317 R2 W-009 | 02/03/17 12:51 |
| Initial Cal Blank | 1701954-ICB1 | 020317 R2 W-010 | 02/03/17 12:53 |
| Blank | B[B0129-BLK1 | 020317 R2 W-011 | 02/03/17 12:55 |
| LCS | B[B0129-BS1 | 020317 R2 W-012 | 02/03/17 12:57 |
| EB03_170131 | 1702734-01 | 020317 R2 W-013 | 02/03/17 13:00 |
| EB03_170131 | B[B0129-DUP1 | 020317 R2 W-014 | 02/03/17 13:02 |
| EB03_170131 | B[B0129-MS1 | 020317 R2 W-015 | 02/03/17 13:04 |
| EB03_170131 | B[B0129-MSD1 | 020317 R2 W-016 | 02/03/17 13:06 |
| EB03_170131 | B[B0129-PS1 | 020317 R2 W-017 | 02/03/17 13:08 |
| Calibration Check | 1701954-CCV1 | 020317 R2 W-021 | 02/03/17 13:17 |
| Calibration Blank | 1701954-CCB1 | 020317 R2 W-022 | 02/03/17 13:19 |
| EB04_170131 | 1702734-02 | 020317 R2 W-023 | 02/03/17 13:21 |
| M002A-R_170131 | 1702734-03 | 020317 R2 W-024 | 02/03/17 13:23 |
| M034A-R_170131 | 1702734-07 | 020317 R2 W-025 | 02/03/17 13:25 |
| Calibration Check | 1701954-CCV2 | 020317 R2 W-028 | 02/03/17 13:32 |
| Calibration Blank | 1701954-CCB2 | 020317 R2 W-029 | 02/03/17 13:34 |
| Calibration Check | 1701954-CCV3 | 020317 R2 W-040 | 02/03/17 13:58 |
| Calibration Blank | 1701954-CCB3 | 020317 R2 W-041 | 02/03/17 14:00 |
| Calibration Check | 1701954-CCV4 | 020317 R2 W-048 | 02/03/17 14:15 |
| Calibration Blank | 1701954-CCB4 | 020317 R2 W-049 | 02/03/17 14:17 |

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Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702005
Instrument: CETAC2
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1702005-ICV1 | 020617 R1 W-008 | 02/06/17 09:07 |
| Initial Cal Blank | 1702005-ICB1 | 020617 R1 W-009 | 02/06/17 09:09 |
| Blank | B[B0340-BLK1 | 020617 R1 W-010 | 02/06/17 09:11 |
| LCS | B[B0340-BS1 | 020617 R1 W-011 | 02/06/17 09:13 |
| Duplicate | B[B0340-DUP1 | 020617 R1 W-013 | 02/06/17 09:17 |
| Matrix Spike | B[B0340-MS1 | 020617 R1 W-014 | 02/06/17 09:19 |
| Matrix Spike Dup | B[B0340-MSD1 | 020617 R1 W-015 | 02/06/17 09:22 |
| Post Spike | B[B0340-PS1 | 020617 R1 W-016 | 02/06/17 09:24 |
| M003E-R_170131 | 1702734-04 | 020617 R1 W-017 | 02/06/17 09:26 |
| M028A-R_170131 | 1702734-06 | 020617 R1 W-018 | 02/06/17 09:28 |
| Calibration Check | 1702005-CCV1 | 020617 R1 W-020 | 02/06/17 09:32 |
| Calibration Blank | 1702005-CCB1 | 020617 R1 W-021 | 02/06/17 09:34 |
| Calibration Check | 1702005-CCV2 | 020617 R1 W-028 | 02/06/17 09:49 |
| Calibration Blank | 1702005-CCB2 | 020617 R1 W-029 | 02/06/17 09:52 |
| Calibration Check | 1702005-CCV3 | 020617 R1 W-040 | 02/06/17 10:16 |
| Calibration Blank | 1702005-CCB3 | 020617 R1 W-041 | 02/06/17 10:18 |
| Calibration Check | 1702005-CCV4 | 020617 R1 W-047 | 02/06/17 10:31 |
| Calibration Blank | 1702005-CCB4 | 020617 R1 W-048 | 02/06/17 10:34 |
| Calibration Check | 1702005-CCV5 | 020617 R1 W-050 | 02/06/17 10:49 |
| Calibration Blank | 1702005-CCB5 | 020617 R1 W-051 | 02/06/17 10:51 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: CETAC2
Project: Alameda
Sequence: 1701954
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701954-ICB1 | Mercury | 0.0000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1701954-CCB1 | Mercury | 0.0050000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1701954-CCB2 | Mercury | -0.0010000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1701954-CCB3 | Mercury | -0.0070000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1701954-CCB4 | Mercury | 0.0000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: CETAC2
Project: Alameda
Sequence: 1702005
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1702005-ICB1 | Mercury | 0.0020000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1702005-CCB1 | Mercury | -0.0060000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1702005-CCB2 | Mercury | -0.0040000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1702005-CCB3 | Mercury | -0.0020000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1702005-CCB4 | Mercury | -0.0030000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |
| 1702005-CCB5 | Mercury | -0.0030000 | 0.012 | | 0.080 | ug/L | U | EPA-7470A |

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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-7470A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: CETAC2
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701954

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701954-ICV1 | Mercury | 0.40000 | 0.41000 | 102 | ug/L | EPA-7470A |
| 1701954-CCV1 | Mercury | 0.40000 | 0.41600 | 104 | ug/L | EPA-7470A |
| 1701954-CCV2 | Mercury | 0.40000 | 0.40700 | 102 | ug/L | EPA-7470A |
| 1701954-CCV3 | Mercury | 0.40000 | 0.39100 | 97.8 | ug/L | EPA-7470A |
| 1701954-CCV4 | Mercury | 0.40000 | 0.39400 | 98.5 | ug/L | EPA-7470A |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-7470A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: CETAC2
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1702005

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1702005-ICV1 | Mercury | 0.40000 | 0.39400 | 98.5 | ug/L | EPA-7470A |
| 1702005-CCV1 | Mercury | 0.40000 | 0.41500 | 104 | ug/L | EPA-7470A |
| 1702005-CCV2 | Mercury | 0.40000 | 0.41700 | 104 | ug/L | EPA-7470A |
| 1702005-CCV3 | Mercury | 0.40000 | 0.41100 | 103 | ug/L | EPA-7470A |
| 1702005-CCV4 | Mercury | 0.40000 | 0.41900 | 105 | ug/L | EPA-7470A |
| 1702005-CCV5 | Mercury | 0.40000 | 0.42900 | 107 | ug/L | EPA-7470A |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# POST DIGEST SPIKE SAMPLE RECOVERY

## EPA-7470A

EB03_170131

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0129
Preparation: EPA 7470A

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0129-PS1
Lab Source ID: 1702734-01
Initial/Final: 9.96 ml / 25 ml

Source Sample Name: EB03_170131
% Solids:

| Analyte | Control Limit %R | Spike Sample Result (SSR) (ug/L) | Sample Result (SR) (ug/L) | Spike Added (SA) (ug/L) | %R |
|---|---|---|---|---|---|
| Mercury | 75 - 125 | 0.43100 | 0.0049800 | 0.40000 | 107 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# POST DIGEST SPIKE SAMPLE RECOVERY

## EPA-7470A

Post Spike

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0340
Preparation: EPA 7470A

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0340-PS1
Lab Source ID: 1702889-02
Initial/Final: 9.96 ml / 25 ml

Source Sample Name: Post Spike
% Solids:

| Analyte | Control Limit %R | Spike Sample Result (SSR) (ug/L) | Sample Result (SR) (ug/L) | Spike Added (SA) (ug/L) | %R |
|---|---|---|---|---|---|
| Mercury | 75 - 125 | 0.41600 | -0.0019920 | 0.40000 | 104 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-7470A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/02/17 10:30 | 3.00 | 28.00 | 02/03/17 13:00 | 3.00 | 28.00 | |
| EB04_170131 | 01/31/17 14:15 | 01/31/17 22:10 | 02/02/17 10:30 | 3.00 | 28.00 | 02/03/17 13:21 | 3.00 | 28.00 | |
| M002A-R_170131 | 01/31/17 08:35 | 01/31/17 22:10 | 02/02/17 10:30 | 3.00 | 28.00 | 02/03/17 13:23 | 3.00 | 28.00 | |
| M003E-R_170131 | 01/31/17 13:25 | 01/31/17 22:10 | 02/03/17 12:15 | 6.00 | 28.00 | 02/06/17 09:26 | 6.00 | 28.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/03/17 12:15 | 6.00 | 28.00 | 02/06/17 09:28 | 6.00 | 28.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 10:30 | 3.00 | 28.00 | 02/03/17 13:25 | 3.00 | 28.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **METALS-PPB**
**Method:** **EPA-6010B**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03 |
| M003E-R_170131 | 1702734-04 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-6010B

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** PE-OP3

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Aluminum | 23 | 50 | 50 | ug/L |
| Iron | 30 | 50 | 50 | ug/L |
| Manganese | 4 | 10 | 10 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: PE3_170202-091
Sampled: 01/31/17 14:00
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:06
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 50 | 23 | 50 | 50 | 1 | U | EPA-6010B |
| 7439-96-5 | Manganese | 10 | 4.0 | 10 | 10 | 1 | U | EPA-6010B |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: PE3_170206R-033
Sampled: 01/31/17 14:00
Prepared: 02/01/17 17:24
Analyzed: 02/06/17 11:00
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1702100
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 50 | 30 | 50 | 50 | 1 | U | EPA-6010B |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: PE3_170202-092
Sampled: 01/31/17 14:15
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:08
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 50 | 23 | 50 | 50 | 1 | U | EPA-6010B |
| 7439-96-5 | Manganese | 10 | 4.0 | 10 | 10 | 1 | U | EPA-6010B |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: PE3_170206R-034
Sampled: 01/31/17 14:15
Prepared: 02/01/17 17:24
Analyzed: 02/06/17 11:02
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1702100
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 50 | 30 | 50 | 50 | 1 | U | EPA-6010B |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: PE3_170202-093
Sampled: 01/31/17 08:35
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:10
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 71 | 23 | 50 | 50 | 1 | | EPA-6010B |
| 7439-96-5 | Manganese | 150 | 4.0 | 10 | 10 | 1 | | EPA-6010B |

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# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: PE3_170206R-035
Sampled: 01/31/17 08:35
Prepared: 02/01/17 17:24
Analyzed: 02/06/17 11:03
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1702100
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 310 | 30 | 50 | 50 | 1 | | EPA-6010B |

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# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: PE3_170202-205
Sampled: 01/31/17 13:25
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 15:24
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 190 | 23 | 50 | 50 | 1 | | EPA-6010B |
| 7439-96-5 | Manganese | 80 | 4.0 | 10 | 10 | 1 | | EPA-6010B |

AMEC Environmental & Infrastructure
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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: PE3_170206R-036
Sampled: 01/31/17 13:25
Prepared: 02/01/17 17:24
Analyzed: 02/06/17 11:05
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1702100
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 130 | 30 | 50 | 50 | 1 | | EPA-6010B |

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# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: PE3_170202-206
Sampled: 01/31/17 08:34
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 15:26
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 50 | 23 | 50 | 50 | 1 | U | EPA-6010B |
| 7439-96-5 | Manganese | 1600 | 4.0 | 10 | 10 | 1 | | EPA-6010B |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: PE3_170206R-037
Sampled: 01/31/17 08:34
Prepared: 02/01/17 17:24
Analyzed: 02/06/17 11:07
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1702100
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 16000 | 30 | 50 | 50 | 1 | | EPA-6010B |

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# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: PE3_170202-096
Sampled: 01/31/17 10:04
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:15
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 50 | 23 | 50 | 50 | 1 | U | EPA-6010B |
| 7439-96-5 | Manganese | 550 | 4.0 | 10 | 10 | 1 | | EPA-6010B |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: PE3_170206R-038
Sampled: 01/31/17 10:04
Prepared: 02/01/17 17:24
Analyzed: 02/06/17 11:09
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1702100
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 3500 | 30 | 50 | 50 | 1 | | EPA-6010B |

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# PREPARATION BATCH SUMMARY

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0096
Batch Matrix: Water
Preparation: 6010B/No Digestion

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | PE3_170202-091 | 02/01/17 17:24 | |
| EB03_170131 | 1702734-01 | PE3_170206R-033 | 02/01/17 17:24 | |
| EB04_170131 | 1702734-02 | PE3_170202-092 | 02/01/17 17:24 | |
| EB04_170131 | 1702734-02 | PE3_170206R-034 | 02/01/17 17:24 | |
| M002A-R_170131 | 1702734-03 | PE3_170206R-035 | 02/01/17 17:24 | |
| M002A-R_170131 | 1702734-03 | PE3_170202-093 | 02/01/17 17:24 | |
| M003E-R_170131 | 1702734-04 | PE3_170206R-036 | 02/01/17 17:24 | |
| M003E-R_170131 | 1702734-04 | PE3_170202-205 | 02/01/17 17:24 | |
| M028A-R_170131 | 1702734-06 | PE3_170202-206 | 02/01/17 17:24 | |
| M028A-R_170131 | 1702734-06 | PE3_170206R-037 | 02/01/17 17:24 | |
| M034A-R_170131 | 1702734-07 | PE3_170206R-038 | 02/01/17 17:24 | |
| M034A-R_170131 | 1702734-07 | PE3_170202-096 | 02/01/17 17:24 | |
| Blank | B[B0096-BLK1 | PE3_170202-075 | 02/01/17 17:24 | |
| Blank | B[B0096-BLK2 | PE3_170206R-016 | 02/01/17 17:24 | |
| LCS | B[B0096-BS1 | PE3_170202-076 | 02/01/17 17:24 | |
| LCS | B[B0096-BS2 | PE3_170206R-017 | 02/01/17 17:24 | |
| Duplicate | B[B0096-DUP1 | PE3_170202-135 | 02/01/17 17:24 | |
| Duplicate | B[B0096-DUP2 | PE3_170206R-019 | 02/01/17 17:24 | |
| Matrix Spike | B[B0096-MS1 | PE3_170202-137 | 02/01/17 17:24 | |
| Matrix Spike | B[B0096-MS2 | PE3_170206R-021 | 02/01/17 17:24 | |
| Matrix Spike Dup | B[B0096-MSD1 | PE3_170202-138 | 02/01/17 17:24 | |
| Matrix Spike Dup | B[B0096-MSD2 | PE3_170206R-022 | 02/01/17 17:24 | |

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Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-6010B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | SDG: | 17-02734 | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | Project: | Alameda | |
| Matrix: | Water | Laboratory ID: | B[B0096-BLK1 | File ID: | PE3_170202-075 |
| Prepared: | 02/01/17 17:24 | Preparation: | 6010B/No Digestion | Initial/Final: | 10 ml / 10 ml |
| Analyzed: | 02/02/17 11:38 | Instrument: | PE-OP3 | | |
| Batch: | B[B0096 | Sequence: | 1701991 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 50 | 23 | 50 | 50 | U |
| 7439-96-5 | Manganese | 10 | 4.0 | 10 | 10 | U |

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Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-6010B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0096-BLK2 | File ID: | PE3_170206R-016 |
| Prepared: | 02/01/17 17:24 | Preparation: | 6010B/No Digestion | Initial/Final: | 10 ml / 10 ml |
| Analyzed: | 02/06/17 10:30 | Instrument: | PE-OP3 | | |
| Batch: | B[B0096 | Sequence: | 1702100 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7439-89-6 | Iron | 50 | 30 | 50 | 50 | U |

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Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0096
Preparation: 6010B/No Digestion
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0096-DUP1
Lab Source ID: 1702613-07
Initial/Final: 10 ml / 10 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (ug/L) | C | DUPLICATE CONCENTRATION (ug/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 20 | ND | | ND | | | | EPA-6010B |
| Manganese | 20 | 5497.4 | | 5502.6 | | 0.0949 | | EPA-6010B |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
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**Duplicate**

# DUPLICATES

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0096
Preparation: 6010B/No Digestion
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0096-DUP2
Lab Source ID: 1702613-07
Initial/Final: 10 ml / 10 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (ug/L) | C | DUPLICATE CONCENTRATION (ug/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Iron | 20 | 20847 | | 20289 | | 2.71 | | EPA-6010B |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-6010B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0096
Laboratory ID: B[B0096-MS1
Preparation: 6010B/No Digestion
Initial/Final: 9.8 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Aluminum | 2040.8 | ND | 2042.4 | 100 | 86 - 115 |
| Manganese | 1020.4 | 5497.4 | 6450.9 | 93.4 | 90 - 114 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Aluminum | 2040.8 | 2062.7 | 101 | 0.990 | 20 | 86 - 115 |
| Manganese | 1020.4 | 6503.6 | 98.6 | 0.814 | 20 | 90 - 114 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-6010B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0096
Laboratory ID: B[B0096-MS2
Preparation: 6010B/No Digestion
Initial/Final: 9.8 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Iron | 2040.8 | 20847 | 22026 | 57.8 * | 87 - 115 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Iron | 2040.8 | 22359 | 74.1 * | 1.50 | 20 | 87 - 115 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0096
Laboratory ID: B[B0096-BS1
Preparation: 6010B/No Digestion
Initial/Final: 10 ml / 10 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Aluminum | 1000.0 | 1048.6 | 105 | 86 - 115 |
| Manganese | 500.00 | 525.98 | 105 | 90 - 114 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0096
Laboratory ID: B[B0096-BS2
Preparation: 6010B/No Digestion
Initial/Final: 10 ml / 10 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Iron | 1000.0 | 1086.7 | 109 | 87 - 115 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701991
Instrument: PE-OP3
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701991-ICV1 | PE3_170202-010 | 02/02/17 09:02 |
| Initial Cal Blank | 1701991-ICB1 | PE3_170202-011 | 02/02/17 09:04 |
| MRL Check | 1701991-CRL1 | PE3_170202-012 | 02/02/17 09:09 |
| Interference Check A | 1701991-IFA1 | PE3_170202-014 | 02/02/17 09:19 |
| Interference Check B | 1701991-IFB1 | PE3_170202-015 | 02/02/17 09:25 |
| Calibration Check | 1701991-CCV1 | PE3_170202-018 | 02/02/17 09:33 |
| Calibration Blank | 1701991-CCB1 | PE3_170202-019 | 02/02/17 09:35 |
| Calibration Check | 1701991-CCV2 | PE3_170202-072 | 02/02/17 11:32 |
| Calibration Blank | 1701991-CCB2 | PE3_170202-074 | 02/02/17 11:36 |
| Blank | B[B0096-BLK1 | PE3_170202-075 | 02/02/17 11:38 |
| LCS | B[B0096-BS1 | PE3_170202-076 | 02/02/17 11:39 |
| Calibration Check | 1701991-CCV3 | PE3_170202-083 | 02/02/17 11:51 |
| Calibration Blank | 1701991-CCB3 | PE3_170202-085 | 02/02/17 11:55 |
| EB03_170131 | 1702734-01 | PE3_170202-091 | 02/02/17 12:06 |
| EB04_170131 | 1702734-02 | PE3_170202-092 | 02/02/17 12:08 |
| M002A-R_170131 | 1702734-03 | PE3_170202-093 | 02/02/17 12:10 |
| Calibration Check | 1701991-CCV4 | PE3_170202-094 | 02/02/17 12:11 |
| Calibration Blank | 1701991-CCB4 | PE3_170202-095 | 02/02/17 12:13 |
| M034A-R_170131 | 1702734-07 | PE3_170202-096 | 02/02/17 12:15 |
| Calibration Check | 1701991-CCV5 | PE3_170202-103 | 02/02/17 12:27 |
| Calibration Blank | 1701991-CCB5 | PE3_170202-105 | 02/02/17 12:30 |
| Calibration Check | 1701991-CCV6 | PE3_170202-132 | 02/02/17 13:18 |
| Calibration Blank | 1701991-CCB6 | PE3_170202-133 | 02/02/17 13:20 |
| Duplicate | B[B0096-DUP1 | PE3_170202-135 | 02/02/17 13:23 |
| Matrix Spike | B[B0096-MS1 | PE3_170202-137 | 02/02/17 13:26 |
| Matrix Spike Dup | B[B0096-MSD1 | PE3_170202-138 | 02/02/17 13:28 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6010B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701991 | Instrument: | PE-OP3 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1701991-CCV7 | PE3_170202-140 | 02/02/17 13:32 |
| Calibration Blank | 1701991-CCB7 | PE3_170202-141 | 02/02/17 13:33 |
| Calibration Check | 1701991-CCV8 | PE3_170202-203 | 02/02/17 15:21 |
| Calibration Blank | 1701991-CCB8 | PE3_170202-204 | 02/02/17 15:22 |
| M003E-R_170131 | 1702734-04 | PE3_170202-205 | 02/02/17 15:24 |
| M028A-R_170131 | 1702734-06 | PE3_170202-206 | 02/02/17 15:26 |
| Calibration Check | 1701991-CCV9 | PE3_170202-207 | 02/02/17 15:28 |
| Calibration Blank | 1701991-CCB9 | PE3_170202-208 | 02/02/17 15:31 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702100
Instrument: PE-OP3
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1702100-ICV1 | PE3_170206R-003 | 02/06/17 09:21 |
| Initial Cal Blank | 1702100-ICB1 | PE3_170206R-004 | 02/06/17 09:24 |
| MRL Check | 1702100-CRL1 | PE3_170206R-005 | 02/06/17 09:28 |
| Interference Check A | 1702100-IFA1 | PE3_170206R-007 | 02/06/17 09:44 |
| Interference Check B | 1702100-IFB1 | PE3_170206R-008 | 02/06/17 09:50 |
| Calibration Check | 1702100-CCV1 | PE3_170206R-012 | 02/06/17 10:17 |
| Calibration Blank | 1702100-CCB1 | PE3_170206R-013 | 02/06/17 10:18 |
| Calibration Check | 1702100-CCV2 | PE3_170206R-014 | 02/06/17 10:26 |
| Calibration Blank | 1702100-CCB2 | PE3_170206R-015 | 02/06/17 10:27 |
| Blank | B[B0096-BLK2 | PE3_170206R-016 | 02/06/17 10:30 |
| LCS | B[B0096-BS2 | PE3_170206R-017 | 02/06/17 10:32 |
| Duplicate | B[B0096-DUP2 | PE3_170206R-019 | 02/06/17 10:36 |
| Matrix Spike | B[B0096-MS2 | PE3_170206R-021 | 02/06/17 10:39 |
| Matrix Spike Dup | B[B0096-MSD2 | PE3_170206R-022 | 02/06/17 10:41 |
| Calibration Check | 1702100-CCV3 | PE3_170206R-024 | 02/06/17 10:44 |
| Calibration Blank | 1702100-CCB3 | PE3_170206R-025 | 02/06/17 10:46 |
| Calibration Check | 1702100-CCV4 | PE3_170206R-031 | 02/06/17 10:56 |
| Calibration Blank | 1702100-CCB4 | PE3_170206R-032 | 02/06/17 10:58 |
| EB03_170131 | 1702734-01 | PE3_170206R-033 | 02/06/17 11:00 |
| EB04_170131 | 1702734-02 | PE3_170206R-034 | 02/06/17 11:02 |
| M002A-R_170131 | 1702734-03 | PE3_170206R-035 | 02/06/17 11:03 |
| M003E-R_170131 | 1702734-04 | PE3_170206R-036 | 02/06/17 11:05 |
| M028A-R_170131 | 1702734-06 | PE3_170206R-037 | 02/06/17 11:07 |
| M034A-R_170131 | 1702734-07 | PE3_170206R-038 | 02/06/17 11:09 |
| Calibration Check | 1702100-CCV5 | PE3_170206R-039 | 02/06/17 11:11 |
| Calibration Blank | 1702100-CCB5 | PE3_170206R-040 | 02/06/17 11:12 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Project: Alameda
Sequence: 1701991
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701991-ICB1 | Aluminum | 0.014212 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00053925 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB1 | Aluminum | 0.016740 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00030351 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB2 | Aluminum | 0.018590 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00021726 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB3 | Aluminum | 0.016345 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00035754 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB4 | Aluminum | 0.018371 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00031126 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB5 | Aluminum | 0.013385 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.0000083418 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB6 | Aluminum | -0.0054669 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00019461 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB7 | Aluminum | 0.00054633 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00038181 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB8 | Aluminum | 0.013098 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00049600 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |
| 1701991-CCB9 | Aluminum | 0.018680 | 0.023 | | 0.050 | mg/L | U | EPA-6010B |
| | Manganese | 0.00019918 | 0.0040 | | 0.010 | mg/L | U | EPA-6010B |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
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Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Project: Alameda
Sequence: 1702100
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1702100-ICB1 | Iron | 0.024077 | 0.030 | | 0.050 | mg/L | U | EPA-6010B |
| 1702100-CCB1 | Iron | 0.024700 | 0.030 | | 0.050 | mg/L | U | EPA-6010B |
| 1702100-CCB2 | Iron | 0.019586 | 0.030 | | 0.050 | mg/L | U | EPA-6010B |
| 1702100-CCB3 | Iron | 0.021070 | 0.030 | | 0.050 | mg/L | U | EPA-6010B |
| 1702100-CCB4 | Iron | 0.021687 | 0.030 | | 0.050 | mg/L | U | EPA-6010B |
| 1702100-CCB5 | Iron | 0.018781 | 0.030 | | 0.050 | mg/L | U | EPA-6010B |

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Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701991

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701991-ICV1 | Aluminum | 50.000 | 49.900 | 99.8 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.4637 | 98.5 | mg/L | EPA-6010B |
| 1701991-CCV1 | Aluminum | 50.000 | 48.024 | 96.0 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.4298 | 97.2 | mg/L | EPA-6010B |
| 1701991-CCV2 | Aluminum | 50.000 | 49.169 | 98.3 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.4834 | 99.3 | mg/L | EPA-6010B |
| 1701991-CCV3 | Aluminum | 50.000 | 47.395 | 94.8 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.4902 | 99.6 | mg/L | EPA-6010B |
| 1701991-CCV4 | Aluminum | 50.000 | 47.334 | 94.7 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.4440 | 97.8 | mg/L | EPA-6010B |
| 1701991-CCV5 | Aluminum | 50.000 | 47.896 | 95.8 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.4916 | 99.7 | mg/L | EPA-6010B |
| 1701991-CCV6 | Aluminum | 50.000 | 47.274 | 94.5 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.3787 | 95.1 | mg/L | EPA-6010B |
| 1701991-CCV7 | Aluminum | 50.000 | 47.296 | 94.6 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.3859 | 95.4 | mg/L | EPA-6010B |
| 1701991-CCV8 | Aluminum | 50.000 | 46.838 | 93.7 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.3548 | 94.2 | mg/L | EPA-6010B |
| 1701991-CCV9 | Aluminum | 50.000 | 46.520 | 93.0 | mg/L | EPA-6010B |
| | Manganese | 2.5000 | 2.3623 | 94.5 | mg/L | EPA-6010B |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1702100

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1702100-ICV1 | Iron | 50.000 | 50.718 | 101 | mg/L | EPA-6010B |
| 1702100-CCV1 | Iron | 50.000 | 49.667 | 99.3 | mg/L | EPA-6010B |
| 1702100-CCV2 | Iron | 50.000 | 51.509 | 103 | mg/L | EPA-6010B |
| 1702100-CCV3 | Iron | 50.000 | 47.236 | 94.5 | mg/L | EPA-6010B |
| 1702100-CCV4 | Iron | 50.000 | 48.730 | 97.5 | mg/L | EPA-6010B |
| 1702100-CCV5 | Iron | 50.000 | 48.048 | 96.1 | mg/L | EPA-6010B |

* Values outside of QC limits

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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ICP INTERFERENCE CHECK SAMPLE

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Sequence: 1701991

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | True | Found | %R | Units |
|---|---|---|---|---|---|
| 1701991-IFA1 | Aluminum | 500.00 | 475.55 | 95.1 | ug/L |
| | Manganese | 0.0000 | 0.0028991 | | mg/L |
| 1701991-IFB1 | Aluminum | 500.00 | 510.71 | 102 | ug/L |
| | Manganese | 0.50000 | 0.52 | 103 | ug/L |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ICP INTERFERENCE CHECK SAMPLE

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Sequence: 1702100

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | True | Found | %R | Units |
|---|---|---|---|---|---|
| 1702100-IFA1 | Iron | 200.00 | 174.80 | 87.4 | ug/L |
| 1702100-IFB1 | Iron | 200.00 | 197.43 | 98.7 | ug/L |

* Values outside of QC limits

**Raw Data From Instrument PE-OP3**

**Raw Data - Calibration Standards**

==========

**Analysis Begun**

**Start Time: 2/2/2017 8:50:14 AM** **Plasma On Time: 2/2/2017 7:24:12 AM**
**Logged In Analyst: Analyst** **Technique: ICP Continuous**
**Spectrometer: Optima 8300 , S/N 078N1121901** **Autosampler: ESI**

**Sample Information File: C:\Users\Public\PerkinElmer\ICP\Data\Sample Information\PE3_170202.sif**
**Batch ID:**
**Results Data Set: PE3_170202**
**Results Library: C:\Users\Public\PerkinElmer\ICP\Data\Results\Results.mdb**

==========

**Sequence No.: 1** **Autosampler Location: 9**
**Sample ID: Calib Blank @STD6H08040** **Date Collected: 2/2/2017 8:50:22 AM**
**Analyst:** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time:**

---

**Nebulizer Parameters: Calib Blank @STD6H08040**

| Analyte | Back Pressure | Flow |
|---|---|---|
| All | 203.0 kPa | 0.65 L/min |

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**Mean Data: Calib Blank @STD6H08040**

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Sc 357.253 | 617456.9 | 21291.55 | 3.45% | 100.0 | % |
| Sc 357.253 (R) | 31559.2 | 282.04 | 0.89% | 100.0 | % |
| Ag 328.068† | -43.9 | 42.32 | 96.47% | [0.00] | mg/L |
| Al 308.215 (R)† | -3.4 | 2.20 | 65.21% | [0.00] | mg/L |
| As 188.979† | -2.9 | 1.26 | 43.20% | [0.00] | mg/L |
| B 249.677† | 176.4 | 12.24 | 6.94% | [0.00] | mg/L |
| Ba 233.527 (R)† | 0.4 | 1.09 | 276.93% | [0.00] | mg/L |
| Be 313.107 † | 3746.1 | 89.94 | 2.40% | [0.00] | mg/L |
| Ca 315.887 (R)† | -93.8 | 4.23 | 4.51% | [0.00] | mg/L |
| Cd 228.802 † | 94.6 | 2.59 | 2.74% | [0.00] | mg/L |
| Co 228.616† | -17.7 | 5.30 | 29.87% | [0.00] | mg/L |
| Cr 267.716† | -3.4 | 7.55 | 224.80% | [0.00] | mg/L |
| Cu 324.752† | 480.7 | 99.94 | 20.79% | [0.00] | mg/L |
| Fe 238.204 (R)† | 68.0 | 1.27 | 1.87% | [0.00] | mg/L |
| K 766.490 (R)† | -87.7 | 37.92 | 43.22% | [0.00] | mg/L |
| Li 670.784 (R)† | -18.3 | 68.54 | 373.71% | [0.00] | mg/L |
| Mg 279.077 (R)† | 5.0 | 1.00 | 19.76% | [0.00] | mg/L |
| Mn 257.610 † | 497.9 | 22.61 | 4.54% | [0.00] | mg/L |
| Mo 202.031† | -13.0 | 1.42 | 10.92% | [0.00] | mg/L |
| Na 589.592 (R)† | 623.5 | 119.97 | 19.24% | [0.00] | mg/L |
| Ni 231.604† | -114.6 | 6.93 | 6.05% | [0.00] | mg/L |
| Pb 220.353† | 23.4 | 5.76 | 24.64% | [0.00] | mg/L |
| Sb 206.836† | -1.1 | 0.98 | 86.68% | [0.00] | mg/L |
| Se 196.026† | 5.3 | 5.84 | 109.60% | [0.00] | mg/L |
| Si 251.611 (R)† | 30.6 | 1.81 | 5.90% | [0.00] | mg/L |
| Sn 189.927† | 4.4 | 1.68 | 38.10% | [0.00] | mg/L |
| Sr 421.552 (R)† | 19.2 | 26.63 | 138.85% | [0.00] | mg/L |
| Ti 334.940 (R)† | 3.5 | 3.09 | 87.80% | [0.00] | mg/L |
| Tl 190.801† | -13.1 | 1.25 | 9.56% | [0.00] | mg/L |
| V 292.402† | -64.0 | 9.83 | 15.34% | [0.00] | mg/L |
| Zn 206.200 † | 0.4 | 1.48 | 399.72% | [0.00] | mg/L |

==========

**Method Loaded**
**Method Name: 200.7_6010_151015** **Method Last Saved: 2/2/2017 8:35:22 AM**
**IEC File: 170124.iec** **MSF File: MSF_141211.msf**
**Method Description: ICP-OES-PE3_200.7/6010_FAST Narrow**
User canceled analysis.

==========

**Analysis Begun**

**Start Time: 2/2/2017 8:54:46 AM** **Plasma On Time: 2/2/2017 7:24:12 AM**
**Logged In Analyst: Analyst** **Technique: ICP Continuous**
**Spectrometer: Optima 8300 , S/N 078N1121901** **Autosampler: ESI**

**Sample Information File: C:\Users\Public\PerkinElmer\ICP\Data\Sample Information\PE3_170202.sif**
**Batch ID:**
**Results Data Set: PE3_170202**
**Results Library: C:\Users\Public\PerkinElmer\ICP\Data\Results\Results.mdb**

==========

**Sequence No.: 2** **Autosampler Location: 10**
**Sample ID: Calib Std 4@6H02008** **Date Collected: 2/2/2017 8:54:47 AM**
**Analyst:** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time: 15** **Auto Dilution Factor: 1**

---

**Nebulizer Parameters: Calib Std 4@6H02008**

| Analyte | Back Pressure | Flow |
|---|---|---|
| All | 203.0 kPa | 0.65 L/min |

---

**Mean Data: Calib Std 4@6H02008**

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Sc 357.253 | 566187.0 | 2581.10 | 0.46% | 91.70 | % |
| Sc 357.253 (R) | 31622.4 | 226.83 | 0.72% | 100.2 | % |
| Ag 328.068† | 47847.9 | 216.96 | 0.45% | [0.5] | mg/L |
| Al 308.215 (R)† | 27183.4 | 222.26 | 0.82% | [100] | mg/L |
| As 188.979† | 650.5 | 2.42 | 0.37% | [1.0] | mg/L |
| B 249.677† | 78873.9 | 736.82 | 0.93% | [5.0] | mg/L |
| Ba 233.527 (R)† | 17762.9 | 60.35 | 0.34% | [5.0] | mg/L |
| Be 313.107 † | 4094093.9 | 8854.71 | 0.22% | [1.0] | mg/L |
| Ca 315.887 (R)† | 245074.6 | 4291.14 | 1.75% | [100] | mg/L |
| Cd 228.802 † | 110656.2 | 417.77 | 0.38% | [5.0] | mg/L |
| Co 228.616† | 17162.2 | 104.28 | 0.61% | [1.0] | mg/L |
| Cr 267.716† | 36576.1 | 122.62 | 0.34% | [1.0] | mg/L |
| Cu 324.752† | 168909.9 | 1520.80 | 0.90% | [1.0] | mg/L |
| Fe 238.204 (R)† | 261234.6 | 4491.69 | 1.72% | [100] | mg/L |
| K 766.490 (R)† | 111672.8 | 1964.57 | 1.76% | [100] | mg/L |
| Li 670.784 (R)† | 416974.0 | 7543.48 | 1.81% | [5.0] | mg/L |
| Mg 279.077 (R)† | 36578.9 | 298.52 | 0.82% | [100] | mg/L |
| Mn 257.610 † | 2012084.5 | 3392.33 | 0.17% | [5.0] | mg/L |
| Mo 202.031† | 81094.7 | 232.63 | 0.29% | [5.0] | mg/L |
| Na 589.592 (R)† | 901391.4 | 15164.67 | 1.68% | [100] | mg/L |
| Ni 231.604† | 25162.0 | 157.73 | 0.63% | [1.0] | mg/L |
| Pb 220.353† | 5625.7 | 35.68 | 0.63% | [1.0] | mg/L |
| Sb 206.836† | 1121.3 | 5.65 | 0.50% | [1.0] | mg/L |
| Se 196.026† | 699.3 | 9.79 | 1.40% | [1.0] | mg/L |
| Si 251.611 (R)† | 4215.9 | 33.97 | 0.81% | [5.0] | mg/L |
| Sn 189.927† | 2356.0 | 19.39 | 0.82% | [1.0] | mg/L |
| Sr 421.552 (R)† | 2089896.5 | 35711.46 | 1.71% | [5.0] | mg/L |
| Ti 334.940 (R)† | 137302.8 | 2166.01 | 1.58% | [5.0] | mg/L |
| Tl 190.801† | 872.0 | 9.55 | 1.10% | [1.0] | mg/L |
| V 292.402† | 108723.1 | 156.52 | 0.14% | [1.0] | mg/L |
| Zn 206.200 † | 88759.1 | 174.01 | 0.20% | [5.0] | mg/L |

---

**Calibration Summary**

| Analyte | Stds. | Equation | Intercept | Slope | Curvature | Corr. Coef. | Reslope |
|---|---|---|---|---|---|---|---|
| Ag 328.068 | 1 | Lin, Calc Int | 0.0 | 95700 | 0.00000 | 1.000000 | |
| Al 308.215 (R) | 1 | Lin, Calc Int | 0.0 | 271.8 | 0.00000 | 1.000000 | |
| As 188.979 | 1 | Lin, Calc Int | 0.0 | 650.5 | 0.00000 | 1.000000 | |
| B 249.677 | 1 | Lin, Calc Int | 0.0 | 15770 | 0.00000 | 1.000000 | |
| Ba 233.527 (R) | 1 | Lin, Calc Int | 0.0 | 3553 | 0.00000 | 1.000000 | |
| Be 313.107 | 1 | Lin, Calc Int | 0.0 | 4094000 | 0.00000 | 1.000000 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ca 315.887 (R) | 1 | Lin, Calc Int | 0.0 | 2451 | 0.00000 | 1.000000 |
| Cd 228.802 | 1 | Lin, Calc Int | 0.0 | 22130 | 0.00000 | 1.000000 |
| Co 228.616 | 1 | Lin, Calc Int | 0.0 | 17160 | 0.00000 | 1.000000 |
| Cr 267.716 | 1 | Lin, Calc Int | 0.0 | 36580 | 0.00000 | 1.000000 |
| Cu 324.752 | 1 | Lin, Calc Int | 0.0 | 168900 | 0.00000 | 1.000000 |
| Fe 238.204 (R) | 1 | Lin, Calc Int | 0.0 | 2612 | 0.00000 | 1.000000 |
| K 766.490 (R) | 1 | Lin, Calc Int | 0.0 | 1117 | 0.00000 | 1.000000 |
| Li 670.784 (R) | 1 | Lin, Calc Int | -0.0 | 83390 | 0.00000 | 1.000000 |
| Mg 279.077 (R) | 1 | Lin, Calc Int | 0.0 | 365.8 | 0.00000 | 1.000000 |
| Mn 257.610 | 1 | Lin, Calc Int | 0.0 | 402400 | 0.00000 | 1.000000 |
| Mo 202.031 | 1 | Lin, Calc Int | -0.0 | 16220 | 0.00000 | 1.000000 |
| Na 589.592 (R) | 1 | Lin, Calc Int | 0.0 | 9014 | 0.00000 | 1.000000 |
| Ni 231.604 | 1 | Lin, Calc Int | 0.0 | 25160 | 0.00000 | 1.000000 |
| Pb 220.353 | 1 | Lin, Calc Int | 0.0 | 5626 | 0.00000 | 1.000000 |
| Sb 206.836 | 1 | Lin, Calc Int | 0.0 | 1121 | 0.00000 | 1.000000 |
| Se 196.026 | 1 | Lin, Calc Int | 0.0 | 699.3 | 0.00000 | 1.000000 |
| Si 251.611 (R) | 1 | Lin, Calc Int | 0.0 | 843.2 | 0.00000 | 1.000000 |
| Sn 189.927 | 1 | Lin, Calc Int | 0.0 | 2356 | 0.00000 | 1.000000 |
| Sr 421.552 (R) | 1 | Lin, Calc Int | 0.0 | 418000 | 0.00000 | 1.000000 |
| Ti 334.940 (R) | 1 | Lin, Calc Int | 0.0 | 27460 | 0.00000 | 1.000000 |
| Tl 190.801 | 1 | Lin, Calc Int | 0.0 | 872.0 | 0.00000 | 1.000000 |
| V 292.402 | 1 | Lin, Calc Int | 0.0 | 108700 | 0.00000 | 1.000000 |
| Zn 206.200 | 1 | Lin, Calc Int | 0.0 | 17750 | 0.00000 | 1.000000 |

==========

**Reprocessing Begun**
**Logged In Analyst: Analyst** **Technique: ICP Continuous**

**Results Data Set (original): PE3_170206**
**Results Library (original): C:\Users\Public\PerkinElmer\ICP\Data\Results\Results.mdb**
**Results Data Set (reprocessed): PE3_170206R**
**Results Library (reprocessed): C:\Users\Public\PerkinElmer\ICP\Data\Results\Results.mdb**

==========

**Sequence No.: 1** **Autosampler Location: 9**
**Sample ID: Calib Blank @STD6H08040** **Date Collected: 2/6/2017 9:10:34 AM**
**Analyst:** **Data Type: Reprocessed on 2/6/2017 10:09:55 AM**
**Logged In Analyst (Original) : Analyst**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time:**

---

**Nebulizer Parameters: Calib Blank @STD6H08040**

| Analyte | Back Pressure | Flow |
|---|---|---|
| All | 203.0 kPa | 0.65 L/min |

---

**Mean Data: Calib Blank @STD6H08040**

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Sc 357.253 | 694486.7 | 15346.10 | 2.21% | 100.0 | % |
| Sc 357.253 (R) | 35815.4 | 506.75 | 1.41% | 100.0 | % |
| Ag 328.068† | 38.6 | 31.57 | 81.90% | [0.00] | mg/L |
| Al 308.215 (R)† | 0.4 | 1.55 | 411.23% | [0.00] | mg/L |
| As 188.979† | -3.4 | 2.17 | 63.62% | [0.00] | mg/L |
| B 249.677† | 264.1 | 5.74 | 2.17% | [0.00] | mg/L |
| Ba 233.527 (R)† | 2.0 | 2.22 | 113.01% | [0.00] | mg/L |
| Be 313.107 † | 4067.0 | 212.56 | 5.23% | [0.00] | mg/L |
| Ca 315.887 (R)† | -75.5 | 5.47 | 7.24% | [0.00] | mg/L |
| Cd 228.802 † | 95.4 | 1.76 | 1.85% | [0.00] | mg/L |
| Co 228.616† | -16.1 | 2.58 | 16.06% | [0.00] | mg/L |
| Cr 267.716† | -10.1 | 3.65 | 36.15% | [0.00] | mg/L |
| Cu 324.752† | 431.6 | 35.51 | 8.23% | [0.00] | mg/L |
| Fe 238.204 (R)† | 84.1 | 1.10 | 1.31% | [0.00] | mg/L |
| K 766.490 (R)† | -93.9 | 24.44 | 26.02% | [0.00] | mg/L |
| Li 670.784 (R)† | -15.5 | 48.62 | 313.65% | [0.00] | mg/L |
| Mg 279.077 (R)† | 8.0 | 2.59 | 32.22% | [0.00] | mg/L |
| Mn 257.610 † | 473.6 | 12.76 | 2.69% | [0.00] | mg/L |
| Mo 202.031† | -0.4 | 6.05 | >999.9% | [0.00] | mg/L |
| Na 589.592 (R)† | 970.4 | 72.44 | 7.46% | [0.00] | mg/L |
| Ni 231.604† | -130.8 | 4.11 | 3.14% | [0.00] | mg/L |
| Pb 220.353† | 19.8 | 8.90 | 44.94% | [0.00] | mg/L |
| Sb 206.836† | 1.6 | 1.58 | 96.91% | [0.00] | mg/L |
| Se 196.026† | 5.6 | 4.79 | 84.91% | [0.00] | mg/L |
| Si 251.611 (R)† | 40.1 | 3.03 | 7.56% | [0.00] | mg/L |
| Sn 189.927† | 4.1 | 0.60 | 14.74% | [0.00] | mg/L |
| Sr 421.552 (R)† | 55.9 | 20.08 | 35.89% | [0.00] | mg/L |
| Ti 334.940 (R)† | 8.8 | 4.79 | 54.33% | [0.00] | mg/L |
| Tl 190.801† | -12.2 | 0.47 | 3.86% | [0.00] | mg/L |
| V 292.402† | -65.9 | 7.74 | 11.74% | [0.00] | mg/L |
| Zn 206.200 † | 33.4 | 2.75 | 8.25% | [0.00] | mg/L |

==========

**Method Loaded**
**Method Name: 200.7_6010_151015** **Method Last Saved: 2/6/2017 10:08:46 AM**
**IEC File: 170206.iec** **MSF File: MSF_141211.msf**
**Method Description: ICP-OES-PE3_200.7/6010_FAST Narrow**

==========

**Sequence No.: 2** **Autosampler Location: 10**
**Sample ID: Calib Std 4@6H02008** **Date Collected: 2/6/2017 9:17:14 AM**
**Analyst:** **Data Type: Reprocessed on 2/6/2017 10:09:56 AM**
**Logged In Analyst (Original) : Analyst**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time:**

---

**Nebulizer Parameters: Calib Std 4@6H02008**

| Analyte | Back Pressure | Flow |
|---|---|---|
| All | 203.0 kPa | 0.65 L/min |

---

**Mean Data: Calib Std 4@6H02008**

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Sc 357.253 | 638577.8 | 847.85 | 0.13% | 91.95 | % |
| Sc 357.253 (R) | 36292.2 | 481.62 | 1.33% | 101.3 | % |
| Ag 328.068† | 49908.1 | 508.13 | 1.02% | [0.5] | mg/L |
| Al 308.215 (R)† | 29879.3 | 91.21 | 0.31% | [100] | mg/L |
| As 188.979† | 700.6 | 4.74 | 0.68% | [1.0] | mg/L |
| B 249.677† | 80976.0 | 1083.16 | 1.34% | [5.0] | mg/L |
| Ba 233.527 (R)† | 16764.9 | 81.44 | 0.49% | [5.0] | mg/L |
| Be 313.107 † | 4100037.1 | 29088.79 | 0.71% | [1.0] | mg/L |
| Ca 315.887 (R)† | 240332.7 | 3649.31 | 1.52% | [100] | mg/L |
| Cd 228.802 † | 112749.2 | 905.47 | 0.80% | [5.0] | mg/L |
| Co 228.616† | 17623.5 | 50.53 | 0.29% | [1.0] | mg/L |
| Cr 267.716† | 37820.6 | 405.85 | 1.07% | [1.0] | mg/L |
| Cu 324.752† | 161019.7 | 3360.26 | 2.09% | [1.0] | mg/L |
| Fe 238.204 (R)† | 271821.2 | 4394.40 | 1.62% | [100] | mg/L |
| K 766.490 (R)† | 116796.3 | 3116.86 | 2.67% | [100] | mg/L |
| Li 670.784 (R)† | 422739.3 | 16327.53 | 3.86% | [5.0] | mg/L |
| Mg 279.077 (R)† | 35166.1 | 67.31 | 0.19% | [100] | mg/L |
| Mn 257.610 † | 1995444.5 | 14175.16 | 0.71% | [5.0] | mg/L |
| Mo 202.031† | 77506.2 | 562.35 | 0.73% | [5.0] | mg/L |
| Na 589.592 (R)† | 860608.5 | 27091.11 | 3.15% | [100] | mg/L |
| Ni 231.604† | 25754.9 | 228.39 | 0.89% | [1.0] | mg/L |
| Pb 220.353† | 5568.5 | 10.20 | 0.18% | [1.0] | mg/L |
| Sb 206.836† | 1197.7 | 8.67 | 0.72% | [1.0] | mg/L |
| Se 196.026† | 709.5 | 10.69 | 1.51% | [1.0] | mg/L |
| Si 251.611 (R)† | 4374.4 | 33.91 | 0.78% | [5.0] | mg/L |
| Sn 189.927† | 2427.6 | 6.91 | 0.28% | [1.0] | mg/L |
| Sr 421.552 (R)† | 1785506.2 | 55378.32 | 3.10% | [5.0] | mg/L |
| Ti 334.940 (R)† | 138661.9 | 3498.35 | 2.52% | [5.0] | mg/L |
| Tl 190.801† | 833.0 | 5.84 | 0.70% | [1.0] | mg/L |
| V 292.402† | 112382.0 | 1016.06 | 0.90% | [1.0] | mg/L |
| Zn 206.200 † | 84424.5 | 1178.50 | 1.40% | [5.0] | mg/L |

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**Calibration Summary**

| Analyte | Stds. | Equation | Intercept | Slope | Curvature | Corr. Coef. | Reslope |
|---|---|---|---|---|---|---|---|
| Ag 328.068 | 1 | Lin, Calc Int | 0.0 | 99820 | 0.00000 | 1.000000 | |
| Al 308.215 (R) | 1 | Lin, Calc Int | 0.0 | 298.8 | 0.00000 | 1.000000 | |
| As 188.979 | 1 | Lin, Calc Int | 0.0 | 700.6 | 0.00000 | 1.000000 | |
| B 249.677 | 1 | Lin, Calc Int | 0.0 | 16200 | 0.00000 | 1.000000 | |
| Ba 233.527 (R) | 1 | Lin, Calc Int | 0.0 | 3353 | 0.00000 | 1.000000 | |
| Be 313.107 | 1 | Lin, Calc Int | 0.0 | 4100000 | 0.00000 | 1.000000 | |
| Ca 315.887 (R) | 1 | Lin, Calc Int | 0.0 | 2403 | 0.00000 | 1.000000 | |
| Cd 228.802 | 1 | Lin, Calc Int | -0.0 | 22550 | 0.00000 | 1.000000 | |
| Co 228.616 | 1 | Lin, Calc Int | 0.0 | 17620 | 0.00000 | 1.000000 | |
| Cr 267.716 | 1 | Lin, Calc Int | 0.0 | 37820 | 0.00000 | 1.000000 | |
| Cu 324.752 | 1 | Lin, Calc Int | 0.0 | 161000 | 0.00000 | 1.000000 | |
| Fe 238.204 (R) | 1 | Lin, Calc Int | 0.0 | 2718 | 0.00000 | 1.000000 | |
| K 766.490 (R) | 1 | Lin, Calc Int | 0.0 | 1168 | 0.00000 | 1.000000 | |
| Li 670.784 (R) | 1 | Lin, Calc Int | -0.0 | 84550 | 0.00000 | 1.000000 | |
| Mg 279.077 (R) | 1 | Lin, Calc Int | 0.0 | 351.7 | 0.00000 | 1.000000 | |
| Mn 257.610 | 1 | Lin, Calc Int | 0.0 | 399100 | 0.00000 | 1.000000 | |
| Mo 202.031 | 1 | Lin, Calc Int | 0.0 | 15500 | 0.00000 | 1.000000 | |
| Na 589.592 (R) | 1 | Lin, Calc Int | 0.0 | 8606 | 0.00000 | 1.000000 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ca 315.887 (R) | 1 | Lin, Calc Int | 0.0 | 2403 | 0.00000 | 1.000000 |
| Cd 228.802 | 1 | Lin, Calc Int | -0.0 | 22550 | 0.00000 | 1.000000 |
| Co 228.616 | 1 | Lin, Calc Int | 0.0 | 17620 | 0.00000 | 1.000000 |
| Cr 267.716 | 1 | Lin, Calc Int | 0.0 | 37820 | 0.00000 | 1.000000 |
| Cu 324.752 | 1 | Lin, Calc Int | 0.0 | 161000 | 0.00000 | 1.000000 |
| Fe 238.204 (R) | 1 | Lin, Calc Int | 0.0 | 2718 | 0.00000 | 1.000000 |
| K 766.490 (R) | 1 | Lin, Calc Int | 0.0 | 1168 | 0.00000 | 1.000000 |
| Li 670.784 (R) | 1 | Lin, Calc Int | -0.0 | 84550 | 0.00000 | 1.000000 |
| Mg 279.077 (R) | 1 | Lin, Calc Int | 0.0 | 351.7 | 0.00000 | 1.000000 |
| Mn 257.610 | 1 | Lin, Calc Int | 0.0 | 399100 | 0.00000 | 1.000000 |
| Mo 202.031 | 1 | Lin, Calc Int | 0.0 | 15500 | 0.00000 | 1.000000 |
| Na 589.592 (R) | 1 | Lin, Calc Int | 0.0 | 8606 | 0.00000 | 1.000000 |
| Ni 231.604 | 1 | Lin, Calc Int | 0.0 | 25750 | 0.00000 | 1.000000 |
| Pb 220.353 | 1 | Lin, Calc Int | 0.0 | 5568 | 0.00000 | 1.000000 |
| Sb 206.836 | 1 | Lin, Calc Int | 0.0 | 1198 | 0.00000 | 1.000000 |
| Se 196.026 | 1 | Lin, Calc Int | 0.0 | 709.5 | 0.00000 | 1.000000 |
| Si 251.611 (R) | 1 | Lin, Calc Int | 0.0 | 874.9 | 0.00000 | 1.000000 |
| Sn 189.927 | 1 | Lin, Calc Int | 0.0 | 2428 | 0.00000 | 1.000000 |
| Sr 421.552 (R) | 1 | Lin, Calc Int | 0.0 | 357100 | 0.00000 | 1.000000 |
| Ti 334.940 (R) | 1 | Lin, Calc Int | 0.0 | 27730 | 0.00000 | 1.000000 |
| Tl 190.801 | 1 | Lin, Calc Int | 0.0 | 833.0 | 0.00000 | 1.000000 |
| V 292.402 | 1 | Lin, Calc Int | 0.0 | 112400 | 0.00000 | 1.000000 |
| Zn 206.200 | 1 | Lin, Calc Int | 0.0 | 16880 | 0.00000 | 1.000000 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **METALS-PPM**
**Method:** **EPA-6010B**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03 |
| M003E-R_170131 | 1702734-04 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-6010B

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** PE-OP3

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Calcium | 0.016 | 0.05 | 0.1 | mg/L |
| Magnesium | 0.019 | 0.05 | 0.05 | mg/L |
| Sodium | 0.051 | 0.125 | 0.5 | mg/L |
| Potassium | 0.1 | 0.25 | 1 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: PE3_170202-091
Sampled: 01/31/17 14:00
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:06
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 0.050 | 0.016 | 0.050 | 0.10 | 1 | U | EPA-6010B |
| 7439-95-4 | Magnesium | 0.050 | 0.019 | 0.050 | 0.050 | 1 | U | EPA-6010B |
| 7440-23-5 | Sodium | 0.18 | 0.051 | 0.12 | 0.50 | 1 | J | EPA-6010B |
| 7440-09-7 | Potassium | 0.25 | 0.10 | 0.25 | 1.0 | 1 | U | EPA-6010B |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: PE3_170202-092
Sampled: 01/31/17 14:15
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:08
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 0.050 | 0.016 | 0.050 | 0.10 | 1 | U | EPA-6010B |
| 7439-95-4 | Magnesium | 0.050 | 0.019 | 0.050 | 0.050 | 1 | U | EPA-6010B |
| 7440-23-5 | Sodium | 0.16 | 0.051 | 0.12 | 0.50 | 1 | J | EPA-6010B |
| 7440-09-7 | Potassium | 0.25 | 0.10 | 0.25 | 1.0 | 1 | U | EPA-6010B |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: PE3_170202-093
Sampled: 01/31/17 08:35
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:10
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 99 | 0.016 | 0.050 | 0.10 | 1 | | EPA-6010B |
| 7439-95-4 | Magnesium | 27 | 0.019 | 0.050 | 0.050 | 1 | | EPA-6010B |
| 7440-23-5 | Sodium | 480 | 0.051 | 0.12 | 0.50 | 1 | | EPA-6010B |
| 7440-09-7 | Potassium | 17 | 0.10 | 0.25 | 1.0 | 1 | | EPA-6010B |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: PE3_170202-205
Sampled: 01/31/17 13:25
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 15:24
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 35 | 0.016 | 0.050 | 0.10 | 1 | | EPA-6010B |
| 7439-95-4 | Magnesium | 27 | 0.019 | 0.050 | 0.050 | 1 | | EPA-6010B |
| 7440-23-5 | Sodium | 300 | 0.051 | 0.12 | 0.50 | 1 | | EPA-6010B |
| 7440-09-7 | Potassium | 34 | 0.10 | 0.25 | 1.0 | 1 | | EPA-6010B |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: PE3_170202-206
Sampled: 01/31/17 08:34
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 15:26
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 140 | 0.016 | 0.050 | 0.10 | 1 | | EPA-6010B |
| 7439-95-4 | Magnesium | 30 | 0.019 | 0.050 | 0.050 | 1 | | EPA-6010B |
| 7440-23-5 | Sodium | 95 | 0.051 | 0.12 | 0.50 | 1 | | EPA-6010B |
| 7440-09-7 | Potassium | 36 | 0.10 | 0.25 | 1.0 | 1 | | EPA-6010B |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:30:42PM
Project: Alameda
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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6010B

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: PE3_170202-096
Sampled: 01/31/17 10:04
Prepared: 02/01/17 17:24
Analyzed: 02/02/17 12:15
Solids: 0.00
Preparation: 6010B/No Digestion
Initial/Final: 50 ml / 50 ml
Batch: B[B0096
Sequence: 1701991
Calibration: UNASSIGNED
Instrument: PE-OP3

| CAS NO. | Analyte | Concentration (mg/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 43 | 0.016 | 0.050 | 0.10 | 1 | | EPA-6010B |
| 7439-95-4 | Magnesium | 6.3 | 0.019 | 0.050 | 0.050 | 1 | | EPA-6010B |
| 7440-23-5 | Sodium | 280 | 0.051 | 0.12 | 0.50 | 1 | | EPA-6010B |
| 7440-09-7 | Potassium | 17 | 0.10 | 0.25 | 1.0 | 1 | | EPA-6010B |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:30:42PM
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Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0096
Batch Matrix: Water
Preparation: 6010B/No Digestion

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | PE3_170202-091 | 02/01/17 17:24 | |
| EB04_170131 | 1702734-02 | PE3_170202-092 | 02/01/17 17:24 | |
| M002A-R_170131 | 1702734-03 | PE3_170202-093 | 02/01/17 17:24 | |
| M003E-R_170131 | 1702734-04 | PE3_170202-205 | 02/01/17 17:24 | |
| M028A-R_170131 | 1702734-06 | PE3_170202-206 | 02/01/17 17:24 | |
| M034A-R_170131 | 1702734-07 | PE3_170202-096 | 02/01/17 17:24 | |
| Blank | B[B0096-BLK1 | PE3_170202-075 | 02/01/17 17:24 | |
| LCS | B[B0096-BS1 | PE3_170202-076 | 02/01/17 17:24 | |
| Duplicate | B[B0096-DUP1 | PE3_170202-135 | 02/01/17 17:24 | |
| Matrix Spike | B[B0096-MS1 | PE3_170202-137 | 02/01/17 17:24 | |
| Matrix Spike Dup | B[B0096-MSD1 | PE3_170202-138 | 02/01/17 17:24 | |

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Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-6010B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0096-BLK1 | File ID: | PE3_170202-075 |
| Prepared: | 02/01/17 17:24 | Preparation: | 6010B/No Digestion | Initial/Final: | 10 ml / 10 ml |
| Analyzed: | 02/02/17 11:38 | Instrument: | PE-OP3 | | |
| Batch: | B[B0096 | Sequence: | 1701991 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 0.050 | 0.016 | 0.050 | 0.10 | U |
| 7439-95-4 | Magnesium | 0.050 | 0.019 | 0.050 | 0.050 | U |
| 7440-23-5 | Sodium | 0.12 | 0.051 | 0.12 | 0.50 | U |
| 7440-09-7 | Potassium | 0.25 | 0.10 | 0.25 | 1.0 | U |

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Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0096
Preparation: 6010B/No Digestion
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0096-DUP1
Lab Source ID: 1702613-07
Initial/Final: 10 ml / 10 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (mg/L) | C | DUPLICATE CONCENTRATION (mg/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Calcium | 20 | 292.06 | | 284.53 | | 2.61 | | EPA-6010B |
| Magnesium | 20 | 221.79 | | 222.20 | | 0.185 | | EPA-6010B |
| Sodium | 20 | 931.06 | | 915.00 | | 1.74 | | EPA-6010B |
| Potassium | 20 | 87.327 | | 88.598 | | 1.44 | | EPA-6010B |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-6010B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0096
Laboratory ID: B[B0096-MS1
Preparation: 6010B/No Digestion
Initial/Final: 9.8 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (mg/L) | SAMPLE CONCENTRATION (mg/L) | MS CONCENTRATION (mg/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Calcium | 20.408 | 292.06 | 308.20 | 79.1 * | 87 - 113 |
| Magnesium | 20.408 | 221.79 | 237.31 | 76.0 * | 85 - 113 |
| Sodium | 20.408 | 931.06 | 949.48 | 90.2 | 87 - 115 |
| Potassium | 20.408 | 87.327 | 109.80 | 110 | 86 - 114 |

| COMPOUND | SPIKE ADDED (mg/L) | MSD CONCENTRATION (mg/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Calcium | 20.408 | 314.74 | 111 | 2.10 | 20 | 87 - 113 |
| Magnesium | 20.408 | 240.01 | 89.3 | 1.13 | 20 | 85 - 113 |
| Sodium | 20.408 | 972.34 | 202 * | 2.38 | 20 | 87 - 115 |
| Potassium | 20.408 | 111.65 | 119 * | 1.68 | 20 | 86 - 114 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0096
Laboratory ID: B[B0096-BS1
Preparation: 6010B/No Digestion
Initial/Final: 10 ml / 10 ml

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Calcium | 10.000 | 10.573 | 106 | 87 - 113 |
| Magnesium | 10.000 | 10.913 | 109 | 85 - 113 |
| Sodium | 10.000 | 10.729 | 107 | 87 - 115 |
| Potassium | 10.000 | 10.388 | 104 | 86 - 114 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701991
Instrument: PE-OP3
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701991-ICV1 | PE3_170202-010 | 02/02/17 09:02 |
| Initial Cal Blank | 1701991-ICB1 | PE3_170202-011 | 02/02/17 09:04 |
| MRL Check | 1701991-CRL1 | PE3_170202-012 | 02/02/17 09:09 |
| Interference Check A | 1701991-IFA1 | PE3_170202-014 | 02/02/17 09:19 |
| Interference Check B | 1701991-IFB1 | PE3_170202-015 | 02/02/17 09:25 |
| Calibration Check | 1701991-CCV1 | PE3_170202-018 | 02/02/17 09:33 |
| Calibration Blank | 1701991-CCB1 | PE3_170202-019 | 02/02/17 09:35 |
| Calibration Check | 1701991-CCV2 | PE3_170202-072 | 02/02/17 11:32 |
| Calibration Blank | 1701991-CCB2 | PE3_170202-074 | 02/02/17 11:36 |
| Blank | B[B0096-BLK1 | PE3_170202-075 | 02/02/17 11:38 |
| LCS | B[B0096-BS1 | PE3_170202-076 | 02/02/17 11:39 |
| Calibration Check | 1701991-CCV3 | PE3_170202-083 | 02/02/17 11:51 |
| Calibration Blank | 1701991-CCB3 | PE3_170202-085 | 02/02/17 11:55 |
| EB03_170131 | 1702734-01 | PE3_170202-091 | 02/02/17 12:06 |
| EB04_170131 | 1702734-02 | PE3_170202-092 | 02/02/17 12:08 |
| M002A-R_170131 | 1702734-03 | PE3_170202-093 | 02/02/17 12:10 |
| Calibration Check | 1701991-CCV4 | PE3_170202-094 | 02/02/17 12:11 |
| Calibration Blank | 1701991-CCB4 | PE3_170202-095 | 02/02/17 12:13 |
| M034A-R_170131 | 1702734-07 | PE3_170202-096 | 02/02/17 12:15 |
| Calibration Check | 1701991-CCV5 | PE3_170202-103 | 02/02/17 12:27 |
| Calibration Blank | 1701991-CCB5 | PE3_170202-105 | 02/02/17 12:30 |
| Calibration Check | 1701991-CCV6 | PE3_170202-132 | 02/02/17 13:18 |
| Calibration Blank | 1701991-CCB6 | PE3_170202-133 | 02/02/17 13:20 |
| Duplicate | B[B0096-DUP1 | PE3_170202-135 | 02/02/17 13:23 |
| Matrix Spike | B[B0096-MS1 | PE3_170202-137 | 02/02/17 13:26 |
| Matrix Spike Dup | B[B0096-MSD1 | PE3_170202-138 | 02/02/17 13:28 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6010B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701991 | Instrument: | PE-OP3 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Check | 1701991-CCV7 | PE3_170202-140 | 02/02/17 13:32 |
| Calibration Blank | 1701991-CCB7 | PE3_170202-141 | 02/02/17 13:33 |
| Calibration Check | 1701991-CCV8 | PE3_170202-203 | 02/02/17 15:21 |
| Calibration Blank | 1701991-CCB8 | PE3_170202-204 | 02/02/17 15:22 |
| M003E-R_170131 | 1702734-04 | PE3_170202-205 | 02/02/17 15:24 |
| M028A-R_170131 | 1702734-06 | PE3_170202-206 | 02/02/17 15:26 |
| Calibration Check | 1701991-CCV9 | PE3_170202-207 | 02/02/17 15:28 |
| Calibration Blank | 1701991-CCB9 | PE3_170202-208 | 02/02/17 15:31 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Project: Alameda
Sequence: 1701991
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701991-ICB1 | Calcium | 0.010037 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.0062631 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.040406 | 0.051 | | 0.50 | mg/L | U | EPA-6010B |
| | Potassium | 0.092641 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |
| 1701991-CCB1 | Calcium | 0.0080862 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.0068408 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.039710 | 0.051 | | 0.50 | mg/L | U | EPA-6010B |
| | Potassium | 0.069218 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |
| 1701991-CCB2 | Calcium | -0.0022061 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.0048013 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.11254 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.016858 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |
| 1701991-CCB3 | Calcium | 0.0092276 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.0076871 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.16877 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.038734 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |
| 1701991-CCB4 | Calcium | 0.011015 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.014895 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.17655 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.11360 | 0.10 | | 1.0 | mg/L | J | EPA-6010B |
| 1701991-CCB5 | Calcium | 0.0045300 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | -0.011244 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.074640 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.024679 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |
| 1701991-CCB6 | Calcium | 0.013141 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.012594 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.12516 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.11904 | 0.10 | | 1.0 | mg/L | J | EPA-6010B |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
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Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6010B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Project: Alameda
Sequence: 1701991
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701991-CCB7 | Calcium | 0.013837 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.015861 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.18762 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.12784 | 0.10 | | 1.0 | mg/L | J | EPA-6010B |
| 1701991-CCB8 | Calcium | 0.0062125 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | 0.0023198 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.090284 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.065671 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |
| 1701991-CCB9 | Calcium | 0.0053424 | 0.016 | | 0.10 | mg/L | U | EPA-6010B |
| | Magnesium | -0.00092689 | 0.019 | | 0.050 | mg/L | U | EPA-6010B |
| | Sodium | 0.078262 | 0.051 | | 0.50 | mg/L | J | EPA-6010B |
| | Potassium | 0.087862 | 0.10 | | 1.0 | mg/L | U | EPA-6010B |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701991

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701991-ICV1 | Calcium | 50.000 | 51.255 | 103 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 50.844 | 102 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 50.430 | 101 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 49.954 | 99.9 | mg/L | EPA-6010B |
| 1701991-CCV1 | Calcium | 50.000 | 50.133 | 100 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 49.857 | 99.7 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 49.603 | 99.2 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 49.150 | 98.3 | mg/L | EPA-6010B |
| 1701991-CCV2 | Calcium | 50.000 | 50.755 | 102 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 51.323 | 103 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 50.444 | 101 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 49.645 | 99.3 | mg/L | EPA-6010B |
| 1701991-CCV3 | Calcium | 50.000 | 50.402 | 101 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 49.692 | 99.4 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 50.252 | 101 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 49.215 | 98.4 | mg/L | EPA-6010B |
| 1701991-CCV4 | Calcium | 50.000 | 50.087 | 100 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 49.415 | 98.8 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 50.366 | 101 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 49.317 | 98.6 | mg/L | EPA-6010B |
| 1701991-CCV5 | Calcium | 50.000 | 49.912 | 99.8 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 49.341 | 98.7 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 49.460 | 98.9 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 48.800 | 97.6 | mg/L | EPA-6010B |
| 1701991-CCV6 | Calcium | 50.000 | 49.341 | 98.7 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 47.873 | 95.7 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 48.860 | 97.7 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 48.600 | 97.2 | mg/L | EPA-6010B |
| 1701991-CCV7 | Calcium | 50.000 | 47.696 | 95.4 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 46.933 | 93.9 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 48.990 | 98.0 | mg/L | EPA-6010B |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701991

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701991-CCV7 | Potassium | 50.000 | 48.900 | 97.8 | mg/L | EPA-6010B |
| 1701991-CCV8 | Calcium | 50.000 | 48.307 | 96.6 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 47.015 | 94.0 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 48.680 | 97.4 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 50.588 | 101 | mg/L | EPA-6010B |
| 1701991-CCV9 | Calcium | 50.000 | 47.902 | 95.8 | mg/L | EPA-6010B |
| | Magnesium | 50.000 | 48.204 | 96.4 | mg/L | EPA-6010B |
| | Sodium | 50.000 | 49.027 | 98.1 | mg/L | EPA-6010B |
| | Potassium | 50.000 | 50.985 | 102 | mg/L | EPA-6010B |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ICP INTERFERENCE CHECK SAMPLE

## EPA-6010B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-OP3
Sequence: 1701991

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | True | Found | %R | Units |
|---|---|---|---|---|---|
| 1701991-IFA1 | Calcium | 500.00 | 489.79 | 98.0 | mg/L |
| | Magnesium | 500.00 | 483.83 | 96.8 | mg/L |
| | Sodium | 0.0000 | 0.052792 | | mg/L |
| | Potassium | 0.0000 | 0.039435 | | mg/L |
| 1701991-IFB1 | Calcium | 500.00 | 533.91 | 107 | mg/L |
| | Magnesium | 500.00 | 537.07 | 107 | mg/L |
| | Sodium | | 0.059874 | | mg/L |
| | Potassium | | 0.080549 | | mg/L |

* Values outside of QC limits

**Raw Data From Instrument PE-OP3**

**Raw Data - Calibration Standards**

==========

**Analysis Begun**

**Start Time: 2/2/2017 8:50:14 AM** **Plasma On Time: 2/2/2017 7:24:12 AM**
**Logged In Analyst: Analyst** **Technique: ICP Continuous**
**Spectrometer: Optima 8300 , S/N 078N1121901** **Autosampler: ESI**

**Sample Information File: C:\Users\Public\PerkinElmer\ICP\Data\Sample Information\PE3_170202.sif**
**Batch ID:**
**Results Data Set: PE3_170202**
**Results Library: C:\Users\Public\PerkinElmer\ICP\Data\Results\Results.mdb**

==========

**Sequence No.: 1** **Autosampler Location: 9**
**Sample ID: Calib Blank @STD6H08040** **Date Collected: 2/2/2017 8:50:22 AM**
**Analyst:** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time:**

---

**Nebulizer Parameters: Calib Blank @STD6H08040**

| Analyte | Back Pressure | Flow |
|---|---|---|
| All | 203.0 kPa | 0.65 L/min |

---

**Mean Data: Calib Blank @STD6H08040**

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Sc 357.253 | 617456.9 | 21291.55 | 3.45% | 100.0 | % |
| Sc 357.253 (R) | 31559.2 | 282.04 | 0.89% | 100.0 | % |
| Ag 328.068† | -43.9 | 42.32 | 96.47% | [0.00] | mg/L |
| Al 308.215 (R)† | -3.4 | 2.20 | 65.21% | [0.00] | mg/L |
| As 188.979† | -2.9 | 1.26 | 43.20% | [0.00] | mg/L |
| B 249.677† | 176.4 | 12.24 | 6.94% | [0.00] | mg/L |
| Ba 233.527 (R)† | 0.4 | 1.09 | 276.93% | [0.00] | mg/L |
| Be 313.107 † | 3746.1 | 89.94 | 2.40% | [0.00] | mg/L |
| Ca 315.887 (R)† | -93.8 | 4.23 | 4.51% | [0.00] | mg/L |
| Cd 228.802 † | 94.6 | 2.59 | 2.74% | [0.00] | mg/L |
| Co 228.616† | -17.7 | 5.30 | 29.87% | [0.00] | mg/L |
| Cr 267.716† | -3.4 | 7.55 | 224.80% | [0.00] | mg/L |
| Cu 324.752† | 480.7 | 99.94 | 20.79% | [0.00] | mg/L |
| Fe 238.204 (R)† | 68.0 | 1.27 | 1.87% | [0.00] | mg/L |
| K 766.490 (R)† | -87.7 | 37.92 | 43.22% | [0.00] | mg/L |
| Li 670.784 (R)† | -18.3 | 68.54 | 373.71% | [0.00] | mg/L |
| Mg 279.077 (R)† | 5.0 | 1.00 | 19.76% | [0.00] | mg/L |
| Mn 257.610 † | 497.9 | 22.61 | 4.54% | [0.00] | mg/L |
| Mo 202.031† | -13.0 | 1.42 | 10.92% | [0.00] | mg/L |
| Na 589.592 (R)† | 623.5 | 119.97 | 19.24% | [0.00] | mg/L |
| Ni 231.604† | -114.6 | 6.93 | 6.05% | [0.00] | mg/L |
| Pb 220.353† | 23.4 | 5.76 | 24.64% | [0.00] | mg/L |
| Sb 206.836† | -1.1 | 0.98 | 86.68% | [0.00] | mg/L |
| Se 196.026† | 5.3 | 5.84 | 109.60% | [0.00] | mg/L |
| Si 251.611 (R)† | 30.6 | 1.81 | 5.90% | [0.00] | mg/L |
| Sn 189.927† | 4.4 | 1.68 | 38.10% | [0.00] | mg/L |
| Sr 421.552 (R)† | 19.2 | 26.63 | 138.85% | [0.00] | mg/L |
| Ti 334.940 (R)† | 3.5 | 3.09 | 87.80% | [0.00] | mg/L |
| Tl 190.801† | -13.1 | 1.25 | 9.56% | [0.00] | mg/L |
| V 292.402† | -64.0 | 9.83 | 15.34% | [0.00] | mg/L |
| Zn 206.200 † | 0.4 | 1.48 | 399.72% | [0.00] | mg/L |

==========

**Method Loaded**
**Method Name: 200.7_6010_151015** **Method Last Saved: 2/2/2017 8:35:22 AM**
**IEC File: 170124.iec** **MSF File: MSF_141211.msf**
**Method Description: ICP-OES-PE3_200.7/6010_FAST Narrow**
User canceled analysis.

==========

**Analysis Begun**

**Start Time: 2/2/2017 8:54:46 AM** **Plasma On Time: 2/2/2017 7:24:12 AM**
**Logged In Analyst: Analyst** **Technique: ICP Continuous**
**Spectrometer: Optima 8300 , S/N 078N1121901** **Autosampler: ESI**

**Sample Information File: C:\Users\Public\PerkinElmer\ICP\Data\Sample Information\PE3_170202.sif**
**Batch ID:**
**Results Data Set: PE3_170202**
**Results Library: C:\Users\Public\PerkinElmer\ICP\Data\Results\Results.mdb**

==========

**Sequence No.: 2** **Autosampler Location: 10**
**Sample ID: Calib Std 4@6H02008** **Date Collected: 2/2/2017 8:54:47 AM**
**Analyst:** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time: 15** **Auto Dilution Factor: 1**

---

**Nebulizer Parameters: Calib Std 4@6H02008**

| Analyte | Back Pressure | Flow |
|---|---|---|
| All | 203.0 kPa | 0.65 L/min |

---

**Mean Data: Calib Std 4@6H02008**

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Sc 357.253 | 566187.0 | 2581.10 | 0.46% | 91.70 | % |
| Sc 357.253 (R) | 31622.4 | 226.83 | 0.72% | 100.2 | % |
| Ag 328.068† | 47847.9 | 216.96 | 0.45% | [0.5] | mg/L |
| Al 308.215 (R)† | 27183.4 | 222.26 | 0.82% | [100] | mg/L |
| As 188.979† | 650.5 | 2.42 | 0.37% | [1.0] | mg/L |
| B 249.677† | 78873.9 | 736.82 | 0.93% | [5.0] | mg/L |
| Ba 233.527 (R)† | 17762.9 | 60.35 | 0.34% | [5.0] | mg/L |
| Be 313.107 † | 4094093.9 | 8854.71 | 0.22% | [1.0] | mg/L |
| Ca 315.887 (R)† | 245074.6 | 4291.14 | 1.75% | [100] | mg/L |
| Cd 228.802 † | 110656.2 | 417.77 | 0.38% | [5.0] | mg/L |
| Co 228.616† | 17162.2 | 104.28 | 0.61% | [1.0] | mg/L |
| Cr 267.716† | 36576.1 | 122.62 | 0.34% | [1.0] | mg/L |
| Cu 324.752† | 168909.9 | 1520.80 | 0.90% | [1.0] | mg/L |
| Fe 238.204 (R)† | 261234.6 | 4491.69 | 1.72% | [100] | mg/L |
| K 766.490 (R)† | 111672.8 | 1964.57 | 1.76% | [100] | mg/L |
| Li 670.784 (R)† | 416974.0 | 7543.48 | 1.81% | [5.0] | mg/L |
| Mg 279.077 (R)† | 36578.9 | 298.52 | 0.82% | [100] | mg/L |
| Mn 257.610 † | 2012084.5 | 3392.33 | 0.17% | [5.0] | mg/L |
| Mo 202.031† | 81094.7 | 232.63 | 0.29% | [5.0] | mg/L |
| Na 589.592 (R)† | 901391.4 | 15164.67 | 1.68% | [100] | mg/L |
| Ni 231.604† | 25162.0 | 157.73 | 0.63% | [1.0] | mg/L |
| Pb 220.353† | 5625.7 | 35.68 | 0.63% | [1.0] | mg/L |
| Sb 206.836† | 1121.3 | 5.65 | 0.50% | [1.0] | mg/L |
| Se 196.026† | 699.3 | 9.79 | 1.40% | [1.0] | mg/L |
| Si 251.611 (R)† | 4215.9 | 33.97 | 0.81% | [5.0] | mg/L |
| Sn 189.927† | 2356.0 | 19.39 | 0.82% | [1.0] | mg/L |
| Sr 421.552 (R)† | 2089896.5 | 35711.46 | 1.71% | [5.0] | mg/L |
| Ti 334.940 (R)† | 137302.8 | 2166.01 | 1.58% | [5.0] | mg/L |
| Tl 190.801† | 872.0 | 9.55 | 1.10% | [1.0] | mg/L |
| V 292.402† | 108723.1 | 156.52 | 0.14% | [1.0] | mg/L |
| Zn 206.200 † | 88759.1 | 174.01 | 0.20% | [5.0] | mg/L |

---

**Calibration Summary**

| Analyte | Stds. | Equation | Intercept | Slope | Curvature | Corr. Coef. | Reslope |
|---|---|---|---|---|---|---|---|
| Ag 328.068 | 1 | Lin, Calc Int | 0.0 | 95700 | 0.00000 | 1.000000 | |
| Al 308.215 (R) | 1 | Lin, Calc Int | 0.0 | 271.8 | 0.00000 | 1.000000 | |
| As 188.979 | 1 | Lin, Calc Int | 0.0 | 650.5 | 0.00000 | 1.000000 | |
| B 249.677 | 1 | Lin, Calc Int | 0.0 | 15770 | 0.00000 | 1.000000 | |
| Ba 233.527 (R) | 1 | Lin, Calc Int | 0.0 | 3553 | 0.00000 | 1.000000 | |
| Be 313.107 | 1 | Lin, Calc Int | 0.0 | 4094000 | 0.00000 | 1.000000 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ca 315.887 (R) | 1 | Lin, Calc Int | 0.0 | 2451 | 0.00000 | 1.000000 |
| Cd 228.802 | 1 | Lin, Calc Int | 0.0 | 22130 | 0.00000 | 1.000000 |
| Co 228.616 | 1 | Lin, Calc Int | 0.0 | 17160 | 0.00000 | 1.000000 |
| Cr 267.716 | 1 | Lin, Calc Int | 0.0 | 36580 | 0.00000 | 1.000000 |
| Cu 324.752 | 1 | Lin, Calc Int | 0.0 | 168900 | 0.00000 | 1.000000 |
| Fe 238.204 (R) | 1 | Lin, Calc Int | 0.0 | 2612 | 0.00000 | 1.000000 |
| K 766.490 (R) | 1 | Lin, Calc Int | 0.0 | 1117 | 0.00000 | 1.000000 |
| Li 670.784 (R) | 1 | Lin, Calc Int | -0.0 | 83390 | 0.00000 | 1.000000 |
| Mg 279.077 (R) | 1 | Lin, Calc Int | 0.0 | 365.8 | 0.00000 | 1.000000 |
| Mn 257.610 | 1 | Lin, Calc Int | 0.0 | 402400 | 0.00000 | 1.000000 |
| Mo 202.031 | 1 | Lin, Calc Int | -0.0 | 16220 | 0.00000 | 1.000000 |
| Na 589.592 (R) | 1 | Lin, Calc Int | 0.0 | 9014 | 0.00000 | 1.000000 |
| Ni 231.604 | 1 | Lin, Calc Int | 0.0 | 25160 | 0.00000 | 1.000000 |
| Pb 220.353 | 1 | Lin, Calc Int | 0.0 | 5626 | 0.00000 | 1.000000 |
| Sb 206.836 | 1 | Lin, Calc Int | 0.0 | 1121 | 0.00000 | 1.000000 |
| Se 196.026 | 1 | Lin, Calc Int | 0.0 | 699.3 | 0.00000 | 1.000000 |
| Si 251.611 (R) | 1 | Lin, Calc Int | 0.0 | 843.2 | 0.00000 | 1.000000 |
| Sn 189.927 | 1 | Lin, Calc Int | 0.0 | 2356 | 0.00000 | 1.000000 |
| Sr 421.552 (R) | 1 | Lin, Calc Int | 0.0 | 418000 | 0.00000 | 1.000000 |
| Ti 334.940 (R) | 1 | Lin, Calc Int | 0.0 | 27460 | 0.00000 | 1.000000 |
| Tl 190.801 | 1 | Lin, Calc Int | 0.0 | 872.0 | 0.00000 | 1.000000 |
| V 292.402 | 1 | Lin, Calc Int | 0.0 | 108700 | 0.00000 | 1.000000 |
| Zn 206.200 | 1 | Lin, Calc Int | 0.0 | 17750 | 0.00000 | 1.000000 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:30:42PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# Metals Analysis (using ppb units)

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

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Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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## Case Narrative

**Analyses Requested: Metals**
**Submission Number: 17-02734**

Method 6020B-PPB
Instrument ID: Perkin Elmer Sciex Elan 9000 (PE-EL3)
Sample Volume(s): 10ml
Digest Volume(s): 10ml

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and preparations took place within holding times.

**Calibration:** An initial calibration criterion was met. Frequency and accuracy criteria for initial calibration verification and continuing calibration verifications were met.

**Blanks**: Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample:** Laboratory control sample analysis was performed at the required frequency. All parameters were within QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TPH-E -D, JP, M, Oil (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | | | |
|---|---|---|---|
| Sampler's Signature: | | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | MR | Date: 1/31/17 | Time: 14:50 |
| Received By: | Gary Bogan | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Gary Bogan | Date: 1-31-17 | Time: 1830 |
| Received By: | | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,J,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | G,M | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | N | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Blank Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.4 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Amber | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Grit | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OST | OST | | | | | | |
| 8oz / 16oz / ~~32oz VOA~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016
A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.12 0920
A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PK UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

**SDG:** **17-02734**
**Class:** **METALS-PPB**
**Method:** **EPA-6020**

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03 |
| M003E-R_170131 | 1702734-04 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-6020

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** PE-EL3

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Antimony | 0.065 | 0.5 | 2 | ug/L |
| Arsenic | 0.38 | 1 | 2 | ug/L |
| Barium | 0.066 | 0.25 | 1 | ug/L |
| Beryllium | 0.05 | 0.25 | 1 | ug/L |
| Cadmium | 0.034 | 0.5 | 1 | ug/L |
| Chromium | 0.15 | 0.75 | 3 | ug/L |
| Cobalt | 0.011 | 0.5 | 1 | ug/L |
| Copper | 0.32 | 1 | 2 | ug/L |
| Lead | 0.021 | 0.5 | 1 | ug/L |
| Molybdenum | 0.033 | 0.5 | 1 | ug/L |
| Nickel | 0.15 | 1 | 2 | ug/L |
| Selenium | 0.25 | 1 | 2 | ug/L |
| Silver | 0.015 | 0.5 | 1 | ug/L |
| Thallium | 0.025 | 0.5 | 1 | ug/L |
| Vanadium | 0.39 | 1.5 | 3 | ug/L |
| Zinc | 2.2 | 2.5 | 5 | ug/L |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: PE-EL3_170201-102
Sampled: 01/31/17 14:00
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 19:25
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701897
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.0 | 1.9 | 5.0 | 10 | 5 | UD | EPA-6020 |
| 7439-98-7 | Molybdenum | 2.5 | 0.16 | 2.5 | 5.0 | 5 | UD | EPA-6020 |
| 7782-49-2 | Selenium | 5.0 | 1.2 | 5.0 | 10 | 5 | UD | EPA-6020 |
| 7440-22-4 | Silver | 2.5 | 0.075 | 2.5 | 5.0 | 5 | UD | EPA-6020 |

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Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: PE-EL3_170201R-038
Sampled: 01/31/17 14:00
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 22:11
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701816
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | 1 | U | EPA-6020 |
| 7440-39-3 | Barium | 0.25 | 0.066 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-47-3 | Chromium | 0.75 | 0.15 | 0.75 | 3.0 | 1 | U | EPA-6020 |
| 7440-48-4 | Cobalt | 0.50 | 0.011 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-50-8 | Copper | 1.0 | 0.32 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-02-0 | Nickel | 1.0 | 0.15 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-62-2 | Vanadium | 1.5 | 0.39 | 1.5 | 3.0 | 1 | U | EPA-6020 |
| 7440-66-6 | Zinc | 2.5 | 2.2 | 2.5 | 5.0 | 1 | U | EPA-6020 |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: PE-EL3_170201-103
Sampled: 01/31/17 14:15
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 19:29
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701897
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 5.0 | 1.9 | 5.0 | 10 | 5 | UD | EPA-6020 |
| 7439-98-7 | Molybdenum | 2.5 | 0.16 | 2.5 | 5.0 | 5 | UD | EPA-6020 |
| 7782-49-2 | Selenium | 5.0 | 1.2 | 5.0 | 10 | 5 | UD | EPA-6020 |
| 7440-22-4 | Silver | 2.5 | 0.075 | 2.5 | 5.0 | 5 | UD | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: PE-EL3_170201R-039
Sampled: 01/31/17 14:15
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 22:15
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701816
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | 1 | U | EPA-6020 |
| 7440-39-3 | Barium | 0.25 | 0.066 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-47-3 | Chromium | 0.75 | 0.15 | 0.75 | 3.0 | 1 | U | EPA-6020 |
| 7440-48-4 | Cobalt | 0.50 | 0.011 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-50-8 | Copper | 1.0 | 0.32 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-02-0 | Nickel | 1.0 | 0.15 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-62-2 | Vanadium | 1.5 | 0.39 | 1.5 | 3.0 | 1 | U | EPA-6020 |
| 7440-66-6 | Zinc | 2.5 | 2.2 | 2.5 | 5.0 | 1 | U | EPA-6020 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: PE-EL3_170201-106
Sampled: 01/31/17 08:35
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 19:39
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701897
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6.6 | 1.9 | 5.0 | 10 | 5 | JD | EPA-6020 |
| 7439-98-7 | Molybdenum | 39 | 0.16 | 2.5 | 5.0 | 5 | D | EPA-6020 |
| 7782-49-2 | Selenium | 11 | 1.2 | 5.0 | 10 | 5 | D | EPA-6020 |
| 7440-22-4 | Silver | 2.5 | 0.075 | 2.5 | 5.0 | 5 | UD | EPA-6020 |

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Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: PE-EL3_170201R-042
Sampled: 01/31/17 08:35
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 22:25
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701816
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | 1 | U | EPA-6020 |
| 7440-39-3 | Barium | 47 | 0.066 | 0.25 | 1.0 | 1 | | EPA-6020 |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-47-3 | Chromium | 0.75 | 0.15 | 0.75 | 3.0 | 1 | J | EPA-6020 |
| 7440-48-4 | Cobalt | 0.62 | 0.011 | 0.50 | 1.0 | 1 | J | EPA-6020 |
| 7440-50-8 | Copper | 2.7 | 0.32 | 1.0 | 2.0 | 1 | | EPA-6020 |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-02-0 | Nickel | 5.8 | 0.15 | 1.0 | 2.0 | 1 | | EPA-6020 |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-62-2 | Vanadium | 1.8 | 0.39 | 1.5 | 3.0 | 1 | J | EPA-6020 |
| 7440-66-6 | Zinc | 2.6 | 2.2 | 2.5 | 5.0 | 1 | J | EPA-6020 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
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# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: PE-EL3_170201-107
Sampled: 01/31/17 13:25
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 19:43
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701897
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 8.2 | 1.9 | 5.0 | 10 | 5 | JD | EPA-6020 |
| 7439-98-7 | Molybdenum | 4.1 | 0.16 | 2.5 | 5.0 | 5 | JD | EPA-6020 |
| 7782-49-2 | Selenium | 5.1 | 1.2 | 5.0 | 10 | 5 | JD | EPA-6020 |
| 7440-22-4 | Silver | 2.5 | 0.075 | 2.5 | 5.0 | 5 | UD | EPA-6020 |

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# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: PE-EL3_170201R-043
Sampled: 01/31/17 13:25
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 22:28
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701816
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | 1 | U | EPA-6020 |
| 7440-39-3 | Barium | 40 | 0.066 | 0.25 | 1.0 | 1 | | EPA-6020 |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-47-3 | Chromium | 1.3 | 0.15 | 0.75 | 3.0 | 1 | J | EPA-6020 |
| 7440-48-4 | Cobalt | 0.50 | 0.011 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-50-8 | Copper | 1.0 | 0.32 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-02-0 | Nickel | 1.8 | 0.15 | 1.0 | 2.0 | 1 | J | EPA-6020 |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-62-2 | Vanadium | 1.5 | 0.39 | 1.5 | 3.0 | 1 | U | EPA-6020 |
| 7440-66-6 | Zinc | 2.5 | 2.2 | 2.5 | 5.0 | 1 | U | EPA-6020 |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: PE-EL3_170201-108
Sampled: 01/31/17 08:34
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 19:46
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701897
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 16 | 1.9 | 5.0 | 10 | 5 | D | EPA-6020 |
| 7439-98-7 | Molybdenum | 2.5 | 0.16 | 2.5 | 5.0 | 5 | UD | EPA-6020 |
| 7782-49-2 | Selenium | 5.0 | 1.2 | 5.0 | 10 | 5 | UD | EPA-6020 |
| 7440-22-4 | Silver | 2.5 | 0.075 | 2.5 | 5.0 | 5 | UD | EPA-6020 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: PE-EL3_170201R-044
Sampled: 01/31/17 08:34
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 22:32
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701816
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | 1 | U | EPA-6020 |
| 7440-39-3 | Barium | 250 | 0.066 | 0.25 | 1.0 | 1 | | EPA-6020 |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-47-3 | Chromium | 4.3 | 0.15 | 0.75 | 3.0 | 1 | | EPA-6020 |
| 7440-48-4 | Cobalt | 0.59 | 0.011 | 0.50 | 1.0 | 1 | J | EPA-6020 |
| 7440-50-8 | Copper | 1.0 | 0.32 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-02-0 | Nickel | 3.2 | 0.15 | 1.0 | 2.0 | 1 | | EPA-6020 |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-62-2 | Vanadium | 1.5 | 0.39 | 1.5 | 3.0 | 1 | U | EPA-6020 |
| 7440-66-6 | Zinc | 2.5 | 2.2 | 2.5 | 5.0 | 1 | U | EPA-6020 |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: PE-EL3_170201-109
Sampled: 01/31/17 10:04
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 19:50
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701897
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 10 | 1.9 | 5.0 | 10 | 5 | D | EPA-6020 |
| 7439-98-7 | Molybdenum | 2.5 | 0.16 | 2.5 | 5.0 | 5 | UD | EPA-6020 |
| 7782-49-2 | Selenium | 5.0 | 1.2 | 5.0 | 10 | 5 | UD | EPA-6020 |
| 7440-22-4 | Silver | 2.5 | 0.075 | 2.5 | 5.0 | 5 | UD | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INORGANIC ANALYSIS DATA SHEET
## EPA-6020

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: PE-EL3_170201R-045
Sampled: 01/31/17 10:04
Prepared: 02/01/17 15:31
Analyzed: 02/01/17 22:35
Solids: 0.00
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml
Batch: B[B0093
Sequence: 1701816
Calibration: UNASSIGNED
Instrument: PE-EL3

| CAS NO. | Analyte | Concentration (ug/L) | DL | LOD | LOQ | Dilution Factor | Q | Method |
|---|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | 1 | U | EPA-6020 |
| 7440-39-3 | Barium | 21 | 0.066 | 0.25 | 1.0 | 1 | | EPA-6020 |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | 1 | U | EPA-6020 |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-47-3 | Chromium | 12 | 0.15 | 0.75 | 3.0 | 1 | | EPA-6020 |
| 7440-48-4 | Cobalt | 0.99 | 0.011 | 0.50 | 1.0 | 1 | J | EPA-6020 |
| 7440-50-8 | Copper | 1.0 | 0.32 | 1.0 | 2.0 | 1 | U | EPA-6020 |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-02-0 | Nickel | 2.7 | 0.15 | 1.0 | 2.0 | 1 | | EPA-6020 |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | 1 | U | EPA-6020 |
| 7440-62-2 | Vanadium | 6.5 | 0.39 | 1.5 | 3.0 | 1 | | EPA-6020 |
| 7440-66-6 | Zinc | 2.5 | 2.2 | 2.5 | 5.0 | 1 | U | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0093
Batch Matrix: Water
Preparation: EPA 3005A

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | PE-EL3_170201-102 | 02/01/17 15:31 | |
| EB03_170131 | 1702734-01 | PE-EL3_170201R-038 | 02/01/17 15:31 | |
| EB04_170131 | 1702734-02 | PE-EL3_170201-103 | 02/01/17 15:31 | |
| EB04_170131 | 1702734-02 | PE-EL3_170201R-039 | 02/01/17 15:31 | |
| M002A-R_170131 | 1702734-03 | PE-EL3_170201R-042 | 02/01/17 15:31 | |
| M002A-R_170131 | 1702734-03 | PE-EL3_170201-106 | 02/01/17 15:31 | |
| M003E-R_170131 | 1702734-04 | PE-EL3_170201R-043 | 02/01/17 15:31 | |
| M003E-R_170131 | 1702734-04 | PE-EL3_170201-107 | 02/01/17 15:31 | |
| M028A-R_170131 | 1702734-06 | PE-EL3_170201-108 | 02/01/17 15:31 | |
| M028A-R_170131 | 1702734-06 | PE-EL3_170201R-044 | 02/01/17 15:31 | |
| M034A-R_170131 | 1702734-07 | PE-EL3_170201R-045 | 02/01/17 15:31 | |
| M034A-R_170131 | 1702734-07 | PE-EL3_170201-109 | 02/01/17 15:31 | |
| Blank | B[B0093-BLK1 | PE-EL3_170201R-024 | 02/01/17 15:31 | |
| Blank | B[B0093-BLK2 | PE-EL3_170201-072 | 02/01/17 15:31 | Added 2/2/2017 by GPD |
| LCS | B[B0093-BS1 | PE-EL3_170201R-018 | 02/01/17 15:31 | |
| LCS | B[B0093-BS2 | PE-EL3_170201-066 | 02/01/17 15:31 | Added 2/2/2017 by GPD |
| Duplicate | B[B0093-DUP1 | PE-EL3_170201R-020 | 02/01/17 15:31 | |
| Duplicate | B[B0093-DUP2 | PE-EL3_170201-089 | 02/01/17 15:31 | Added 2/2/2017 by GPD |
| Matrix Spike | B[B0093-MS1 | PE-EL3_170201R-022 | 02/01/17 15:31 | |
| Matrix Spike | B[B0093-MS2 | PE-EL3_170201-087 | 02/01/17 15:31 | Added 2/2/2017 by GPD |
| Matrix Spike Dup | B[B0093-MSD1 | PE-EL3_170201R-023 | 02/01/17 15:31 | |
| Matrix Spike Dup | B[B0093-MSD2 | PE-EL3_170201-088 | 02/01/17 15:31 | Added 2/2/2017 by GPD |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-6020

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | SDG: | 17-02734 | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | Project: | Alameda | |
| Matrix: | Water | Laboratory ID: | B[B0093-BLK1 | File ID: | PE-EL3_170201R-024 |
| Prepared: | 02/01/17 15:31 | Preparation: | EPA 3005A | Initial/Final: | 10 ml / 10 ml |
| Analyzed: | 02/01/17 17:30 | Instrument: | PE-EL3 | | |
| Batch: | B[B0093 | Sequence: | 1701816 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony | 0.50 | 0.065 | 0.50 | 2.0 | U |
| 7440-39-3 | Barium | 0.25 | 0.066 | 0.25 | 1.0 | U |
| 7440-41-7 | Beryllium | 0.25 | 0.050 | 0.25 | 1.0 | U |
| 7440-43-9 | Cadmium | 0.50 | 0.034 | 0.50 | 1.0 | U |
| 7440-47-3 | Chromium | 0.75 | 0.15 | 0.75 | 3.0 | U |
| 7440-48-4 | Cobalt | 0.50 | 0.011 | 0.50 | 1.0 | U |
| 7440-50-8 | Copper | 1.0 | 0.32 | 1.0 | 2.0 | U |
| 7439-92-1 | Lead | 0.50 | 0.021 | 0.50 | 1.0 | U |
| 7440-02-0 | Nickel | 1.0 | 0.15 | 1.0 | 2.0 | U |
| 7440-28-0 | Thallium | 0.50 | 0.025 | 0.50 | 1.0 | U |
| 7440-62-2 | Vanadium | 1.5 | 0.39 | 1.5 | 3.0 | U |
| 7440-66-6 | Zinc | 2.5 | 2.2 | 2.5 | 5.0 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-6020

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0093-BLK2 | File ID: | PE-EL3_170201-072 |
| Prepared: | 02/01/17 15:31 | Preparation: | EPA 3005A | Initial/Final: | 10 ml / 10 ml |
| Analyzed: | 02/01/17 17:30 | Instrument: | PE-EL3 | | |
| Batch: | B[B0093 | Sequence: | 1701897 | Calibration: | UNASSIGNED |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 1.0 | 0.38 | 1.0 | 2.0 | U |
| 7439-98-7 | Molybdenum | 0.50 | 0.033 | 0.50 | 1.0 | U |
| 7782-49-2 | Selenium | 1.0 | 0.25 | 1.0 | 2.0 | U |
| 7440-22-4 | Silver | 0.50 | 0.015 | 0.50 | 1.0 | U |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0093
Preparation: EPA 3005A
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0093-DUP1
Lab Source ID: 1702613-07
Initial/Final: 10 ml / 10 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (ug/L) | C | DUPLICATE CONCENTRATION (ug/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Antimony | 20 | ND | | ND | | | | EPA-6020 |
| Barium | 20 | 55.416 | | 55.767 | | 0.631 | | EPA-6020 |
| Beryllium | 20 | ND | | ND | | | | EPA-6020 |
| Cadmium | 20 | 0.071000 | | 0.079000 | | 10.7 | | EPA-6020 |
| Chromium | 20 | 18.661 | | 18.519 | | 0.764 | | EPA-6020 |
| Cobalt | 20 | 1.7260 | | 1.6830 | | 2.52 | | EPA-6020 |
| Copper | 20 | 9.4970 | | 10.217 | | 7.30 | | EPA-6020 |
| Lead | 20 | ND | | ND | | | | EPA-6020 |
| Nickel | 20 | 9.1650 | | 8.8260 | | 3.77 | | EPA-6020 |
| Thallium | 20 | ND | | ND | | | | EPA-6020 |
| Vanadium | 20 | 4.8970 | | 4.9730 | | 1.54 | | EPA-6020 |
| Zinc | 20 | 9.0550 | | 9.3020 | | 2.69 | | EPA-6020 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

**Duplicate**

# DUPLICATES

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Batch: B[B0093
Preparation: EPA 3005A
Source Sample Name: Duplicate

SDG: 17-02734
Project: Alameda
Laboratory ID: B[B0093-DUP2
Lab Source ID: 1702613-07
Initial/Final: 10 ml / 10 ml
% Solids:

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION (ug/L) | C | DUPLICATE CONCENTRATION (ug/L) | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 20 | 10.205 | | 10.840 | | 6.03 | | EPA-6020 |
| Molybdenum | 20 | 1.5700 | | 1.7300 | | 9.70 | | EPA-6020 |
| Selenium | 20 | 9.9350 | | 10.175 | | 2.39 | | EPA-6020 |
| Silver | 20 | ND | | 0.31000 | | | | EPA-6020 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-6020

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0093
Laboratory ID: B[B0093-MS1
Preparation: EPA 3005A
Initial/Final: 9.8 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Antimony | 40.816 | ND | 44.259 | 108 | 85 - 117 |
| Barium | 40.816 | 55.416 | 99.248 | 107 | 86 - 114 |
| Beryllium | 40.816 | ND | 39.766 | 97.4 | 83 - 121 |
| Cadmium | 40.816 | 0.071000 | 39.341 | 96.2 | 87 - 115 |
| Chromium | 40.816 | 18.661 | 61.901 | 106 | 85 - 116 |
| Cobalt | 40.816 | 1.7260 | 44.259 | 104 | 86 - 115 |
| Copper | 102.04 | 9.4970 | 109.67 | 98.2 | 85 - 118 |
| Lead | 102.04 | ND | 110.73 | 109 | 88 - 115 |
| Nickel | 102.04 | 9.1650 | 109.51 | 98.3 | 85 - 117 |
| Thallium | 40.816 | ND | 45.411 | 111 | 82 - 116 |
| Vanadium | 40.816 | 4.8970 | 51.717 | 115 | 86 - 115 |
| Zinc | 102.04 | 9.0550 | 102.66 | 91.7 | 83 - 119 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Antimony | 40.816 | 44.206 | 108 | 0.120 | 20 | 85 - 117 |
| Barium | 40.816 | 98.859 | 106 | 0.392 | 20 | 86 - 114 |
| Beryllium | 40.816 | 39.053 | 95.7 | 1.81 | 20 | 83 - 121 |
| Cadmium | 40.816 | 39.569 | 96.8 | 0.579 | 20 | 87 - 115 |
| Chromium | 40.816 | 59.850 | 101 | 3.37 | 20 | 85 - 116 |
| Cobalt | 40.816 | 44.026 | 104 | 0.529 | 20 | 86 - 115 |
| Copper | 102.04 | 109.15 | 97.7 | 0.472 | 20 | 85 - 118 |
| Lead | 102.04 | 111.01 | 109 | 0.244 | 20 | 88 - 115 |
| Nickel | 102.04 | 109.23 | 98.1 | 0.254 | 20 | 85 - 117 |
| Thallium | 40.816 | 45.317 | 111 | 0.207 | 20 | 82 - 116 |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-6020

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0093
Laboratory ID: B[B0093-MSD1
Preparation: EPA 3005A
Initial/Final: 9.8 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Vanadium | 40.816 | 50.857 | 113 | 1.68 | 20 | 86 - 115 |
| Zinc | 102.04 | 102.09 | 91.2 | 0.554 | 20 | 83 - 119 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-6020

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0093
Laboratory ID: B[B0093-MS2
Preparation: EPA 3005A
Initial/Final: 9.8 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Arsenic | 510.20 | 10.205 | 580.13 | 112 | 84 - 116 |
| Molybdenum | 204.08 | 1.5700 | 216.95 | 106 | 83 - 115 |
| Selenium | 510.20 | 9.9350 | 595.06 | 115 | 80 - 120 |
| Silver | 204.08 | ND | 188.51 | 92.4 | 85 - 116 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Arsenic | 510.20 | 582.44 | 112 | 0.398 | 20 | 84 - 116 |
| Molybdenum | 204.08 | 218.49 | 106 | 0.708 | 20 | 83 - 115 |
| Selenium | 510.20 | 603.41 | 116 | 1.39 | 20 | 80 - 120 |
| Silver | 204.08 | 184.44 | 90.4 | 2.18 | 20 | 85 - 116 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0093
Laboratory ID: B[B0093-BS1
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Antimony | 40.000 | 41.640 | 104 | 85 - 117 |
| Barium | 40.000 | 41.745 | 104 | 86 - 114 |
| Beryllium | 40.000 | 37.499 | 93.7 | 83 - 121 |
| Cadmium | 40.000 | 42.095 | 105 | 87 - 115 |
| Chromium | 40.000 | 40.803 | 102 | 85 - 116 |
| Cobalt | 40.000 | 40.990 | 102 | 86 - 115 |
| Copper | 100.00 | 107.34 | 107 | 85 - 118 |
| Lead | 100.00 | 101.68 | 102 | 88 - 115 |
| Nickel | 100.00 | 104.59 | 105 | 85 - 117 |
| Thallium | 40.000 | 40.284 | 101 | 82 - 116 |
| Vanadium | 40.000 | 40.035 | 100 | 86 - 115 |
| Zinc | 100.00 | 106.01 | 106 | 83 - 119 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0093
Laboratory ID: B[B0093-BS2
Preparation: EPA 3005A
Initial/Final: 10 ml / 10 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Arsenic | 100.00 | 105.85 | 106 | 84 - 116 |
| Molybdenum | 40.000 | 40.261 | 101 | 83 - 115 |
| Selenium | 100.00 | 104.14 | 104 | 80 - 120 |
| Silver | 40.000 | 42.290 | 106 | 85 - 116 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701816
Instrument: PE-EL3
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701816-ICV1 | PE-EL3_170201R-006 | 02/01/17 08:25 |
| Initial Cal Blank | 1701816-ICB1 | PE-EL3_170201R-008 | 02/01/17 08:32 |
| MRL Check | 1701816-CRL3 | PE-EL3_170201R-009 | 02/01/17 09:19 |
| Calibration Check | 1701816-CCV1 | PE-EL3_170201R-010 | 02/01/17 09:26 |
| Calibration Blank | 1701816-CCB1 | PE-EL3_170201R-011 | 02/01/17 09:29 |
| Interference Check A | 1701816-IFA1 | PE-EL3_170201R-012 | 02/01/17 09:34 |
| Interference Check B | 1701816-IFB1 | PE-EL3_170201R-013 | 02/01/17 09:43 |
| Calibration Check | 1701816-CCV2 | PE-EL3_170201R-014 | 02/01/17 10:05 |
| Calibration Blank | 1701816-CCB2 | PE-EL3_170201R-015 | 02/01/17 10:08 |
| Calibration Check | 1701816-CCV6 | PE-EL3_170201R-016 | 02/01/17 16:54 |
| Calibration Blank | 1701816-CCB6 | PE-EL3_170201R-017 | 02/01/17 16:58 |
| LCS | B[B0093-BS1 | PE-EL3_170201R-018 | 02/01/17 17:07 |
| Duplicate | B[B0093-DUP1 | PE-EL3_170201R-020 | 02/01/17 17:13 |
| Serial Dilution | 1701816-SRD1 | PE-EL3_170201R-021 | 02/01/17 17:17 |
| Matrix Spike | B[B0093-MS1 | PE-EL3_170201R-022 | 02/01/17 17:20 |
| Matrix Spike Dup | B[B0093-MSD1 | PE-EL3_170201R-023 | 02/01/17 17:24 |
| Blank | B[B0093-BLK1 | PE-EL3_170201R-024 | 02/01/17 17:30 |
| Calibration Check | 1701816-CCV7 | PE-EL3_170201R-025 | 02/01/17 17:41 |
| Calibration Blank | 1701816-CCB7 | PE-EL3_170201R-026 | 02/01/17 17:44 |
| Calibration Check | 1701816-CCVF | PE-EL3_170201R-027 | 02/01/17 21:33 |
| Calibration Blank | 1701816-CCBF | PE-EL3_170201R-028 | 02/01/17 21:37 |
| Calibration Check | 1701816-CCVG | PE-EL3_170201R-034 | 02/01/17 21:57 |
| Calibration Blank | 1701816-CCBG | PE-EL3_170201R-035 | 02/01/17 22:01 |
| EB03_170131 | 1702734-01 | PE-EL3_170201R-038 | 02/01/17 22:11 |
| EB04_170131 | 1702734-02 | PE-EL3_170201R-039 | 02/01/17 22:15 |
| Calibration Check | 1701816-CCVH | PE-EL3_170201R-040 | 02/01/17 22:18 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6020

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701816 | Instrument: | PE-EL3 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Calibration Blank | 1701816-CCBH | PE-EL3_170201R-041 | 02/01/17 22:22 |
| M002A-R_170131 | 1702734-03 | PE-EL3_170201R-042 | 02/01/17 22:25 |
| M003E-R_170131 | 1702734-04 | PE-EL3_170201R-043 | 02/01/17 22:28 |
| M028A-R_170131 | 1702734-06 | PE-EL3_170201R-044 | 02/01/17 22:32 |
| M034A-R_170131 | 1702734-07 | PE-EL3_170201R-045 | 02/01/17 22:35 |
| Calibration Check | 1701816-CCVI | PE-EL3_170201R-046 | 02/01/17 22:39 |
| Calibration Blank | 1701816-CCBI | PE-EL3_170201R-047 | 02/01/17 22:42 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701897
Instrument: PE-EL3
Matrix: Water
Calibration: UNASSIGNED

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701897-ICV1 | PE-EL3_170201-012 | 02/01/17 08:25 |
| Initial Cal Blank | 1701897-ICB1 | PE-EL3_170201-014 | 02/01/17 08:32 |
| MRL Check | 1701897-CRL3 | PE-EL3_170201-022 | 02/01/17 09:19 |
| Calibration Check | 1701897-CCV1 | PE-EL3_170201-023 | 02/01/17 09:26 |
| Calibration Blank | 1701897-CCB1 | PE-EL3_170201-024 | 02/01/17 09:29 |
| Interference Check A | 1701897-IFA1 | PE-EL3_170201-025 | 02/01/17 09:34 |
| Interference Check B | 1701897-IFB1 | PE-EL3_170201-026 | 02/01/17 09:43 |
| Calibration Check | 1701897-CCV2 | PE-EL3_170201-031 | 02/01/17 10:05 |
| Calibration Blank | 1701897-CCB2 | PE-EL3_170201-032 | 02/01/17 10:08 |
| Calibration Check | 1701897-CCV6 | PE-EL3_170201-063 | 02/01/17 16:54 |
| Calibration Blank | 1701897-CCB6 | PE-EL3_170201-064 | 02/01/17 16:58 |
| LCS | B[B0093-BS2 | PE-EL3_170201-066 | 02/01/17 17:07 |
| Blank | B[B0093-BLK2 | PE-EL3_170201-072 | 02/01/17 17:30 |
| Calibration Check | 1701897-CCV7 | PE-EL3_170201-075 | 02/01/17 17:41 |
| Calibration Blank | 1701897-CCB7 | PE-EL3_170201-076 | 02/01/17 17:44 |
| Calibration Check | 1701897-CCV8 | PE-EL3_170201-082 | 02/01/17 18:08 |
| Calibration Blank | 1701897-CCB8 | PE-EL3_170201-083 | 02/01/17 18:12 |
| Matrix Spike | B[B0093-MS2 | PE-EL3_170201-087 | 02/01/17 18:30 |
| Matrix Spike Dup | B[B0093-MSD2 | PE-EL3_170201-088 | 02/01/17 18:34 |
| Duplicate | B[B0093-DUP2 | PE-EL3_170201-089 | 02/01/17 18:38 |
| Serial Dilution | 1701897-SRD1 | PE-EL3_170201-090 | 02/01/17 18:41 |
| Calibration Check | 1701897-CCV9 | PE-EL3_170201-091 | 02/01/17 18:46 |
| Calibration Blank | 1701897-CCB9 | PE-EL3_170201-092 | 02/01/17 18:49 |
| Calibration Check | 1701897-CCVA | PE-EL3_170201-098 | 02/01/17 19:11 |
| Calibration Blank | 1701897-CCBA | PE-EL3_170201-099 | 02/01/17 19:14 |
| EB03_170131 | 1702734-01 | PE-EL3_170201-102 | 02/01/17 19:25 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-6020

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701897 | Instrument: | PE-EL3 |
| Matrix: | Water | Calibration: | UNASSIGNED |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| EB04_170131 | 1702734-02 | PE-EL3_170201-103 | 02/01/17 19:29 |
| Calibration Check | 1701897-CCVB | PE-EL3_170201-104 | 02/01/17 19:32 |
| Calibration Blank | 1701897-CCBB | PE-EL3_170201-105 | 02/01/17 19:35 |
| M002A-R_170131 | 1702734-03 | PE-EL3_170201-106 | 02/01/17 19:39 |
| M003E-R_170131 | 1702734-04 | PE-EL3_170201-107 | 02/01/17 19:43 |
| M028A-R_170131 | 1702734-06 | PE-EL3_170201-108 | 02/01/17 19:46 |
| M034A-R_170131 | 1702734-07 | PE-EL3_170201-109 | 02/01/17 19:50 |
| Calibration Check | 1701897-CCVC | PE-EL3_170201-110 | 02/01/17 19:54 |
| Calibration Blank | 1701897-CCBC | PE-EL3_170201-111 | 02/01/17 19:58 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Project: Alameda
Sequence: 1701816
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701816-ICB1 | Antimony | -0.013000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | 0.0010000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | 0.0010000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0060000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | 0.0030000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0010000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | -0.0060000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | 0.014000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | 0.011000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | -0.0060000 | 0.025 | | 1.0 | ug/L | U | EPA-6020 |
| | Vanadium | -0.080000 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.029000 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCB1 | Antimony | -0.012000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | 0.0040000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.0050000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0010000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | 0.010000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0010000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.0080000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | 0.014000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | 0.0070000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.031000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.13700 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.073000 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCB2 | Antimony | -0.017000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | -0.0070000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.013000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0030000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Project: Alameda
Sequence: 1701816
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701816-CCB2 | Chromium | -0.012000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0040000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.0070000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | 0.0010000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | 0.0040000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.026000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.13300 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.076000 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCB6 | Antimony | -0.013000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | -0.011000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.0040000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0060000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | -0.012000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0010000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | -0.034000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | -0.0070000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | -0.0020000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.030000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.20200 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.23600 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCB7 | Antimony | -0.021000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | -0.0080000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.0070000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0040000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | 0.025000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | 0.0000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.10400 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | 0.025000 | 0.021 | | 1.0 | ug/L | J | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Project: Alameda
Sequence: 1701816
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701816-CCB7 | Nickel | 0.0070000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.020000 | 0.025 | | 1.0 | ug/L | U | EPA-6020 |
| | Vanadium | -0.12800 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.10900 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCBF | Antimony | -0.014000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | -0.0050000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.0030000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0040000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | -0.065000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | 0.0020000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.014000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | -0.025000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | -0.0060000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.026000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.12400 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.28100 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCBG | Antimony | -0.027000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | 0.017000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | 0.0040000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | -0.0050000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | 0.0040000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0030000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.044000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | -0.040000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | -0.0020000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.082000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.036000 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.26100 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |

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San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Project: Alameda
Sequence: 1701816
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701816-CCBH | Antimony | -0.030000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | -0.0070000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.0040000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0050000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | -0.067000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0020000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.062000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | -0.045000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | -0.0070000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.029000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.025000 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.27900 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |
| 1701816-CCBI | Antimony | -0.026000 | 0.065 | | 2.0 | ug/L | U | EPA-6020 |
| | Barium | -0.0060000 | 0.066 | | 1.0 | ug/L | U | EPA-6020 |
| | Beryllium | -0.0050000 | 0.050 | | 1.0 | ug/L | U | EPA-6020 |
| | Cadmium | 0.0040000 | 0.034 | | 1.0 | ug/L | U | EPA-6020 |
| | Chromium | -0.022000 | 0.15 | | 3.0 | ug/L | U | EPA-6020 |
| | Cobalt | -0.0030000 | 0.011 | | 1.0 | ug/L | U | EPA-6020 |
| | Copper | 0.042000 | 0.32 | | 2.0 | ug/L | U | EPA-6020 |
| | Lead | -0.078000 | 0.021 | | 1.0 | ug/L | U | EPA-6020 |
| | Nickel | -0.0070000 | 0.15 | | 2.0 | ug/L | U | EPA-6020 |
| | Thallium | 0.036000 | 0.025 | | 1.0 | ug/L | J | EPA-6020 |
| | Vanadium | -0.0050000 | 0.39 | | 3.0 | ug/L | U | EPA-6020 |
| | Zinc | -0.25600 | 2.2 | | 5.0 | ug/L | U | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Project: Alameda
Sequence: 1701897
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701897-ICB1 | Arsenic | -0.018000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.0000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.010000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | -0.022000 | 0.015 | | 1.0 | ug/L | U | EPA-6020 |
| 1701897-CCB1 | Arsenic | -0.010000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.025000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.045000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | -0.029000 | 0.015 | | 1.0 | ug/L | U | EPA-6020 |
| 1701897-CCB2 | Arsenic | -0.045000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.032000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.077000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | -0.033000 | 0.015 | | 1.0 | ug/L | U | EPA-6020 |
| 1701897-CCB6 | Arsenic | -0.0010000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.029000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.033000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.0000 | 0.015 | | 1.0 | ug/L | U | EPA-6020 |
| 1701897-CCB7 | Arsenic | 0.079000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.030000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.12000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.0060000 | 0.015 | | 1.0 | ug/L | U | EPA-6020 |
| 1701897-CCB8 | Arsenic | -0.030000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.027000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.069000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.0060000 | 0.015 | | 1.0 | ug/L | U | EPA-6020 |
| 1701897-CCB9 | Arsenic | -0.071000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.026000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.059000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.017000 | 0.015 | | 1.0 | ug/L | J | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# BLANKS
## EPA-6020

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Project: Alameda
Sequence: 1701897
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | Found | DL | LOD | LOQ | Units | C | Method |
|---|---|---|---|---|---|---|---|---|
| 1701897-CCBA | Arsenic | -0.053000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.024000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.10300 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.15600 | 0.015 | | 1.0 | ug/L | J | EPA-6020 |
| 1701897-CCBB | Arsenic | -0.061000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.027000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.068000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.25100 | 0.015 | | 1.0 | ug/L | J | EPA-6020 |
| 1701897-CCBC | Arsenic | -0.031000 | 0.38 | | 2.0 | ug/L | U | EPA-6020 |
| | Molybdenum | 0.023000 | 0.033 | | 1.0 | ug/L | U | EPA-6020 |
| | Selenium | 0.083000 | 0.25 | | 2.0 | ug/L | U | EPA-6020 |
| | Silver | 0.47400 | 0.015 | | 1.0 | ug/L | J | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701816

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701816-ICV1 | Antimony | 50.000 | 47.027 | 94.1 | ug/L | EPA-6020 |
| | Barium | 50.000 | 50.576 | 101 | ug/L | EPA-6020 |
| | Beryllium | 50.000 | 50.156 | 100 | ug/L | EPA-6020 |
| | Cadmium | 50.000 | 49.725 | 99.4 | ug/L | EPA-6020 |
| | Chromium | 50.000 | 50.292 | 101 | ug/L | EPA-6020 |
| | Cobalt | 50.000 | 49.513 | 99.0 | ug/L | EPA-6020 |
| | Copper | 125.00 | 129.93 | 104 | ug/L | EPA-6020 |
| | Lead | 125.00 | 121.81 | 97.5 | ug/L | EPA-6020 |
| | Nickel | 125.00 | 127.50 | 102 | ug/L | EPA-6020 |
| | Thallium | 50.000 | 49.136 | 98.3 | ug/L | EPA-6020 |
| | Vanadium | 50.000 | 47.502 | 95.0 | ug/L | EPA-6020 |
| | Zinc | 125.00 | 126.62 | 101 | ug/L | EPA-6020 |
| 1701816-CCV1 | Antimony | 40.000 | 40.081 | 100 | ug/L | EPA-6020 |
| | Barium | 40.000 | 40.403 | 101 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 41.548 | 104 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 40.094 | 100 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 40.403 | 101 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 40.044 | 100 | ug/L | EPA-6020 |
| | Copper | 100.00 | 102.04 | 102 | ug/L | EPA-6020 |
| | Lead | 100.00 | 100.28 | 100 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 100.78 | 101 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 40.080 | 100 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 39.058 | 97.6 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 100.20 | 100 | ug/L | EPA-6020 |
| 1701816-CCV2 | Antimony | 40.000 | 39.925 | 99.8 | ug/L | EPA-6020 |
| | Barium | 40.000 | 40.344 | 101 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 42.556 | 106 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 40.263 | 101 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 40.705 | 102 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 40.596 | 101 | ug/L | EPA-6020 |
| | Copper | 100.00 | 102.42 | 102 | ug/L | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701816

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701816-CCV2 | Lead | 100.00 | 99.378 | 99.4 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 101.56 | 102 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 39.950 | 99.9 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 38.522 | 96.3 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 101.65 | 102 | ug/L | EPA-6020 |
| 1701816-CCV6 | Antimony | 40.000 | 40.809 | 102 | ug/L | EPA-6020 |
| | Barium | 40.000 | 40.277 | 101 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 44.053 | 110 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 41.047 | 103 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 40.801 | 102 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 39.878 | 99.7 | ug/L | EPA-6020 |
| | Copper | 100.00 | 101.73 | 102 | ug/L | EPA-6020 |
| | Lead | 100.00 | 98.292 | 98.3 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 100.44 | 100 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 39.543 | 98.9 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 39.068 | 97.7 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 101.78 | 102 | ug/L | EPA-6020 |
| 1701816-CCV7 | Antimony | 40.000 | 40.642 | 102 | ug/L | EPA-6020 |
| | Barium | 40.000 | 39.860 | 99.6 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 39.365 | 98.4 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 40.658 | 102 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 39.518 | 98.8 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 38.790 | 97.0 | ug/L | EPA-6020 |
| | Copper | 100.00 | 99.482 | 99.5 | ug/L | EPA-6020 |
| | Lead | 100.00 | 96.723 | 96.7 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 98.230 | 98.2 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 38.554 | 96.4 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 38.549 | 96.4 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 99.558 | 99.6 | ug/L | EPA-6020 |
| 1701816-CCVF | Antimony | 40.000 | 39.398 | 98.5 | ug/L | EPA-6020 |
| | Barium | 40.000 | 37.563 | 93.9 | ug/L | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701816

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701816-CCVF | Beryllium | 40.000 | 36.440 | 91.1 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 39.743 | 99.4 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 37.320 | 93.3 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 37.654 | 94.1 | ug/L | EPA-6020 |
| | Copper | 100.00 | 98.777 | 98.8 | ug/L | EPA-6020 |
| | Lead | 100.00 | 95.588 | 95.6 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 95.248 | 95.2 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 38.653 | 96.6 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 36.299 | 90.7 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 99.765 | 99.8 | ug/L | EPA-6020 |
| 1701816-CCVG | Antimony | 40.000 | 39.314 | 98.3 | ug/L | EPA-6020 |
| | Barium | 40.000 | 39.120 | 97.8 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 37.040 | 92.6 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 39.973 | 99.9 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 39.418 | 98.5 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 38.683 | 96.7 | ug/L | EPA-6020 |
| | Copper | 100.00 | 100.47 | 100 | ug/L | EPA-6020 |
| | Lead | 100.00 | 93.134 | 93.1 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 98.651 | 98.7 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 37.417 | 93.5 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 38.832 | 97.1 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 101.99 | 102 | ug/L | EPA-6020 |
| 1701816-CCVH | Antimony | 40.000 | 39.532 | 98.8 | ug/L | EPA-6020 |
| | Barium | 40.000 | 38.296 | 95.7 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 37.268 | 93.2 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 39.854 | 99.6 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 38.228 | 95.6 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 38.123 | 95.3 | ug/L | EPA-6020 |
| | Copper | 100.00 | 99.478 | 99.5 | ug/L | EPA-6020 |
| | Lead | 100.00 | 95.613 | 95.6 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 96.552 | 96.6 | ug/L | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701816

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701816-CCVH | Thallium | 40.000 | 38.265 | 95.7 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 37.698 | 94.2 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 102.60 | 103 | ug/L | EPA-6020 |
| 1701816-CCVI | Antimony | 40.000 | 40.344 | 101 | ug/L | EPA-6020 |
| | Barium | 40.000 | 37.969 | 94.9 | ug/L | EPA-6020 |
| | Beryllium | 40.000 | 37.084 | 92.7 | ug/L | EPA-6020 |
| | Cadmium | 40.000 | 40.230 | 101 | ug/L | EPA-6020 |
| | Chromium | 40.000 | 38.013 | 95.0 | ug/L | EPA-6020 |
| | Cobalt | 40.000 | 38.052 | 95.1 | ug/L | EPA-6020 |
| | Copper | 100.00 | 99.883 | 99.9 | ug/L | EPA-6020 |
| | Lead | 100.00 | 96.043 | 96.0 | ug/L | EPA-6020 |
| | Nickel | 100.00 | 96.658 | 96.7 | ug/L | EPA-6020 |
| | Thallium | 40.000 | 38.202 | 95.5 | ug/L | EPA-6020 |
| | Vanadium | 40.000 | 37.518 | 93.8 | ug/L | EPA-6020 |
| | Zinc | 100.00 | 102.28 | 102 | ug/L | EPA-6020 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701897

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701897-ICV1 | Arsenic | 125.00 | 135.00 | 108 | ug/L | EPA-6020 |
| | Molybdenum | 50.000 | 47.570 | 95.1 | ug/L | EPA-6020 |
| | Selenium | 125.00 | 128.13 | 103 | ug/L | EPA-6020 |
| | Silver | 50.000 | 50.574 | 101 | ug/L | EPA-6020 |
| 1701897-CCV1 | Arsenic | 100.00 | 100.68 | 101 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 39.618 | 99.0 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 101.16 | 101 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.310 | 101 | ug/L | EPA-6020 |
| 1701897-CCV2 | Arsenic | 100.00 | 102.04 | 102 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 39.988 | 100 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 103.37 | 103 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.479 | 101 | ug/L | EPA-6020 |
| 1701897-CCV6 | Arsenic | 100.00 | 101.40 | 101 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 40.090 | 100 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 102.11 | 102 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.766 | 102 | ug/L | EPA-6020 |
| 1701897-CCV7 | Arsenic | 100.00 | 99.830 | 99.8 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 39.871 | 99.7 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 98.997 | 99.0 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.209 | 101 | ug/L | EPA-6020 |
| 1701897-CCV8 | Arsenic | 100.00 | 99.437 | 99.4 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 38.675 | 96.7 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 101.01 | 101 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.154 | 100 | ug/L | EPA-6020 |
| 1701897-CCV9 | Arsenic | 100.00 | 98.378 | 98.4 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 38.852 | 97.1 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 99.015 | 99.0 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.441 | 101 | ug/L | EPA-6020 |
| 1701897-CCVA | Arsenic | 100.00 | 98.745 | 98.7 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 38.860 | 97.2 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 99.858 | 99.9 | ug/L | EPA-6020 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Control Limt: +/- 10.00%

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED
Sequence: 1701897

| Lab Sample ID | Analyte | True | Found | %R | Units | Method |
|---|---|---|---|---|---|---|
| 1701897-CCVA | Silver | 40.000 | 40.527 | 101 | ug/L | EPA-6020 |
| 1701897-CCVB | Arsenic | 100.00 | 99.092 | 99.1 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 38.976 | 97.4 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 100.20 | 100 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.073 | 100 | ug/L | EPA-6020 |
| 1701897-CCVC | Arsenic | 100.00 | 98.910 | 98.9 | ug/L | EPA-6020 |
| | Molybdenum | 40.000 | 39.101 | 97.8 | ug/L | EPA-6020 |
| | Selenium | 100.00 | 100.19 | 100 | ug/L | EPA-6020 |
| | Silver | 40.000 | 40.190 | 100 | ug/L | EPA-6020 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ICP INTERFERENCE CHECK SAMPLE

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Sequence: 1701816

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | True | Found | %R | Units |
|---|---|---|---|---|---|
| 1701816-IFA1 | Antimony | | 0.051000 | | ug/L |
| | Barium | | 1.4480 | * | ug/L |
| | Beryllium | | 0.010000 | | ug/L |
| | Cadmium | | 0.42800 | | ug/L |
| | Chromium | | 2.5090 | | ug/L |
| | Cobalt | | 0.31700 | | ug/L |
| | Copper | | 4.4460 | * | ug/L |
| | Lead | | 0.14500 | | ug/L |
| | Nickel | | 3.5250 | * | ug/L |
| | Thallium | | 0.0000 | | ug/L |
| | Vanadium | | -1.9570 | | ug/L |
| | Zinc | | 7.0090 | * | ug/L |
| 1701816-IFB1 | Antimony | | -0.0020000 | | ug/L |
| | Barium | | 1.4790 | * | ug/L |
| | Beryllium | | 0.011000 | | ug/L |
| | Cadmium | 20.000 | 18.60 | 93.0 | ug/L |
| | Chromium | 20.000 | 23.37 | 117 | ug/L |
| | Cobalt | 20.000 | 20.81 | 104 | ug/L |
| | Copper | 20.000 | 22.11 | 111 | ug/L |
| | Lead | | 0.25000 | | ug/L |
| | Nickel | 20.000 | 23.32 | 117 | ug/L |
| | Thallium | | -0.013000 | | ug/L |
| | Vanadium | | -2.5960 | | ug/L |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ICP INTERFERENCE CHECK SAMPLE

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Sequence: 1701816

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | True | Found | %R | Units |
|---|---|---|---|---|---|
| 1701816-IFB1 | Zinc | 20.000 | 24.50 | 122 | ug/L |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ICP INTERFERENCE CHECK SAMPLE

## EPA-6020

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Instrument ID: PE-EL3
Sequence: 1701897

SDG: 17-02734
Project: Alameda
Calibration: UNASSIGNED

| Lab Sample ID | Analyte | True | Found | %R | Units |
|---|---|---|---|---|---|
| 1701897-IFA1 | Arsenic | | -0.69600 | | ug/L |
| | Molybdenum | 2000.0 | 2,191.86 | 110 | ug/L |
| | Selenium | | 0.33800 | | ug/L |
| | Silver | | 0.27500 | | ug/L |
| 1701897-IFB1 | Arsenic | 20.000 | 17.92 | 89.6 | ug/L |
| | Molybdenum | 2000.0 | 2,091.60 | 105 | ug/L |
| | Selenium | | 0.28100 | | ug/L |
| | Silver | 20.000 | 18.97 | 94.8 | ug/L |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SERIAL DILUTION

## EPA-6020

Serial Dilution

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Sequence: 1701816
Preparation: B[B0093
Source Sample Name: Serial Dilution

SDG: 17-02734
Project: Alameda
Laboratory ID: 1701816-SRD1
Lab Source ID: 1702613-07
Initial/Final: 10 / 10
% Solids:

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Difference | Q | Method | QC Limits % Difference |
|---|---|---|---|---|---|---|---|---|
| Antimony | ND | | ND | | | | EPA-6020 | 10 |
| Barium | 55.416 | | 57.930 | | 4.54 | | EPA-6020 | 10 |
| Beryllium | ND | | ND | | | | EPA-6020 | 10 |
| Cadmium | 0.071000 | | ND | | | | EPA-6020 | 10 |
| Chromium | 18.661 | | 17.635 | | 5.50 | | EPA-6020 | 10 |
| Cobalt | 1.7260 | | 1.5050 | | 12.8 | | EPA-6020 | 10 |
| Copper | 9.4970 | | 11.070 | | 16.6 | | EPA-6020 | 10 |
| Lead | ND | | 0.33000 | | | | EPA-6020 | 10 |
| Nickel | 9.1650 | | 8.6350 | | 5.78 | | EPA-6020 | 10 |
| Thallium | ND | | ND | | | | EPA-6020 | 10 |
| Vanadium | 4.8970 | | 4.8800 | | 0.347 | | EPA-6020 | 10 |
| Zinc | 9.0550 | | 18.090 | | 99.8 | | EPA-6020 | 10 |

* Values outside of QC limits

AMEC Environmental & Infrastructure
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San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SERIAL DILUTION

## EPA-6020

Serial Dilution

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Matrix: Water
Sequence: 1701897
Preparation: B[B0093
Source Sample Name: Serial Dilution

SDG: 17-02734
Project: Alameda
Laboratory ID: 1701897-SRD1
Lab Source ID: 1702613-07
Initial/Final: 10 / 10
% Solids:

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Difference | Q | Method | QC Limits % Difference |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 10.205 | | ND | | | | EPA-6020 | 10 |
| Molybdenum | 1.5700 | | 1.6000 | | 1.91 | | EPA-6020 | 10 |
| Selenium | 9.9350 | | 10.500 | | 5.69 | | EPA-6020 | 10 |
| Silver | ND | | 1.5250 | | | | EPA-6020 | 10 |

* Values outside of QC limits

**Raw Data From Instrument PE-EL3**

**Raw Data - Calibration Standards**

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Blank*

Sample Date/Time: Wednesday, February 01, 2017 08:00:55
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 1
Report Filename  PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 10.000 | | | | ug/L |
| | B | 11 | 2767.755 | | | | ug/L |
| | Al | 27 | 32700.783 | | | | ug/L |
| > | Sc | 45 | 823577.602 | | | | ug/L |
| | V | 51 | 79.975 | | | | ug/L |
| | Cr | 52 | 4146.779 | | | | ug/L |
| | Cr | 53 | 4087.593 | | | | ug/L |
| | Mn | 55 | 686.027 | | | | ug/L |
| | Co | 59 | 131.334 | | | | ug/L |
| | Ni | 60 | 72.334 | | | | ug/L |
| | Cu | 63 | 342.340 | | | | ug/L |
| | Cu | 65 | 155.001 | | | | ug/L |
| | Zn | 66 | 641.023 | | | | ug/L |
| | Zn | 68 | 662.358 | | | | ug/L |
| > | Ge | 72 | 867882.171 | | | | ug/L |
| | As | 75 | -221.884 | | | | ug/L |
| | Se | 77 | 223.669 | | | | ug/L |
| | Se | 82 | -2.857 | | | | ug/L |
| | Sr | 88 | 1528.128 | | | | ug/L |
| | Mo | 98 | 69.047 | | | | ug/L |
| > | Rh | 103 | 770330.269 | | | | ug/L |
| | Ag | 107 | 330.673 | | | | ug/L |
| | Cd | 111 | 6.108 | | | | ug/L |
| | Cd | 114 | 26.832 | | | | ug/L |
| > | In | 115 | 1151120.836 | | | | ug/L |
| | Sn | 120 | 277.874 | | | | ug/L |
| | Sb | 121 | 762.699 | | | | ug/L |
| | Ba | 137 | 80.667 | | | | ug/L |
| | Ba | 138 | 412.485 | | | | ug/L |
| > | Tb | 159 | 1446731.076 | | | | ug/L |
| | Hg | 200 | 159.112 | | | | ug/L |
| | Hg | 201 | 72.667 | | | | ug/L |
| | Tl | 205 | 786.701 | | | | ug/L |
| | Pb | 208 | 2871.512 | | | | ug/L |
| > | Bi | 209 | 1250582.099 | | | | ug/L |
| | U | 238 | 44.333 | | | | ug/L |
| | C | 13 | 3690.083 | | | | ug/L |
| | Pd | 106 | 6.096 | | | | ug/L |

| | | | | |
|---|---|---|---|---|
| | W | 184 | 18.657 | ug/L |
| | Kr | 83 | 41.000 | ug/L |
| | Na | 23 | 23991.619 | ug/L |
| | Mg | 24 | 1390.107 | ug/L |
| | K | 39 | 341227.323 | ug/L |
| | Ca | 44 | 4311.024 | ug/L |
| | Fe | 57 | 4344.372 | ug/L |
| | P | 31 | 7669.911 | ug/L |
| | S | 32 | 57442235.997 | ug/L |
| | Ti | 47 | 20.000 | ug/L |
| > | Sc-1 | 45 | 823577.602 | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| B | 11.009 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Al | 26.982 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Mn | 54.938 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Co | 58.933 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| K | 38.964 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 1*

Sample Date/Time: Wednesday, February 01, 2017 08:04:22
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 2
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 364.341 | **1.000** | 0.07 | 6.7 | ug/L |
| | B | 11 | 13608.179 | **20.000** | 0.52 | 2.6 | ug/L |
| | Al | 27 | 143835.012 | **20.000** | 0.09 | 0.5 | ug/L |
| > | Sc | 45 | 825007.385 | | | | ug/L |
| | V | 51 | 17194.676 | **3.000** | 0.04 | 1.2 | ug/L |
| | Cr | 52 | 19408.530 | **3.000** | 0.03 | 1.0 | ug/L |
| | Cr | 53 | 5966.634 | **3.000** | 0.77 | 25.6 | ug/L |
| | Mn | 55 | 10646.230 | **1.000** | 0.00 | 0.3 | ug/L |
| | Co | 59 | 7059.407 | **1.000** | 0.01 | 1.4 | ug/L |
| | Ni | 60 | 3039.842 | **2.000** | 0.05 | 2.7 | ug/L |
| | Cu | 63 | 15149.613 | **2.000** | 0.01 | 0.7 | ug/L |
| | Cu | 65 | 7108.446 | **2.000** | 0.05 | 2.4 | ug/L |
| | Zn | 66 | 6966.669 | **5.000** | 0.05 | 0.9 | ug/L |
| | Zn | 68 | 5135.450 | **5.000** | 0.05 | 0.9 | ug/L |
| > | Ge | 72 | 873128.829 | | | | ug/L |
| | As | 75 | 2031.749 | **2.000** | 0.10 | 4.8 | ug/L |
| | Se | 77 | 461.345 | **2.000** | 0.38 | 18.8 | ug/L |
| | Se | 82 | 299.299 | **2.000** | 0.11 | 5.4 | ug/L |
| | Sr | 88 | 6087.037 | **0.200** | 0.00 | 1.9 | ug/L |
| | Mo | 98 | 4025.602 | **1.000** | 0.01 | 1.4 | ug/L |
| > | Rh | 103 | 775037.895 | | | | ug/L |
| | Ag | 107 | 7018.711 | **1.000** | 0.04 | 3.7 | ug/L |
| | Cd | 111 | 1850.287 | **1.000** | 0.05 | 4.9 | ug/L |
| | Cd | 114 | 4322.546 | **1.000** | 0.03 | 2.6 | ug/L |
| > | In | 115 | 1146506.056 | | | | ug/L |
| | Sn | 120 | 7730.511 | **1.000** | 0.01 | 0.9 | ug/L |
| | Sb | 121 | 12195.842 | **2.000** | 0.02 | 1.2 | ug/L |
| | Ba | 137 | 2769.089 | **1.000** | 0.05 | 4.6 | ug/L |
| | Ba | 138 | 17636.882 | **1.000** | 0.03 | 3.1 | ug/L |
| > | Tb | 159 | 1464382.131 | | | | ug/L |
| | Hg | 200 | 281.035 | **0.200** | 0.05 | 23.0 | ug/L |
| | Hg | 201 | 181.335 | **0.200** | 0.03 | 14.6 | ug/L |
| | Tl | 205 | 23790.425 | **1.000** | 0.00 | 0.2 | ug/L |
| | Pb | 208 | 34110.029 | **1.000** | 0.02 | 2.3 | ug/L |
| > | Bi | 209 | 1247821.904 | | | | ug/L |
| | U | 238 | 28941.663 | **1.000** | 0.01 | 0.7 | ug/L |
| | C | 13 | 3958.197 | | | | ug/L |
| | Pd | 106 | -6.404 | | | | ug/L |

| | | | | | | |
|---|---|---|---|---|---|---|
| W | 184 | 25.322 | | | | ug/L |
| Kr | 83 | 43.000 | | | | ug/L |
| Na | 23 | 648587.212 | **100.000** | 0.43 | 0.4 | ug/L |
| Mg | 24 | 387823.070 | **100.000** | 0.55 | 0.5 | ug/L |
| K | 39 | 1164712.420 | **100.000** | 0.88 | 0.9 | ug/L |
| Ca | 44 | 29504.478 | **100.000** | 2.63 | 2.6 | ug/L |
| Fe | 57 | 25067.850 | **100.000** | 0.49 | 0.5 | ug/L |
| P | 31 | 7810.024 | | | | ug/L |
| S | 32 | 57715939.890 | | | | ug/L |
| Ti | 47 | 63.334 | | | | ug/L |
| > Sc-1 | 45 | 825007.385 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000429 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000657 | 0.000 | 1.000000 | Linear Thru Zero |
| Al | 26.982 | 0.006732 | 0.000 | 1.000000 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006915 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.006164 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.000755 | 0.000 | 1.000000 | Linear Thru Zero |
| Mn | 54.938 | 0.012072 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.008397 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001799 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.008478 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.003981 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001448 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.001024 | 0.000 | 1.000000 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001291 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000135 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000173 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.026055 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005105 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.008626 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001609 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003747 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006501 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004988 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001836 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011760 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.000410 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000368 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.018436 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025044 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.023159 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007570 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004684 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009974 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000305 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000251 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 2*

Sample Date/Time: Wednesday, February 01, 2017 08:07:50
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 3
Report Filename  PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 38375.837 | **100.001** | 0.68 | 0.7 | ug/L |
| | B | 11 | 576937.334 | **1000.031** | 17.86 | 1.8 | ug/L |
| | Al | 27 | 1417095.393 | **250.034** | 2.36 | 0.9 | ug/L |
| > | Sc | 45 | 805661.928 | | | | ug/L |
| | V | 51 | 533274.248 | **99.996** | 0.22 | 0.2 | ug/L |
| | Cr | 52 | 470292.500 | **99.994** | 0.25 | 0.2 | ug/L |
| | Cr | 53 | 94663.665 | **100.030** | 1.28 | 1.3 | ug/L |
| | Mn | 55 | 2291157.875 | **250.000** | 2.03 | 0.8 | ug/L |
| | Co | 59 | 641563.627 | **99.999** | 1.43 | 1.4 | ug/L |
| | Ni | 60 | 328355.202 | **249.998** | 2.16 | 0.9 | ug/L |
| | Cu | 63 | 704994.921 | **249.977** | 0.35 | 0.1 | ug/L |
| | Cu | 65 | 330976.303 | **249.977** | 1.68 | 0.7 | ug/L |
| | Zn | 66 | 222262.777 | **249.969** | 0.56 | 0.2 | ug/L |
| | Zn | 68 | 156613.957 | **249.968** | 1.02 | 0.4 | ug/L |
| > | Ge | 72 | 804058.122 | | | | ug/L |
| | As | 75 | 232381.115 | **249.998** | 0.07 | 0.0 | ug/L |
| | Se | 77 | 26352.309 | **249.999** | 0.40 | 0.2 | ug/L |
| | Se | 82 | 34546.083 | **250.000** | 1.22 | 0.5 | ug/L |
| | Sr | 88 | 394820.272 | **18.779** | 0.09 | 0.5 | ug/L |
| | Mo | 98 | 368248.122 | **100.000** | 0.39 | 0.4 | ug/L |
| > | Rh | 103 | 706707.316 | | | | ug/L |
| | Ag | 107 | 649236.695 | **100.001** | 0.83 | 0.8 | ug/L |
| | Cd | 111 | 164890.066 | **100.000** | 0.81 | 0.8 | ug/L |
| | Cd | 114 | 388800.963 | **100.000** | 0.51 | 0.5 | ug/L |
| > | In | 115 | 1072711.818 | | | | ug/L |
| | Sn | 120 | 724819.741 | **100.000** | 1.05 | 1.0 | ug/L |
| | Sb | 121 | 524029.250 | **99.999** | 1.11 | 1.1 | ug/L |
| | Ba | 137 | 245230.372 | **99.999** | 0.30 | 0.3 | ug/L |
| | Ba | 138 | 1575401.968 | **99.999** | 0.91 | 0.9 | ug/L |
| > | Tb | 159 | 1408034.609 | | | | ug/L |
| | Hg | 200 | 30658.494 | **52.809** | 0.11 | 0.2 | ug/L |
| | Hg | 201 | 17522.205 | **33.716** | 0.62 | 1.8 | ug/L |
| | Tl | 205 | 2123779.390 | **100.000** | 0.75 | 0.8 | ug/L |
| | Pb | 208 | 7201460.637 | **250.000** | 1.66 | 0.7 | ug/L |
| > | Bi | 209 | 1134985.730 | | | | ug/L |
| | U | 238 | 2963400.520 | **100.001** | 1.08 | 1.1 | ug/L |
| | C | 13 | 3980.872 | | | | ug/L |
| | Pd | 106 | -638.582 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 93.988 | | | | ug/L |
| | Kr | 83 | 55.500 | | | | ug/L |
| | Na | 23 | 63598376.612 | **10000.041** | 39.96 | 0.4 | ug/L |
| | Mg | 24 | 37559809.257 | **9999.995** | 79.22 | 0.8 | ug/L |
| | K | 39 | 74635643.288 | **9999.918** | 26.72 | 0.3 | ug/L |
| | Ca | 44 | 2389719.223 | **9999.969** | 21.00 | 0.2 | ug/L |
| | Fe | 57 | 1892866.611 | **9999.929** | 149.37 | 1.5 | ug/L |
| | P | 31 | 8010.203 | | | | ug/L |
| | S | 32 | 59902833.994 | | | | ug/L |
| | Ti | 47 | 296.672 | | | | ug/L |
| > | Sc-1 | 45 | 805661.928 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000476 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000713 | 0.000 | 0.999999 | Linear Thru Zero |
| Al | 26.982 | 0.006876 | 0.000 | 0.999999 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006619 | 0.000 | 0.999999 | Linear Thru Zero |
| Cr | 51.941 | 0.005788 | 0.000 | 0.999998 | Linear Thru Zero |
| Cr | 52.941 | 0.001125 | 0.000 | 0.999951 | Linear Thru Zero |
| Mn | 54.938 | 0.011373 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007963 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001630 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.026055 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.000410 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000368 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.018706 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025371 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.026111 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007891 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004662 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009222 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000296 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000234 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 3*

Sample Date/Time: Wednesday, February 01, 2017 08:11:18
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 3
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 37750.894 | **100.433** | 1.01 | 1.0 | ug/L |
| | B | 11 | 579582.111 | **1025.808** | 20.53 | 2.0 | ug/L |
| | Al | 27 | 1399702.614 | **252.196** | 2.55 | 1.0 | ug/L |
| > | Sc | 45 | 789110.947 | | | | ug/L |
| | V | 51 | 521344.521 | **99.805** | 0.23 | 0.2 | ug/L |
| | Cr | 52 | 462211.961 | **100.341** | 0.53 | 0.5 | ug/L |
| | Cr | 53 | 93862.245 | **101.313** | 1.46 | 1.4 | ug/L |
| | Mn | 55 | 2231174.008 | **248.558** | 1.98 | 0.8 | ug/L |
| | Co | 59 | 629140.659 | **100.116** | 1.50 | 1.5 | ug/L |
| | Ni | 60 | 322057.065 | **250.343** | 2.67 | 1.1 | ug/L |
| | Cu | 63 | 691426.849 | **249.919** | 3.03 | 1.2 | ug/L |
| | Cu | 65 | 324748.165 | **250.034** | 2.10 | 0.8 | ug/L |
| | Zn | 66 | 217799.893 | **249.702** | 2.06 | 0.8 | ug/L |
| | Zn | 68 | 153470.289 | **249.701** | 1.97 | 0.8 | ug/L |
| > | Ge | 72 | 788768.615 | | | | ug/L |
| | As | 75 | 228319.716 | **250.392** | 1.46 | 0.6 | ug/L |
| | Se | 77 | 25744.737 | **248.967** | 2.30 | 0.9 | ug/L |
| | Se | 82 | 33655.119 | **248.277** | 0.57 | 0.2 | ug/L |
| | Sr | 88 | 387475.644 | **20.000** | 0.12 | 0.6 | ug/L |
| | Mo | 98 | 364679.651 | **100.582** | 0.57 | 0.6 | ug/L |
| > | Rh | 103 | 695814.949 | | | | ug/L |
| | Ag | 107 | 640893.101 | **100.262** | 0.22 | 0.2 | ug/L |
| | Cd | 111 | 163319.396 | **100.608** | 1.12 | 1.1 | ug/L |
| | Cd | 114 | 383682.178 | **100.239** | 0.94 | 0.9 | ug/L |
| > | In | 115 | 1056139.415 | | | | ug/L |
| | Sn | 120 | 714919.514 | **100.187** | 0.88 | 0.9 | ug/L |
| | Sb | 121 | 518157.733 | **100.436** | 0.63 | 0.6 | ug/L |
| | Ba | 137 | 240615.383 | **99.062** | 0.84 | 0.8 | ug/L |
| | Ba | 138 | 1551423.526 | **99.423** | 0.86 | 0.9 | ug/L |
| > | Tb | 159 | 1394658.321 | | | | ug/L |
| | Hg | 200 | 30203.656 | **20.001** | 0.04 | 0.2 | ug/L |
| | Hg | 201 | 17212.282 | **20.001** | 0.20 | 1.0 | ug/L |
| | Tl | 205 | 2090183.527 | **100.432** | 0.49 | 0.5 | ug/L |
| | Pb | 208 | 7107886.856 | **251.799** | 1.25 | 0.5 | ug/L |
| > | Bi | 209 | 1112244.063 | | | | ug/L |
| | U | 238 | 2950582.151 | **101.596** | 0.23 | 0.2 | ug/L |
| | C | 13 | 3948.859 | | | | ug/L |
| | Pd | 106 | -1033.272 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 92.657 | | | | ug/L |
| | Kr | 83 | 46.167 | | | | ug/L |
| | Na | 23 | 63008391.671 | **10116.105** | 119.55 | 1.2 | ug/L |
| | Mg | 24 | 36938860.798 | **10040.694** | 51.39 | 0.5 | ug/L |
| | K | 39 | 73098957.570 | **9999.890** | 61.48 | 0.6 | ug/L |
| | Ca | 44 | 2329840.377 | **9954.401** | 67.65 | 0.7 | ug/L |
| | Fe | 57 | 1842742.718 | **9938.686** | 125.79 | 1.3 | ug/L |
| | P | 31 | 7736.632 | | | | ug/L |
| | S | 32 | 58879181.435 | | | | ug/L |
| | Ti | 47 | 330.006 | | | | ug/L |
| > | Sc-1 | 45 | 789110.947 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000476 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000713 | 0.000 | 0.999999 | Linear Thru Zero |
| Al | 26.982 | 0.006876 | 0.000 | 0.999999 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006619 | 0.000 | 0.999999 | Linear Thru Zero |
| Cr | 51.941 | 0.005788 | 0.000 | 0.999998 | Linear Thru Zero |
| Cr | 52.941 | 0.001125 | 0.000 | 0.999951 | Linear Thru Zero |
| Mn | 54.938 | 0.011373 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007963 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001630 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024474 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001077 | 0.000 | 0.999981 | Linear Thru Zero |
| Hg | 200.970 | 0.000615 | 0.000 | 0.999992 | Linear Thru Zero |
| Tl | 204.975 | 0.018706 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025371 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.026111 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007891 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004662 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009222 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000296 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000234 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Blank*

Sample Date/Time: Wednesday, February 01, 2017 16:36:12
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.058
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 1
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| ⌈ | Be | 9 | 9.333 | | | | ug/L |
| \| | B | 11 | 4214.979 | | | | ug/L |
| \| | Al | 27 | 27181.917 | | | | ug/L |
| \|> | Sc | 45 | 871556.156 | | | | ug/L |
| \| | V | 51 | -484.129 | | | | ug/L |
| \| | Cr | 52 | 4141.777 | | | | ug/L |
| \| | Cr | 53 | 5237.692 | | | | ug/L |
| \| | Mn | 55 | 544.017 | | | | ug/L |
| \| | Co | 59 | 127.001 | | | | ug/L |
| ⌊ | Ni | 60 | 67.000 | | | | ug/L |
| ⌈ | Cu | 63 | 375.674 | | | | ug/L |
| \| | Cu | 65 | 167.668 | | | | ug/L |
| \| | Zn | 66 | 683.359 | | | | ug/L |
| \| | Zn | 68 | 678.692 | | | | ug/L |
| \|> | Ge | 72 | 899071.464 | | | | ug/L |
| \| | As | 75 | -235.190 | | | | ug/L |
| \| | Se | 77 | 234.170 | | | | ug/L |
| \| | Se | 82 | -5.552 | | | | ug/L |
| ⌊ | Sr | 88 | 1644.815 | | | | ug/L |
| ⌈ | Mo | 98 | 35.673 | | | | ug/L |
| \|> | Rh | 103 | 798650.233 | | | | ug/L |
| ⌊ | Ag | 107 | 50.667 | | | | ug/L |
| ⌈ | Cd | 111 | 20.112 | | | | ug/L |
| \| | Cd | 114 | 22.142 | | | | ug/L |
| \|> | In | 115 | 1158891.073 | | | | ug/L |
| \| | Sn | 120 | 226.197 | | | | ug/L |
| ⌊ | Sb | 121 | 83.667 | | | | ug/L |
| ⌈ | Ba | 137 | 94.001 | | | | ug/L |
| \| | Ba | 138 | 482.439 | | | | ug/L |
| \|> | Tb | 159 | 1516371.058 | | | | ug/L |
| \| | Hg | 200 | 242.367 | | | | ug/L |
| ⌊ | Hg | 201 | 138.668 | | | | ug/L |
| ⌈ | Tl | 205 | 426.344 | | | | ug/L |
| \| | Pb | 208 | 2433.127 | | | | ug/L |
| \|> | Bi | 209 | 1328244.036 | | | | ug/L |
| ⌊ | U | 238 | 68.000 | | | | ug/L |
| | C | 13 | 4103.595 | | | | ug/L |
| | Pd | 106 | 12.242 | | | | ug/L |

| | | | | |
|---|---|---|---|---|
| | W | 184 | 25.322 | ug/L |
| | Kr | 83 | 44.333 | ug/L |
| | Na | 23 | 27160.558 | ug/L |
| | Mg | 24 | 1736.833 | ug/L |
| | K | 39 | 398758.356 | ug/L |
| | Ca | 44 | 4877.975 | ug/L |
| | Fe | 57 | 4180.961 | ug/L |
| | P | 31 | 8403.905 | ug/L |
| | S | 32 | 66102227.168 | ug/L |
| | Ti | 47 | 50.000 | ug/L |
| > | Sc-1 | 45 | 871556.156 | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000476 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000713 | 0.000 | 0.999999 | Linear Thru Zero |
| Al | 26.982 | 0.006876 | 0.000 | 0.999999 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006619 | 0.000 | 0.999999 | Linear Thru Zero |
| Cr | 51.941 | 0.005788 | 0.000 | 0.999998 | Linear Thru Zero |
| Cr | 52.941 | 0.001125 | 0.000 | 0.999951 | Linear Thru Zero |
| Mn | 54.938 | 0.011373 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007963 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001630 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024474 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001077 | 0.000 | 0.999981 | Linear Thru Zero |
| Hg | 200.970 | 0.000615 | 0.000 | 0.999992 | Linear Thru Zero |
| Tl | 204.975 | 0.018706 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025371 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.026111 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007891 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004662 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009222 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000296 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000234 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 1*

Sample Date/Time: Wednesday, February 01, 2017 16:39:39
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.058
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 2
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 399.009 | **1.000** | 0.05 | 5.2 | ug/L |
| | B | 11 | 14318.604 | **20.000** | 0.42 | 2.1 | ug/L |
| | Al | 27 | 135880.755 | **20.000** | 0.29 | 1.5 | ug/L |
| > | Sc | 45 | 862555.325 | | | | ug/L |
| | V | 51 | 17065.449 | **3.000** | 0.02 | 0.8 | ug/L |
| | Cr | 52 | 19418.385 | **3.000** | 0.04 | 1.2 | ug/L |
| | Cr | 53 | 6738.508 | **3.000** | 1.05 | 35.1 | ug/L |
| | Mn | 55 | 10486.044 | **1.000** | 0.01 | 0.7 | ug/L |
| | Co | 59 | 7018.709 | **1.000** | 0.01 | 0.8 | ug/L |
| | Ni | 60 | 3007.164 | **2.000** | 0.02 | 0.8 | ug/L |
| | Cu | 63 | 7425.365 | **2.000** | 0.02 | 1.0 | ug/L |
| | Cu | 65 | 3463.660 | **2.000** | 0.03 | 1.5 | ug/L |
| | Zn | 66 | 5947.612 | **5.000** | 0.07 | 1.4 | ug/L |
| | Zn | 68 | 4428.412 | **5.000** | 0.07 | 1.4 | ug/L |
| > | Ge | 72 | 901656.614 | | | | ug/L |
| | As | 75 | 1979.766 | **2.000** | 0.05 | 2.4 | ug/L |
| | Se | 77 | 449.178 | **2.000** | 0.27 | 13.6 | ug/L |
| | Se | 82 | 324.973 | **2.000** | 0.08 | 4.2 | ug/L |
| | Sr | 88 | 5788.843 | **0.200** | 0.00 | 1.1 | ug/L |
| | Mo | 98 | 4046.130 | **1.000** | 0.01 | 1.3 | ug/L |
| > | Rh | 103 | 796078.106 | | | | ug/L |
| | Ag | 107 | 7015.375 | **1.000** | 0.02 | 2.5 | ug/L |
| | Cd | 111 | 1901.076 | **1.000** | 0.06 | 5.6 | ug/L |
| | Cd | 114 | 4356.531 | **1.000** | 0.02 | 1.8 | ug/L |
| > | In | 115 | 1162525.936 | | | | ug/L |
| | Sn | 120 | 7653.064 | **1.000** | 0.00 | 0.4 | ug/L |
| | Sb | 121 | 11591.053 | **2.000** | 0.03 | 1.3 | ug/L |
| | Ba | 137 | 2675.061 | **1.000** | 0.04 | 4.1 | ug/L |
| | Ba | 138 | 17721.723 | **1.000** | 0.01 | 0.8 | ug/L |
| > | Tb | 159 | 1505398.560 | | | | ug/L |
| | Hg | 200 | 553.063 | **0.200** | 0.01 | 4.1 | ug/L |
| | Hg | 201 | 352.674 | **0.200** | 0.01 | 5.6 | ug/L |
| | Tl | 205 | 23988.611 | **1.000** | 0.01 | 0.6 | ug/L |
| | Pb | 208 | 34335.464 | **1.000** | 0.01 | 1.2 | ug/L |
| > | Bi | 209 | 1327495.218 | | | | ug/L |
| | U | 238 | 29642.251 | **1.000** | 0.01 | 0.9 | ug/L |
| | C | 13 | 3912.842 | | | | ug/L |
| | Pd | 106 | 6.616 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 23.985 | | | | ug/L |
| | Kr | 83 | 42.333 | | | | ug/L |
| | Na | 23 | 673255.933 | **100.000** | 1.80 | 1.8 | ug/L |
| | Mg | 24 | 390360.421 | **100.000** | 1.60 | 1.6 | ug/L |
| | K | 39 | 1224519.840 | **100.000** | 0.71 | 0.7 | ug/L |
| | Ca | 44 | 30226.861 | **100.000** | 3.32 | 3.3 | ug/L |
| | Fe | 57 | 24696.846 | **100.000** | 2.45 | 2.4 | ug/L |
| | P | 31 | 8023.547 | | | | ug/L |
| | S | 32 | 66050223.428 | | | | ug/L |
| | Ti | 47 | 76.667 | | | | ug/L |
| > | Sc-1 | 45 | 862555.325 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000452 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000588 | 0.000 | 1.000000 | Linear Thru Zero |
| Al | 26.982 | 0.006317 | 0.000 | 1.000000 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006780 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005920 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.000601 | 0.000 | 1.000000 | Linear Thru Zero |
| Mn | 54.938 | 0.011533 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007991 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001705 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003909 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001828 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001167 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000831 | 0.000 | 1.000000 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001229 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000119 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000183 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.022954 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005038 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.008747 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001619 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003729 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006388 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004949 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001715 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011454 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001038 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000714 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.017750 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.024033 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.022279 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007494 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004506 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009621 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000294 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000238 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 2*

Sample Date/Time: Wednesday, February 01, 2017 16:43:07
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.058
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 3
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 43553.419 | **100.001** | 0.91 | 0.9 | ug/L |
| | B | 11 | 593312.480 | **1000.065** | 7.78 | 0.8 | ug/L |
| | Al | 27 | 1459156.334 | **250.118** | 2.09 | 0.8 | ug/L |
| > | Sc | 45 | 839827.275 | | | | ug/L |
| | V | 51 | 551251.870 | **99.997** | 0.45 | 0.4 | ug/L |
| | Cr | 52 | 493932.160 | **99.999** | 0.36 | 0.4 | ug/L |
| | Cr | 53 | 100875.767 | **100.043** | 1.26 | 1.3 | ug/L |
| | Mn | 55 | 2355178.302 | **250.000** | 2.53 | 1.0 | ug/L |
| | Co | 59 | 658128.896 | **100.000** | 0.61 | 0.6 | ug/L |
| | Ni | 60 | 337529.340 | **249.999** | 1.94 | 0.8 | ug/L |
| | Cu | 63 | 723243.036 | **249.998** | 1.41 | 0.6 | ug/L |
| | Cu | 65 | 337978.300 | **249.998** | 0.56 | 0.2 | ug/L |
| | Zn | 66 | 232354.124 | **249.995** | 1.69 | 0.7 | ug/L |
| | Zn | 68 | 162893.450 | **249.994** | 0.63 | 0.3 | ug/L |
| > | Ge | 72 | 830521.023 | | | | ug/L |
| | As | 75 | 242521.220 | **249.999** | 0.50 | 0.2 | ug/L |
| | Se | 77 | 27093.480 | **250.001** | 1.43 | 0.6 | ug/L |
| | Se | 82 | 35848.305 | **249.999** | 1.41 | 0.6 | ug/L |
| | Sr | 88 | 399775.148 | **20.891** | 0.04 | 0.2 | ug/L |
| | Mo | 98 | 381246.071 | **100.000** | 0.74 | 0.7 | ug/L |
| > | Rh | 103 | 732714.208 | | | | ug/L |
| | Ag | 107 | 666953.126 | **100.000** | 0.92 | 0.9 | ug/L |
| | Cd | 111 | 173083.931 | **100.000** | 0.72 | 0.7 | ug/L |
| | Cd | 114 | 405089.104 | **100.000** | 1.05 | 1.1 | ug/L |
| > | In | 115 | 1103152.684 | | | | ug/L |
| | Sn | 120 | 744663.474 | **100.001** | 0.24 | 0.2 | ug/L |
| | Sb | 121 | 551746.692 | **100.000** | 0.84 | 0.8 | ug/L |
| | Ba | 137 | 251205.440 | **100.000** | 0.34 | 0.3 | ug/L |
| | Ba | 138 | 1622690.601 | **100.000** | 0.47 | 0.5 | ug/L |
| > | Tb | 159 | 1454266.808 | | | | ug/L |
| | Hg | 200 | 32929.443 | **21.661** | 0.38 | 1.7 | ug/L |
| | Hg | 201 | 18937.041 | **18.109** | 0.37 | 2.1 | ug/L |
| | Tl | 205 | 2233842.512 | **100.000** | 0.65 | 0.6 | ug/L |
| | Pb | 208 | 7628654.000 | **250.000** | 1.88 | 0.8 | ug/L |
| > | Bi | 209 | 1215767.102 | | | | ug/L |
| | U | 238 | 3150441.226 | **100.001** | 0.19 | 0.2 | ug/L |
| | C | 13 | 4247.660 | | | | ug/L |
| | Pd | 106 | -802.715 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 119.987 | | | | ug/L |
| | Kr | 83 | 51.667 | | | | ug/L |
| | Na | 23 | 65600825.498 | **10000.040** | 120.61 | 1.2 | ug/L |
| | Mg | 24 | 38614916.802 | **10000.020** | 46.73 | 0.5 | ug/L |
| | K | 39 | 77014550.987 | **9999.945** | 92.42 | 0.9 | ug/L |
| | Ca | 44 | 2474935.194 | **9999.999** | 89.90 | 0.9 | ug/L |
| | Fe | 57 | 1929477.313 | **9999.961** | 129.47 | 1.3 | ug/L |
| | P | 31 | 7883.421 | | | | ug/L |
| | S | 32 | 65883264.054 | | | | ug/L |
| | Ti | 47 | 386.675 | | | | ug/L |
| > | Sc-1 | 45 | 839827.275 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000519 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000702 | 0.000 | 0.999995 | Linear Thru Zero |
| Al | 26.982 | 0.006822 | 0.000 | 0.999982 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006570 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005834 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001141 | 0.000 | 0.999899 | Linear Thru Zero |
| Mn | 54.938 | 0.011216 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007836 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001607 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003482 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001627 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001116 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000782 | 0.000 | 0.999999 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001169 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000129 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000173 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.022954 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005203 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009102 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001569 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003672 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006748 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.005001 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001727 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011155 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001038 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000714 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.018371 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025092 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.025913 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007809 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004598 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009124 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000294 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000229 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 3*

Sample Date/Time: Wednesday, February 01, 2017 16:46:35
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.058
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 3
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 43016.539 | **99.443** | 0.66 | 0.7 | ug/L |
| | B | 11 | 603434.032 | **1024.286** | 7.53 | 0.7 | ug/L |
| | Al | 27 | 1462005.787 | **252.380** | 1.95 | 0.8 | ug/L |
| > | Sc | 45 | 834035.469 | | | | ug/L |
| | V | 51 | 548394.553 | **100.166** | 0.49 | 0.5 | ug/L |
| | Cr | 52 | 488540.708 | **99.591** | 1.24 | 1.2 | ug/L |
| | Cr | 53 | 101720.592 | **101.648** | 0.31 | 0.3 | ug/L |
| | Mn | 55 | 2320430.001 | **248.002** | 2.63 | 1.1 | ug/L |
| | Co | 59 | 656759.737 | **100.484** | 1.77 | 1.8 | ug/L |
| | Ni | 60 | 338392.806 | **252.371** | 3.02 | 1.2 | ug/L |
| | Cu | 63 | 724501.797 | **250.075** | 1.76 | 0.7 | ug/L |
| | Cu | 65 | 340532.409 | **251.528** | 2.21 | 0.9 | ug/L |
| | Zn | 66 | 231865.338 | **249.105** | 1.01 | 0.4 | ug/L |
| | Zn | 68 | 163048.515 | **249.866** | 1.68 | 0.7 | ug/L |
| > | Ge | 72 | 831740.251 | | | | ug/L |
| | As | 75 | 242757.152 | **249.879** | 2.00 | 0.8 | ug/L |
| | Se | 77 | 27119.559 | **249.873** | 2.67 | 1.1 | ug/L |
| | Se | 82 | 35628.248 | **248.110** | 1.00 | 0.4 | ug/L |
| | Sr | 88 | 402821.507 | **20.000** | 0.10 | 0.5 | ug/L |
| | Mo | 98 | 385722.754 | **100.815** | 0.36 | 0.4 | ug/L |
| > | Rh | 103 | 735329.576 | | | | ug/L |
| | Ag | 107 | 669445.530 | **100.018** | 0.24 | 0.2 | ug/L |
| | Cd | 111 | 171762.989 | **100.317** | 0.10 | 0.1 | ug/L |
| | Cd | 114 | 402950.426 | **100.558** | 0.41 | 0.4 | ug/L |
| > | In | 115 | 1091258.591 | | | | ug/L |
| | Sn | 120 | 738040.602 | **100.197** | 1.22 | 1.2 | ug/L |
| | Sb | 121 | 550209.023 | **100.814** | 1.26 | 1.2 | ug/L |
| | Ba | 137 | 249845.385 | **99.130** | 0.35 | 0.4 | ug/L |
| | Ba | 138 | 1612837.051 | **99.065** | 0.48 | 0.5 | ug/L |
| > | Tb | 159 | 1459087.484 | | | | ug/L |
| | Hg | 200 | 32955.157 | **20.000** | 0.42 | 2.1 | ug/L |
| | Hg | 201 | 19150.153 | **20.000** | 0.23 | 1.2 | ug/L |
| | Tl | 205 | 2204603.993 | **98.916** | 0.81 | 0.8 | ug/L |
| | Pb | 208 | 7583676.795 | **249.082** | 0.86 | 0.3 | ug/L |
| > | Bi | 209 | 1213020.892 | | | | ug/L |
| | U | 238 | 3171008.171 | **100.882** | 0.93 | 0.9 | ug/L |
| | C | 13 | 4329.033 | | | | ug/L |
| | Pd | 106 | -824.693 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 95.989 | | | | ug/L |
| | Kr | 83 | 55.667 | | | | ug/L |
| | Na | 23 | 65370831.369 | **10033.882** | 190.01 | 1.9 | ug/L |
| | Mg | 24 | 38462203.868 | **10029.114** | 41.62 | 0.4 | ug/L |
| | K | 39 | 75885678.017 | **9921.842** | 52.39 | 0.5 | ug/L |
| | Ca | 44 | 2429010.126 | **9882.448** | 50.85 | 0.5 | ug/L |
| | Fe | 57 | 1903051.057 | **9930.141** | 110.34 | 1.1 | ug/L |
| | P | 31 | 8383.882 | | | | ug/L |
| | S | 32 | 65803889.925 | | | | ug/L |
| | Ti | 47 | 300.005 | | | | ug/L |
| > | Sc-1 | 45 | 834035.469 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000519 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000702 | 0.000 | 0.999995 | Linear Thru Zero |
| Al | 26.982 | 0.006822 | 0.000 | 0.999982 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006570 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005834 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001141 | 0.000 | 0.999899 | Linear Thru Zero |
| Mn | 54.938 | 0.011216 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007836 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001607 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003482 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001627 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001116 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000782 | 0.000 | 0.999999 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001169 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000129 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000173 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024124 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005203 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009102 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001569 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003672 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006748 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.005001 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001727 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011155 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001121 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000652 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.018371 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025092 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.025913 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007809 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004598 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009124 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000294 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000229 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Blank*

Sample Date/Time: Wednesday, February 01, 2017 17:51:21
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.077
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 1
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| ⌈ | Be | 9 | 10.333 | | | | ug/L |
| \| | B | 11 | 3932.185 | | | | ug/L |
| \| | Al | 27 | 17794.733 | | | | ug/L |
| \|> | Sc | 45 | 724034.901 | | | | ug/L |
| \| | V | 51 | -732.453 | | | | ug/L |
| \| | Cr | 52 | 3836.977 | | | | ug/L |
| \| | Cr | 53 | 5399.628 | | | | ug/L |
| \| | Mn | 55 | 1255.421 | | | | ug/L |
| \| | Co | 59 | 99.667 | | | | ug/L |
| ⌊ | Ni | 60 | 60.334 | | | | ug/L |
| ⌈ | Cu | 63 | 195.002 | | | | ug/L |
| \| | Cu | 65 | 287.671 | | | | ug/L |
| \| | Zn | 66 | 457.012 | | | | ug/L |
| \| | Zn | 68 | 516.348 | | | | ug/L |
| \|> | Ge | 72 | 782542.263 | | | | ug/L |
| \| | As | 75 | -128.850 | | | | ug/L |
| \| | Se | 77 | 207.669 | | | | ug/L |
| \| | Se | 82 | -0.504 | | | | ug/L |
| ⌊ | Sr | 88 | 1380.772 | | | | ug/L |
| ⌈ | Mo | 98 | 44.303 | | | | ug/L |
| \|> | Rh | 103 | 694516.194 | | | | ug/L |
| ⌊ | Ag | 107 | 48.000 | | | | ug/L |
| ⌈ | Cd | 111 | 3.284 | | | | ug/L |
| \| | Cd | 114 | 32.796 | | | | ug/L |
| \|> | In | 115 | 992636.511 | | | | ug/L |
| \| | Sn | 120 | 254.234 | | | | ug/L |
| ⌊ | Sb | 121 | 161.002 | | | | ug/L |
| ⌈ | Ba | 137 | 55.334 | | | | ug/L |
| \| | Ba | 138 | 277.172 | | | | ug/L |
| \|> | Tb | 159 | 1306353.546 | | | | ug/L |
| \| | Hg | 200 | 439.033 | | | | ug/L |
| ⌊ | Hg | 201 | 269.337 | | | | ug/L |
| ⌈ | Tl | 205 | 365.341 | | | | ug/L |
| \| | Pb | 208 | 2836.174 | | | | ug/L |
| \|> | Bi | 209 | 1141883.931 | | | | ug/L |
| ⌊ | U | 238 | 33.333 | | | | ug/L |
| | C | 13 | 4563.819 | | | | ug/L |
| | Pd | 106 | 7.089 | | | | ug/L |

| | | | | |
|---|---|---|---|---|
| | W | 184 | 25.988 | ug/L |
| | Kr | 83 | 38.833 | ug/L |
| | Na | 23 | 41173.267 | ug/L |
| | Mg | 24 | 1770.189 | ug/L |
| | K | 39 | 342107.162 | ug/L |
| | Ca | 44 | 4160.954 | ug/L |
| | Fe | 57 | 3630.725 | ug/L |
| | P | 31 | 6075.366 | ug/L |
| | S | 32 | 50936294.464 | ug/L |
| | Ti | 47 | 30.000 | ug/L |
| > | Sc-1 | 45 | 724034.901 | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000519 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000702 | 0.000 | 0.999995 | Linear Thru Zero |
| Al | 26.982 | 0.006822 | 0.000 | 0.999982 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006570 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005834 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001141 | 0.000 | 0.999899 | Linear Thru Zero |
| Mn | 54.938 | 0.011216 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007836 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001607 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003482 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001627 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001116 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000782 | 0.000 | 0.999999 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001169 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000129 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000173 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024124 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005203 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009102 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001569 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003672 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006748 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.005001 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001727 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011155 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001121 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000652 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.018371 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025092 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.025913 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007809 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004598 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009124 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000294 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000229 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 1*

Sample Date/Time: Wednesday, February 01, 2017 17:54:49
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.077
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 2
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 326.339 | **1.000** | 0.02 | 2.0 | ug/L |
| | B | 11 | 11562.022 | **20.000** | 1.22 | 6.1 | ug/L |
| | Al | 27 | 113180.223 | **20.000** | 0.23 | 1.1 | ug/L |
| > | Sc | 45 | 731595.812 | | | | ug/L |
| | V | 51 | 14572.690 | **3.000** | 0.05 | 1.7 | ug/L |
| | Cr | 52 | 16839.749 | **3.000** | 0.01 | 0.3 | ug/L |
| | Cr | 53 | 6064.361 | **3.000** | 1.83 | 61.2 | ug/L |
| | Mn | 55 | 9574.376 | **1.000** | 0.03 | 3.3 | ug/L |
| | Co | 59 | 6103.715 | **1.000** | 0.02 | 1.8 | ug/L |
| | Ni | 60 | 2545.356 | **2.000** | 0.03 | 1.7 | ug/L |
| | Cu | 63 | 6227.466 | **2.000** | 0.01 | 0.3 | ug/L |
| | Cu | 65 | 3067.518 | **2.000** | 0.04 | 2.0 | ug/L |
| | Zn | 66 | 4950.347 | **5.000** | 0.07 | 1.5 | ug/L |
| | Zn | 68 | 3761.445 | **5.000** | 0.08 | 1.6 | ug/L |
| > | Ge | 72 | 785937.220 | | | | ug/L |
| | As | 75 | 1704.481 | **2.000** | 0.10 | 5.2 | ug/L |
| | Se | 77 | 368.674 | **2.000** | 0.17 | 8.7 | ug/L |
| | Se | 82 | 279.544 | **2.000** | 0.08 | 4.0 | ug/L |
| | Sr | 88 | 4891.649 | **0.200** | 0.00 | 1.4 | ug/L |
| | Mo | 98 | 3482.602 | **1.000** | 0.01 | 0.9 | ug/L |
| > | Rh | 103 | 692170.494 | | | | ug/L |
| | Ag | 107 | 6055.353 | **1.000** | 0.04 | 3.7 | ug/L |
| | Cd | 111 | 1673.484 | **1.000** | 0.03 | 3.2 | ug/L |
| | Cd | 114 | 3700.359 | **1.000** | 0.00 | 0.4 | ug/L |
| > | In | 115 | 992803.061 | | | | ug/L |
| | Sn | 120 | 6946.496 | **1.000** | 0.00 | 0.3 | ug/L |
| | Sb | 121 | 10259.453 | **2.000** | 0.02 | 1.1 | ug/L |
| | Ba | 137 | 2344.969 | **1.000** | 0.04 | 3.5 | ug/L |
| | Ba | 138 | 15444.952 | **1.000** | 0.01 | 0.6 | ug/L |
| > | Tb | 159 | 1312483.205 | | | | ug/L |
| | Hg | 200 | 700.487 | **0.200** | 0.01 | 3.6 | ug/L |
| | Hg | 201 | 416.676 | **0.200** | 0.02 | 11.1 | ug/L |
| | Tl | 205 | 20776.717 | **1.000** | 0.01 | 0.9 | ug/L |
| | Pb | 208 | 30618.968 | **1.000** | 0.00 | 0.4 | ug/L |
| > | Bi | 209 | 1147031.430 | | | | ug/L |
| | U | 238 | 25925.250 | **1.000** | 0.00 | 0.3 | ug/L |
| | C | 13 | 4402.404 | | | | ug/L |
| | Pd | 106 | -15.524 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 17.329 | | | | ug/L |
| | Kr | 83 | 33.833 | | | | ug/L |
| | Na | 23 | 585919.466 | **100.000** | 0.71 | 0.7 | ug/L |
| | Mg | 24 | 332256.740 | **100.000** | 1.22 | 1.2 | ug/L |
| | K | 39 | 1047934.610 | **100.000** | 1.88 | 1.9 | ug/L |
| | Ca | 44 | 25295.152 | **100.000** | 2.27 | 2.3 | ug/L |
| | Fe | 57 | 20980.897 | **100.000** | 6.73 | 6.7 | ug/L |
| | P | 31 | 6055.353 | | | | ug/L |
| | S | 32 | 50520264.547 | | | | ug/L |
| | Ti | 47 | 46.667 | | | | ug/L |
| > | Sc-1 | 45 | 731595.812 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000432 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000519 | 0.000 | 1.000000 | Linear Thru Zero |
| Al | 26.982 | 0.006506 | 0.000 | 1.000000 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006977 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005906 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.000277 | 0.000 | 1.000000 | Linear Thru Zero |
| Mn | 54.938 | 0.011353 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.008206 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001698 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003837 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001767 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001143 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000825 | 0.000 | 1.000000 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001167 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000102 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000178 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.022299 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.004968 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.008676 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001683 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003694 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006741 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.005086 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001745 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011556 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.000988 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000557 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.017794 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.024211 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.022573 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007440 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004517 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.009599 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000288 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000237 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 2*

Sample Date/Time: Wednesday, February 01, 2017 17:58:17
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.077
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 3
Report Filename  PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 35687.584 | **100.001** | 0.37 | 0.4 | ug/L |
| | B | 11 | 489353.236 | **1000.074** | 11.11 | 1.1 | ug/L |
| | Al | 27 | 1305948.562 | **250.057** | 1.87 | 0.7 | ug/L |
| > | Sc | 45 | 762808.146 | | | | ug/L |
| | V | 51 | 500415.492 | **99.994** | 0.78 | 0.8 | ug/L |
| | Cr | 52 | 440443.519 | **99.997** | 0.86 | 0.9 | ug/L |
| | Cr | 53 | 82857.567 | **100.065** | 2.18 | 2.2 | ug/L |
| | Mn | 55 | 2078631.507 | **250.000** | 1.39 | 0.6 | ug/L |
| | Co | 59 | 591067.058 | **99.999** | 0.48 | 0.5 | ug/L |
| | Ni | 60 | 303686.752 | **249.999** | 1.82 | 0.7 | ug/L |
| | Cu | 63 | 655409.194 | **249.998** | 2.99 | 1.2 | ug/L |
| | Cu | 65 | 309374.963 | **249.999** | 2.40 | 1.0 | ug/L |
| | Zn | 66 | 210052.008 | **249.996** | 1.59 | 0.6 | ug/L |
| | Zn | 68 | 148008.181 | **249.993** | 2.49 | 1.0 | ug/L |
| > | Ge | 72 | 762299.262 | | | | ug/L |
| | As | 75 | 221711.130 | **250.000** | 1.34 | 0.5 | ug/L |
| | Se | 77 | 23816.158 | **250.003** | 3.06 | 1.2 | ug/L |
| | Se | 82 | 32117.735 | **249.999** | 1.95 | 0.8 | ug/L |
| | Sr | 88 | 355608.506 | **20.841** | 0.15 | 0.7 | ug/L |
| | Mo | 98 | 345631.148 | **100.001** | 0.78 | 0.8 | ug/L |
| > | Rh | 103 | 659875.360 | | | | ug/L |
| | Ag | 107 | 591923.454 | **100.000** | 0.08 | 0.1 | ug/L |
| | Cd | 111 | 152164.132 | **99.999** | 1.31 | 1.3 | ug/L |
| | Cd | 114 | 357119.483 | **100.000** | 1.30 | 1.3 | ug/L |
| > | In | 115 | 968371.631 | | | | ug/L |
| | Sn | 120 | 655655.844 | **100.000** | 0.34 | 0.3 | ug/L |
| | Sb | 121 | 491115.617 | **100.000** | 0.46 | 0.5 | ug/L |
| | Ba | 137 | 222565.563 | **100.000** | 0.29 | 0.3 | ug/L |
| | Ba | 138 | 1438402.270 | **100.000** | 0.88 | 0.9 | ug/L |
| > | Tb | 159 | 1287607.252 | | | | ug/L |
| | Hg | 200 | 30348.286 | **23.511** | 0.29 | 1.3 | ug/L |
| | Hg | 201 | 17112.758 | **23.502** | 0.14 | 0.6 | ug/L |
| | Tl | 205 | 1975425.507 | **100.000** | 0.47 | 0.5 | ug/L |
| | Pb | 208 | 6715316.218 | **250.000** | 0.65 | 0.3 | ug/L |
| > | Bi | 209 | 1087383.897 | | | | ug/L |
| | U | 238 | 2790955.575 | **100.001** | 0.82 | 0.8 | ug/L |
| | C | 13 | 4751.911 | | | | ug/L |
| | Pd | 106 | -810.010 | | | | ug/L |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | W | 184 | 79.986 | | | | ug/L |
| | Kr | 83 | 45.667 | | | | ug/L |
| | Na | 23 | 57593529.889 | **10000.014** | 100.81 | 1.0 | ug/L |
| | Mg | 24 | 34207697.248 | **9999.993** | 42.18 | 0.4 | ug/L |
| | K | 39 | 67909688.105 | **9999.916** | 22.46 | 0.2 | ug/L |
| | Ca | 44 | 2186728.465 | **9999.992** | 48.50 | 0.5 | ug/L |
| | Fe | 57 | 1722778.955 | **9999.950** | 97.97 | 1.0 | ug/L |
| | P | 31 | 6435.624 | | | | ug/L |
| | S | 32 | 53383207.266 | | | | ug/L |
| | Ti | 47 | 283.338 | | | | ug/L |
| > | Sc-1 | 45 | 762808.146 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000468 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000636 | 0.000 | 0.999993 | Linear Thru Zero |
| Al | 26.982 | 0.006748 | 0.000 | 0.999996 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006571 | 0.000 | 0.999998 | Linear Thru Zero |
| Cr | 51.941 | 0.005722 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001011 | 0.000 | 0.999763 | Linear Thru Zero |
| Mn | 54.938 | 0.010893 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007747 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001592 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003438 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001622 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001100 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000774 | 0.000 | 0.999999 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001164 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000124 | 0.000 | 0.999999 | Linear Thru Zero |
| Se | 81.917 | 0.000169 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.022299 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005237 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.008969 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001571 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003688 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006768 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.005070 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001728 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011170 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.000988 | 0.000 | 1.000000 | Linear Thru Zero |
| Hg | 200.970 | 0.000557 | 0.000 | 1.000000 | Linear Thru Zero |
| Tl | 204.975 | 0.018164 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.024693 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.025665 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007545 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004484 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.008855 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000286 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000225 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**

**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 3*

Sample Date/Time: Wednesday, February 01, 2017 18:01:44
Sample File: C:\Elandata\Sample\PE-EL3_170201.sam
Blank File: C:\Elandata\Dataset\2017 FEB (01-04)\Blank.077
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000 Methods\BC_6020_200.8_COPY .mth
Autosampler Position: 3
Report Filename PE-EL3_170201.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 35524.276 | **102.064** | 0.52 | 0.5 | ug/L |
| | B | 11 | 490786.774 | **1028.608** | 9.88 | 1.0 | ug/L |
| | Al | 27 | 1278658.008 | **251.037** | 1.53 | 0.6 | ug/L |
| > | Sc | 45 | 743948.886 | | | | ug/L |
| | V | 51 | 491994.411 | **100.798** | 0.62 | 0.6 | ug/L |
| | Cr | 52 | 434955.850 | **101.263** | 0.67 | 0.7 | ug/L |
| | Cr | 53 | 84020.831 | **104.315** | 0.18 | 0.2 | ug/L |
| | Mn | 55 | 2049833.606 | **252.790** | 2.42 | 1.0 | ug/L |
| | Co | 59 | 583183.380 | **101.172** | 1.05 | 1.0 | ug/L |
| | Ni | 60 | 300945.943 | **254.046** | 3.57 | 1.4 | ug/L |
| | Cu | 63 | 654105.293 | **252.036** | 1.68 | 0.7 | ug/L |
| | Cu | 65 | 306488.802 | **250.183** | 1.03 | 0.4 | ug/L |
| | Zn | 66 | 207949.151 | **250.008** | 0.86 | 0.3 | ug/L |
| | Zn | 68 | 146683.262 | **250.272** | 0.41 | 0.2 | ug/L |
| > | Ge | 72 | 754628.521 | | | | ug/L |
| | As | 75 | 218566.647 | **248.961** | 1.18 | 0.5 | ug/L |
| | Se | 77 | 23745.973 | **251.813** | 1.59 | 0.6 | ug/L |
| | Se | 82 | 31852.636 | **250.453** | 1.42 | 0.6 | ug/L |
| | Sr | 88 | 353675.504 | **20.000** | 0.08 | 0.4 | ug/L |
| | Mo | 98 | 344252.842 | **100.146** | 0.25 | 0.2 | ug/L |
| > | Rh | 103 | 656273.860 | | | | ug/L |
| | Ag | 107 | 598397.907 | **101.650** | 0.64 | 0.6 | ug/L |
| | Cd | 111 | 152076.076 | **100.572** | 1.03 | 1.0 | ug/L |
| | Cd | 114 | 358173.036 | **100.924** | 0.27 | 0.3 | ug/L |
| > | In | 115 | 962246.073 | | | | ug/L |
| | Sn | 120 | 656511.234 | **100.769** | 0.51 | 0.5 | ug/L |
| | Sb | 121 | 491171.934 | **100.650** | 1.33 | 1.3 | ug/L |
| | Ba | 137 | 222108.122 | **99.828** | 1.59 | 1.6 | ug/L |
| | Ba | 138 | 1439657.610 | **100.114** | 0.41 | 0.4 | ug/L |
| > | Tb | 159 | 1287220.669 | | | | ug/L |
| | Hg | 200 | 30015.050 | **20.000** | 0.23 | 1.1 | ug/L |
| | Hg | 201 | 17322.489 | **20.000** | 0.30 | 1.5 | ug/L |
| | Tl | 205 | 1979747.871 | **100.987** | 1.14 | 1.1 | ug/L |
| | Pb | 208 | 6667216.374 | **250.103** | 0.46 | 0.2 | ug/L |
| > | Bi | 209 | 1079161.220 | | | | ug/L |
| | U | 238 | 2801302.526 | **101.142** | 0.69 | 0.7 | ug/L |
| | C | 13 | 4697.220 | | | | ug/L |
| | Pd | 106 | -756.396 | | | | ug/L |

| | | | | | | |
|---|---|---|---|---|---|---|
| W | 184 | 91.321 | | | | ug/L |
| Kr | 83 | 46.000 | | | | ug/L |
| Na | 23 | 57121041.950 | **10168.987** | 150.59 | 1.5 | ug/L |
| Mg | 24 | 33682667.657 | **10095.859** | 49.36 | 0.5 | ug/L |
| K | 39 | 66500074.474 | **10041.172** | 66.91 | 0.7 | ug/L |
| Ca | 44 | 2130766.469 | **9990.978** | 72.46 | 0.7 | ug/L |
| Fe | 57 | 1693080.184 | **10075.991** | 56.84 | 0.6 | ug/L |
| P | 31 | 6635.756 | | | | ug/L |
| S | 32 | 52783795.741 | | | | ug/L |
| Ti | 47 | 380.008 | | | | ug/L |
| > Sc-1 | 45 | 743948.886 | | | | ug/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| > | Sc | 45 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |

| | | |
|---|---|---|
| > | Bi | 209 |
| | U | 238 |
| | C | 13 |
| | Pd | 106 |
| | W | 184 |
| | Kr | 83 |
| | Na | 23 |
| | Mg | 24 |
| | K | 39 |
| | Ca | 44 |
| | Fe | 57 |
| | P | 31 |
| | S | 32 |
| | Ti | 47 |
| > | Sc-1 | 45 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000468 | 0.000 | 1.000000 | Linear Thru Zero |
| B | 11.009 | 0.000636 | 0.000 | 0.999993 | Linear Thru Zero |
| Al | 26.982 | 0.006748 | 0.000 | 0.999996 | Linear Thru Zero |
| Sc | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| V | 50.944 | 0.006571 | 0.000 | 0.999998 | Linear Thru Zero |
| Cr | 51.941 | 0.005722 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001011 | 0.000 | 0.999763 | Linear Thru Zero |
| Mn | 54.938 | 0.010893 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007747 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001592 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003438 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 64.928 | 0.001622 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 65.926 | 0.001100 | 0.000 | 1.000000 | Linear Thru Zero |
| Zn | 67.925 | 0.000774 | 0.000 | 0.999999 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001164 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000124 | 0.000 | 0.999999 | Linear Thru Zero |
| Se | 81.917 | 0.000169 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.023345 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005237 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.008969 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001571 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003688 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006768 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.005070 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001728 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011170 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001149 | 0.000 | 0.999999 | Linear Thru Zero |
| Hg | 200.970 | 0.000663 | 0.000 | 0.999999 | Linear Thru Zero |
| Tl | 204.975 | 0.018164 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.024693 | 0.000 | 1.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.025665 | 0.000 | 0.999999 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.007545 | 0.000 | 1.000000 | Linear Thru Zero |
| Mg | 23.985 | 0.004484 | 0.000 | 1.000000 | Linear Thru Zero |
| K | 38.964 | 0.008855 | 0.000 | 1.000000 | Linear Thru Zero |
| Ca | 43.956 | 0.000286 | 0.000 | 1.000000 | Linear Thru Zero |
| Fe | 56.935 | 0.000225 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sc-1 | 44.956 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**
**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Blank*

Sample Date/Time: Wednesday, February 01, 2017 08:00:55
Sample File: C:\Elandata\Sample\PE-EL3_170201R.sam
Blank File: C:\Elandata\DataSet\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_No Sc.mth
Autosampler Position: 1
Report Filename  PE-EL3_170201R.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| | Be | 9 | 10.000 | | | | ug/L |
| | B | 11 | 2767.755 | | | | ug/L |
| | Al | 27 | 32700.783 | | | | ug/L |
| | V | 51 | 79.975 | | | | ug/L |
| | Cr | 52 | 4146.779 | | | | ug/L |
| | Cr | 53 | 4087.593 | | | | ug/L |
| | Mn | 55 | 686.027 | | | | ug/L |
| | Co | 59 | 131.334 | | | | ug/L |
| | Ni | 60 | 72.334 | | | | ug/L |
| | Cu | 63 | 342.340 | | | | ug/L |
| | Cu | 65 | 155.001 | | | | ug/L |
| | Zn | 66 | 641.023 | | | | ug/L |
| | Zn | 68 | 662.358 | | | | ug/L |
| > | Ge | 72 | 867882.171 | | | | ug/L |
| | As | 75 | -221.884 | | | | ug/L |
| | Se | 77 | 223.669 | | | | ug/L |
| | Se | 82 | -2.857 | | | | ug/L |
| | Sr | 88 | 1528.128 | | | | mg/L |
| | Mo | 98 | 69.047 | | | | ug/L |
| > | Rh | 103 | 770330.269 | | | | ug/L |
| | Ag | 107 | 330.673 | | | | ug/L |
| | Cd | 111 | 6.108 | | | | ug/L |
| | Cd | 114 | 26.832 | | | | ug/L |
| > | In | 115 | 1151120.836 | | | | ug/L |
| | Sn | 120 | 277.874 | | | | ug/L |
| | Sb | 121 | 762.699 | | | | ug/L |
| | Ba | 137 | 80.667 | | | | ug/L |
| | Ba | 138 | 412.485 | | | | ug/L |
| > | Tb | 159 | 1446731.076 | | | | ug/L |
| | Hg | 200 | 159.112 | | | | ug/L |
| | Hg | 201 | 72.667 | | | | ug/L |
| | Tl | 205 | 786.701 | | | | ug/L |
| | Pb | 208 | 2871.512 | | | | ug/L |
| > | Bi | 209 | 1250582.099 | | | | mg/L |
| | U | 238 | 44.333 | | | | ug/L |
| | C | 13 | 3690.083 | | | | ug/L |
| | Pd | 106 | 6.096 | | | | ug/L |
| | W | 184 | 18.657 | | | | mg/L |

| | | | | |
|---|---|---|---|---|
| | Kr | 83 | 41.000 | ug/L |
| | Na | 23 | 23991.619 | ug/L |
| | Mg | 24 | 1390.107 | ug/L |
| | K | 39 | 341227.323 | ug/L |
| | Ca | 44 | 4311.024 | ug/L |
| | Fe | 57 | 4344.372 | ug/L |
| | P | 31 | 7669.911 | ug/L |
| | S | 32 | 57751682.957 | ug/L |
| | Ti | 47 | 20.000 | ug/L |
| > | Ge-1 | 72 | 867856.081 | mg/L |

# QC Calculated Values

| | Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|---|
| | Be | 9 | | |
| | B | 11 | | |
| | Al | 27 | | |
| | V | 51 | | |
| | Cr | 52 | | |
| | Cr | 53 | | |
| | Mn | 55 | | |
| | Co | 59 | | |
| | Ni | 60 | | |
| | Cu | 63 | | |
| | Cu | 65 | | |
| | Zn | 66 | | |
| | Zn | 68 | | |
| > | Ge | 72 | | |
| | As | 75 | | |
| | Se | 77 | | |
| | Se | 82 | | |
| | Sr | 88 | | |
| | Mo | 98 | | |
| > | Rh | 103 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | | |
| | Sn | 120 | | |
| | Sb | 121 | | |
| | Ba | 137 | | |
| | Ba | 138 | | |
| > | Tb | 159 | | |
| | Hg | 200 | | |
| | Hg | 201 | | |
| | Tl | 205 | | |
| | Pb | 208 | | |
| > | Bi | 209 | | |
| | U | 238 | | |

| | |
|---|---|
| C | 13 |
| Pd | 106 |
| W | 184 |
| Kr | 83 |
| Na | 23 |
| Mg | 24 |
| K | 39 |
| Ca | 44 |
| Fe | 57 |
| P | 31 |
| S | 32 |
| Ti | 47 |
| Ge-1 | 72 |

## Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000477 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000714 | 0.000 | 0.999997 | Linear Thru Zero |
| Al | 26.982 | 0.006895 | 0.000 | 0.999980 | Linear Thru Zero |
| V | 50.944 | 0.006631 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005801 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001130 | 0.000 | 0.999937 | Linear Thru Zero |
| Mn | 54.938 | 0.011236 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007978 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001633 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024474 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001077 | 0.000 | 0.999981 | Linear Thru Zero |
| Hg | 200.970 | 0.000615 | 0.000 | 0.999992 | Linear Thru Zero |
| Tl | 204.975 | 0.018936 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025421 | 0.000 | 1.000000 | Linear Thru Zero |
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.024071 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.008583 | 0.000 | 0.999999 | Linear Thru Zero |
| Mg | 23.985 | 0.005069 | 0.000 | 0.999999 | Linear Thru Zero |
| K | 38.964 | 0.008401 | 0.000 | 0.999999 | Linear Thru Zero |
| Ca | 43.956 | 0.000212 | 0.000 | 0.999994 | Linear Thru Zero |
| Fe | 56.935 | 0.000236 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ge-1 | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**
**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 1*

Sample Date/Time: Wednesday, February 01, 2017 08:04:22
Sample File: C:\Elandata\Sample\PE-EL3_170201R.sam
Blank File: C:\Elandata\DataSet\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_No Sc.mth
Autosampler Position: 2
Report Filename  PE-EL3_170201R.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| ⌈ | Be | 9 | 364.341 | **0.850** | 0.06 | 7.3 | ug/L |
| \| | B | 11 | 13608.179 | **17.356** | 0.43 | 2.5 | ug/L |
| \| | Al | 27 | 143835.012 | **18.426** | 0.18 | 1.0 | ug/L |
| \| | V | 51 | 17194.676 | **2.956** | 0.03 | 1.1 | ug/L |
| \| | Cr | 52 | 19408.530 | **3.008** | 0.02 | 0.7 | ug/L |
| \| | Cr | 53 | 5966.634 | **1.879** | 0.52 | 27.6 | ug/L |
| \| | Mn | 55 | 10646.230 | **1.015** | 0.01 | 0.5 | ug/L |
| \| | Co | 59 | 7059.407 | **0.994** | 0.01 | 1.2 | ug/L |
| \| | Ni | 60 | 3039.842 | **2.081** | 0.04 | 2.1 | ug/L |
| \| | Cu | 63 | 15149.613 | **4.837** | 0.04 | 0.7 | ug/L |
| \| | Cu | 65 | 7108.446 | **4.838** | 0.12 | 2.4 | ug/L |
| \| | Zn | 66 | 6966.669 | **6.565** | 0.06 | 0.9 | ug/L |
| \| | Zn | 68 | 5135.450 | **6.595** | 0.06 | 0.9 | ug/L |
| \|> | Ge | 72 | 873128.829 | | | | ug/L |
| \| | As | 75 | 2031.749 | **2.232** | 0.11 | 4.8 | ug/L |
| \| | Se | 77 | 461.345 | **2.080** | 0.39 | 18.8 | ug/L |
| \| | Se | 82 | 299.299 | **2.014** | 0.11 | 5.4 | ug/L |
| ⌊ | Sr | 88 | 6087.037 | **0.213** | 0.00 | 1.9 | mg/L |
| ⌈ | Mo | 98 | 4025.602 | **0.980** | 0.01 | 1.4 | ug/L |
| \|> | Rh | 103 | 775037.895 | | | | ug/L |
| ⌊ | Ag | 107 | 7018.711 | **0.939** | 0.04 | 3.7 | ug/L |
| ⌈ | Cd | 111 | 1850.287 | **1.047** | 0.05 | 4.9 | ug/L |
| \| | Cd | 114 | 4322.546 | **1.034** | 0.03 | 2.6 | ug/L |
| \|> | In | 115 | 1146506.056 | | | | ug/L |
| \| | Sn | 120 | 7730.511 | **0.963** | 0.01 | 0.9 | ug/L |
| ⌊ | Sb | 121 | 12195.842 | **2.045** | 0.03 | 1.2 | ug/L |
| ⌈ | Ba | 137 | 2769.089 | **1.054** | 0.05 | 4.6 | ug/L |
| \| | Ba | 138 | 17636.882 | **1.051** | 0.03 | 3.1 | ug/L |
| \|> | Tb | 159 | 1464382.131 | | | | ug/L |
| \| | Hg | 200 | 281.035 | **0.076** | 0.02 | 23.0 | ug/L |
| ⌊ | Hg | 201 | 181.335 | **0.120** | 0.02 | 14.6 | ug/L |
| ⌈ | Tl | 205 | 23790.425 | **0.974** | 0.00 | 0.2 | ug/L |
| \| | Pb | 208 | 34110.029 | **0.985** | 0.02 | 2.3 | ug/L |
| \|> | Bi | 209 | 1247821.904 | | | | mg/L |
| ⌊ | U | 238 | 28941.663 | **0.962** | 0.01 | 0.7 | ug/L |
| | C | 13 | 3958.197 | | | | ug/L |
| | Pd | 106 | -6.404 | | | | ug/L |
| | W | 184 | 25.322 | | | | mg/L |

| | | | | | | |
|---|---|---|---|---|---|---|
| Kr | 83 | 43.000 | | | | ug/L |
| Na | 23 | 648587.212 | **83.334** | 0.40 | 0.5 | ug/L |
| Mg | 24 | 387823.070 | **87.321** | 0.57 | 0.6 | ug/L |
| K | 39 | 1164712.420 | **111.994** | 1.63 | 1.5 | ug/L |
| Ca | 44 | 29504.478 | **135.845** | 3.41 | 2.5 | ug/L |
| Fe | 57 | 25067.850 | **100.527** | 1.22 | 1.2 | ug/L |
| P | 31 | 7810.024 | | | | ug/L |
| S | 32 | 58026861.320 | | | | ug/L |
| Ti | 47 | 63.334 | | | | ug/L |
| Ge-1 | 72 | 873075.015 | | | | mg/L |

# QC Calculated Values

| Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|
| Be | 9 | | |
| B | 11 | | |
| Al | 27 | | |
| V | 51 | | |
| Cr | 52 | | |
| Cr | 53 | | |
| Mn | 55 | | |
| Co | 59 | | |
| Ni | 60 | | |
| Cu | 63 | | |
| Cu | 65 | | |
| Zn | 66 | | |
| Zn | 68 | | |
| Ge | 72 | | |
| As | 75 | | |
| Se | 77 | | |
| Se | 82 | | |
| Sr | 88 | | |
| Mo | 98 | | |
| Rh | 103 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| In | 115 | | |
| Sn | 120 | | |
| Sb | 121 | | |
| Ba | 137 | | |
| Ba | 138 | | |
| Tb | 159 | | |
| Hg | 200 | | |
| Hg | 201 | | |
| Tl | 205 | | |
| Pb | 208 | | |
| Bi | 209 | | |
| U | 238 | | |

| | |
|---|---|
| C | 13 |
| Pd | 106 |
| W | 184 |
| Kr | 83 |
| Na | 23 |
| Mg | 24 |
| K | 39 |
| Ca | 44 |
| Fe | 57 |
| P | 31 |
| S | 32 |
| Ti | 47 |
| Ge-1 | 72 |

## Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000477 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000714 | 0.000 | 0.999997 | Linear Thru Zero |
| Al | 26.982 | 0.006895 | 0.000 | 0.999980 | Linear Thru Zero |
| V | 50.944 | 0.006631 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005801 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001130 | 0.000 | 0.999937 | Linear Thru Zero |
| Mn | 54.938 | 0.011236 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007978 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001633 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024474 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001077 | 0.000 | 0.999981 | Linear Thru Zero |
| Hg | 200.970 | 0.000615 | 0.000 | 0.999992 | Linear Thru Zero |
| Tl | 204.975 | 0.018936 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025421 | 0.000 | 1.000000 | Linear Thru Zero |
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.024071 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.008583 | 0.000 | 0.999999 | Linear Thru Zero |
| Mg | 23.985 | 0.005069 | 0.000 | 0.999999 | Linear Thru Zero |
| K | 38.964 | 0.008401 | 0.000 | 0.999999 | Linear Thru Zero |
| Ca | 43.956 | 0.000212 | 0.000 | 0.999994 | Linear Thru Zero |
| Fe | 56.935 | 0.000236 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ge-1 | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**
**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 2*

Sample Date/Time: Wednesday, February 01, 2017 08:07:50
Sample File: C:\Elandata\Sample\PE-EL3_170201R.sam
Blank File: C:\Elandata\DataSet\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_No Sc.mth
Autosampler Position: 3
Report Filename  PE-EL3_170201R.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| ⌈ | Be | 9 | 38375.837 | **100.001** | 0.45 | 0.5 | ug/L |
| \| | B | 11 | 576937.334 | **1000.053** | 14.41 | 1.4 | ug/L |
| \| | Al | 27 | 1417095.393 | **250.126** | 2.77 | 1.1 | ug/L |
| \| | V | 51 | 533274.248 | **100.001** | 0.86 | 0.9 | ug/L |
| \| | Cr | 52 | 470292.500 | **100.000** | 0.85 | 0.8 | ug/L |
| \| | Cr | 53 | 94663.665 | **100.034** | 0.19 | 0.2 | ug/L |
| \| | Mn | 55 | 2259331.213 | **250.000** | 1.59 | 0.6 | ug/L |
| \| | Co | 59 | 641563.627 | **100.000** | 0.51 | 0.5 | ug/L |
| \| | Ni | 60 | 328355.202 | **249.999** | 0.56 | 0.2 | ug/L |
| \| | Cu | 63 | 704994.921 | **249.977** | 0.35 | 0.1 | ug/L |
| \| | Cu | 65 | 330976.303 | **249.977** | 1.68 | 0.7 | ug/L |
| \| | Zn | 66 | 222262.777 | **249.969** | 0.56 | 0.2 | ug/L |
| \| | Zn | 68 | 156613.957 | **249.968** | 1.02 | 0.4 | ug/L |
| \|> | Ge | 72 | 804058.122 | | | | ug/L |
| \| | As | 75 | 232381.115 | **249.998** | 0.07 | 0.0 | ug/L |
| \| | Se | 77 | 26352.309 | **249.999** | 0.40 | 0.2 | ug/L |
| \| | Se | 82 | 34546.083 | **250.000** | 1.22 | 0.5 | ug/L |
| ⌊ | Sr | 88 | 394820.272 | **19.992** | 0.10 | 0.5 | mg/L |
| ⌈ | Mo | 98 | 368248.122 | **100.000** | 0.39 | 0.4 | ug/L |
| \|> | Rh | 103 | 706707.316 | | | | ug/L |
| ⌊ | Ag | 107 | 649236.695 | **100.001** | 0.83 | 0.8 | ug/L |
| ⌈ | Cd | 111 | 164890.066 | **100.000** | 0.81 | 0.8 | ug/L |
| \| | Cd | 114 | 388800.963 | **100.000** | 0.51 | 0.5 | ug/L |
| \|> | In | 115 | 1072711.818 | | | | ug/L |
| \| | Sn | 120 | 724819.741 | **100.000** | 1.05 | 1.0 | ug/L |
| ⌊ | Sb | 121 | 524029.250 | **99.999** | 1.11 | 1.1 | ug/L |
| ⌈ | Ba | 137 | 245230.372 | **99.999** | 0.30 | 0.3 | ug/L |
| \| | Ba | 138 | 1575401.968 | **99.999** | 0.91 | 0.9 | ug/L |
| \|> | Tb | 159 | 1408034.609 | | | | ug/L |
| \| | Hg | 200 | 30658.494 | **20.110** | 0.04 | 0.2 | ug/L |
| ⌊ | Hg | 201 | 17522.205 | **20.171** | 0.37 | 1.8 | ug/L |
| ⌈ | Tl | 205 | 2149845.484 | **100.000** | 0.75 | 0.8 | ug/L |
| \| | Pb | 208 | 7215461.711 | **250.000** | 1.66 | 0.7 | ug/L |
| \|> | Bi | 209 | 1134985.730 | | | | mg/L |
| ⌊ | U | 238 | 2731864.043 | **100.000** | 1.08 | 1.1 | ug/L |
| | C | 13 | 3980.872 | | | | ug/L |
| | Pd | 106 | -638.582 | | | | ug/L |
| | W | 184 | 93.988 | | | | mg/L |

| | | | | | | |
|---|---|---|---|---|---|---|
| Kr | 83 | 55.500 | | | | ug/L |
| Na | 23 | 68773248.664 | **10000.167** | 111.24 | 1.1 | ug/L |
| Mg | 24 | 40602899.770 | **10000.127** | 78.02 | 0.8 | ug/L |
| K | 39 | 67607939.686 | **9999.880** | 132.55 | 1.3 | ug/L |
| Ca | 44 | 1703818.038 | **9999.642** | 110.74 | 1.1 | ug/L |
| Fe | 57 | 1892866.611 | **9999.995** | 86.83 | 0.9 | ug/L |
| P | 31 | 8010.203 | | | | ug/L |
| S | 32 | 60225536.437 | | | | ug/L |
| Ti | 47 | 296.672 | | | | ug/L |
| Ge-1 | 72 | 800984.257 | | | | mg/L |

# QC Calculated Values

| Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|
| Be | 9 | | |
| B | 11 | | |
| Al | 27 | | |
| V | 51 | | |
| Cr | 52 | | |
| Cr | 53 | | |
| Mn | 55 | | |
| Co | 59 | | |
| Ni | 60 | | |
| Cu | 63 | | |
| Cu | 65 | | |
| Zn | 66 | | |
| Zn | 68 | | |
| Ge | 72 | | |
| As | 75 | | |
| Se | 77 | | |
| Se | 82 | | |
| Sr | 88 | | |
| Mo | 98 | | |
| Rh | 103 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| In | 115 | | |
| Sn | 120 | | |
| Sb | 121 | | |
| Ba | 137 | | |
| Ba | 138 | | |
| Tb | 159 | | |
| Hg | 200 | | |
| Hg | 201 | | |
| Tl | 205 | | |
| Pb | 208 | | |
| Bi | 209 | | |
| U | 238 | | |

| | |
|---|---|
| C | 13 |
| Pd | 106 |
| W | 184 |
| Kr | 83 |
| Na | 23 |
| Mg | 24 |
| K | 39 |
| Ca | 44 |
| Fe | 57 |
| P | 31 |
| S | 32 |
| Ti | 47 |
| Ge-1 | 72 |

## Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000477 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000714 | 0.000 | 0.999997 | Linear Thru Zero |
| Al | 26.982 | 0.006895 | 0.000 | 0.999980 | Linear Thru Zero |
| V | 50.944 | 0.006631 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005801 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001130 | 0.000 | 0.999937 | Linear Thru Zero |
| Mn | 54.938 | 0.011236 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007978 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001633 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024474 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001077 | 0.000 | 0.999981 | Linear Thru Zero |
| Hg | 200.970 | 0.000615 | 0.000 | 0.999992 | Linear Thru Zero |
| Tl | 204.975 | 0.018936 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025421 | 0.000 | 1.000000 | Linear Thru Zero |
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.024071 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.008583 | 0.000 | 0.999999 | Linear Thru Zero |
| Mg | 23.985 | 0.005069 | 0.000 | 0.999999 | Linear Thru Zero |
| K | 38.964 | 0.008401 | 0.000 | 0.999999 | Linear Thru Zero |
| Ca | 43.956 | 0.000212 | 0.000 | 0.999994 | Linear Thru Zero |
| Fe | 56.935 | 0.000236 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ge-1 | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

# Quantitative Analysis - Summary Report

**Analyst: ARD**
**Instrument : ICPMS (PE-EL3)**

## *Sample ID: Standard 3*

Sample Date/Time: Wednesday, February 01, 2017 08:11:18
Sample File: C:\Elandata\Sample\PE-EL3_170201R.sam
Blank File: C:\Elandata\DataSet\2017 FEB (01-04)\Blank.005
Number of Replicates: 3
Dual Detector Mode: Dual
Method File: C:\Elandata\Method\EL 9000  Methods\BC_6020_200.8_No Sc.mth
Autosampler Position: 3
Report Filename  PE-EL3_170201R.TXT

## Concentration Results

| | Analyte | Mass | Meas. Intens. Mean | **Conc. Mean** | Conc. SD | Conc. RSD | Sample Unit |
|---|---|---|---|---|---|---|---|
| ⌈ | Be | 9 | 37750.894 | **100.285** | 1.41 | 1.4 | ug/L |
| \| | B | 11 | 579582.111 | **1024.203** | 11.81 | 1.2 | ug/L |
| \| | Al | 27 | 1399702.614 | **251.898** | 3.38 | 1.3 | ug/L |
| \| | V | 51 | 521344.521 | **99.666** | 1.66 | 1.7 | ug/L |
| \| | Cr | 52 | 462211.961 | **100.195** | 1.18 | 1.2 | ug/L |
| \| | Cr | 53 | 93862.245 | **101.155** | 0.86 | 0.9 | ug/L |
| \| | Mn | 55 | 2200180.587 | **248.182** | 1.93 | 0.8 | ug/L |
| \| | Co | 59 | 629140.659 | **99.964** | 0.52 | 0.5 | ug/L |
| \| | Ni | 60 | 322057.065 | **249.961** | 1.08 | 0.4 | ug/L |
| \| | Cu | 63 | 691426.849 | **249.919** | 3.03 | 1.2 | ug/L |
| \| | Cu | 65 | 324748.165 | **250.034** | 2.10 | 0.8 | ug/L |
| \| | Zn | 66 | 217799.893 | **249.702** | 2.06 | 0.8 | ug/L |
| \| | Zn | 68 | 153470.289 | **249.701** | 1.97 | 0.8 | ug/L |
| \|> | Ge | 72 | 788768.615 | | | | ug/L |
| \| | As | 75 | 228319.716 | **250.392** | 1.46 | 0.6 | ug/L |
| \| | Se | 77 | 25744.737 | **248.967** | 2.30 | 0.9 | ug/L |
| \| | Se | 82 | 33655.119 | **248.277** | 0.57 | 0.2 | ug/L |
| ⌊ | Sr | 88 | 387475.644 | **20.000** | 0.12 | 0.6 | mg/L |
| ⌈ | Mo | 98 | 364679.651 | **100.582** | 0.57 | 0.6 | ug/L |
| \|> | Rh | 103 | 695814.949 | | | | ug/L |
| ⌊ | Ag | 107 | 640893.101 | **100.262** | 0.22 | 0.2 | ug/L |
| ⌈ | Cd | 111 | 163319.396 | **100.608** | 1.12 | 1.1 | ug/L |
| \| | Cd | 114 | 383682.178 | **100.239** | 0.94 | 0.9 | ug/L |
| \|> | In | 115 | 1056139.415 | | | | ug/L |
| \| | Sn | 120 | 714919.514 | **100.187** | 0.88 | 0.9 | ug/L |
| ⌊ | Sb | 121 | 518157.733 | **100.436** | 0.63 | 0.6 | ug/L |
| ⌈ | Ba | 137 | 240615.383 | **99.062** | 0.84 | 0.8 | ug/L |
| \| | Ba | 138 | 1551423.526 | **99.423** | 0.86 | 0.9 | ug/L |
| \|> | Tb | 159 | 1394658.321 | | | | ug/L |
| \| | Hg | 200 | 30203.656 | **20.001** | 0.04 | 0.2 | ug/L |
| ⌊ | Hg | 201 | 17212.282 | **20.001** | 0.20 | 1.0 | ug/L |
| ⌈ | Tl | 205 | 2115837.284 | **100.432** | 0.49 | 0.5 | ug/L |
| \| | Pb | 208 | 7121717.458 | **251.799** | 1.25 | 0.5 | ug/L |
| \|> | Bi | 209 | 1112244.063 | | | | mg/L |
| ⌊ | U | 238 | 2720047.199 | **101.595** | 0.23 | 0.2 | ug/L |
| | C | 13 | 3948.859 | | | | ug/L |
| | Pd | 106 | -1033.272 | | | | ug/L |
| | W | 184 | 92.657 | | | | mg/L |

| | | | | | | |
|---|---|---|---|---|---|---|
| Kr | 83 | 46.167 | | | | ug/L |
| Na | 23 | 68135257.836 | **10100.084** | 82.00 | 0.8 | ug/L |
| Mg | 24 | 39931642.153 | **10025.700** | 105.85 | 1.1 | ug/L |
| K | 39 | 66215948.530 | **9984.598** | 160.52 | 1.6 | ug/L |
| Ca | 44 | 1661125.718 | **9938.527** | 100.53 | 1.0 | ug/L |
| Fe | 57 | 1842742.718 | **9923.473** | 37.86 | 0.4 | ug/L |
| P | 31 | 7736.632 | | | | ug/L |
| S | 32 | 59196369.361 | | | | ug/L |
| Ti | 47 | 330.006 | | | | ug/L |
| Ge-1 | 72 | 785765.620 | | | | mg/L |

# QC Calculated Values

| Analyte | Mass | Duplicate Rel. % Difference | Int Std % Recovery |
|---|---|---|---|
| Be | 9 | | |
| B | 11 | | |
| Al | 27 | | |
| V | 51 | | |
| Cr | 52 | | |
| Cr | 53 | | |
| Mn | 55 | | |
| Co | 59 | | |
| Ni | 60 | | |
| Cu | 63 | | |
| Cu | 65 | | |
| Zn | 66 | | |
| Zn | 68 | | |
| Ge | 72 | | |
| As | 75 | | |
| Se | 77 | | |
| Se | 82 | | |
| Sr | 88 | | |
| Mo | 98 | | |
| Rh | 103 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| In | 115 | | |
| Sn | 120 | | |
| Sb | 121 | | |
| Ba | 137 | | |
| Ba | 138 | | |
| Tb | 159 | | |
| Hg | 200 | | |
| Hg | 201 | | |
| Tl | 205 | | |
| Pb | 208 | | |
| Bi | 209 | | |
| U | 238 | | |

| | |
|---|---|
| C | 13 |
| Pd | 106 |
| W | 184 |
| Kr | 83 |
| Na | 23 |
| Mg | 24 |
| K | 39 |
| Ca | 44 |
| Fe | 57 |
| P | 31 |
| S | 32 |
| Ti | 47 |
| Ge-1 | 72 |

# Calibration File Table

| Analyte | Mass | Slope | Intercept | Corr Coeff | Curve Type |
|---|---|---|---|---|---|
| Be | 9.012 | 0.000477 | 0.000 | 0.999999 | Linear Thru Zero |
| B | 11.009 | 0.000714 | 0.000 | 0.999997 | Linear Thru Zero |
| Al | 26.982 | 0.006895 | 0.000 | 0.999980 | Linear Thru Zero |
| V | 50.944 | 0.006631 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 51.941 | 0.005801 | 0.000 | 1.000000 | Linear Thru Zero |
| Cr | 52.941 | 0.001130 | 0.000 | 0.999937 | Linear Thru Zero |
| Mn | 54.938 | 0.011236 | 0.000 | 1.000000 | Linear Thru Zero |
| Co | 58.933 | 0.007978 | 0.000 | 1.000000 | Linear Thru Zero |
| Ni | 59.933 | 0.001633 | 0.000 | 1.000000 | Linear Thru Zero |
| Cu | 62.930 | 0.003506 | 0.000 | 0.999936 | Linear Thru Zero |
| Cu | 64.928 | 0.001646 | 0.000 | 0.999936 | Linear Thru Zero |
| Zn | 65.926 | 0.001103 | 0.000 | 0.999980 | Linear Thru Zero |
| Zn | 67.925 | 0.000776 | 0.000 | 0.999980 | Linear Thru Zero |
| Ge | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| As | 74.922 | 0.001157 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 76.920 | 0.000130 | 0.000 | 1.000000 | Linear Thru Zero |
| Se | 81.917 | 0.000172 | 0.000 | 1.000000 | Linear Thru Zero |
| Sr | 87.906 | 0.024474 | 0.000 | 1.000000 | Linear Thru Zero |
| Mo | 97.906 | 0.005210 | 0.000 | 1.000000 | Linear Thru Zero |
| Rh | 102.905 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ag | 106.905 | 0.009182 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 110.904 | 0.001537 | 0.000 | 1.000000 | Linear Thru Zero |
| Cd | 113.904 | 0.003624 | 0.000 | 1.000000 | Linear Thru Zero |
| In | 114.904 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Sn | 119.902 | 0.006754 | 0.000 | 1.000000 | Linear Thru Zero |
| Sb | 120.904 | 0.004878 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 136.905 | 0.001741 | 0.000 | 1.000000 | Linear Thru Zero |
| Ba | 137.905 | 0.011186 | 0.000 | 1.000000 | Linear Thru Zero |
| Tb | 158.925 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Hg | 199.968 | 0.001077 | 0.000 | 0.999981 | Linear Thru Zero |
| Hg | 200.970 | 0.000615 | 0.000 | 0.999992 | Linear Thru Zero |
| Tl | 204.975 | 0.018936 | 0.000 | 1.000000 | Linear Thru Zero |
| Pb | 207.977 | 0.025421 | 0.000 | 1.000000 | Linear Thru Zero |
| Bi | 208.980 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| U | 238.050 | 0.024071 | 0.000 | 1.000000 | Linear Thru Zero |
| C | 13.000 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Pd | 105.903 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

| | | | | | |
|---|---|---|---|---|---|
| W | 183.951 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Kr | 82.914 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Na | 22.990 | 0.008583 | 0.000 | 0.999999 | Linear Thru Zero |
| Mg | 23.985 | 0.005069 | 0.000 | 0.999999 | Linear Thru Zero |
| K | 38.964 | 0.008401 | 0.000 | 0.999999 | Linear Thru Zero |
| Ca | 43.956 | 0.000212 | 0.000 | 0.999994 | Linear Thru Zero |
| Fe | 56.935 | 0.000236 | 0.000 | 1.000000 | Linear Thru Zero |
| P | 30.994 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| S | 31.972 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ti | 46.952 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |
| Ge-1 | 71.922 | 0.000000 | 0.000 | 0.000000 | Linear Thru Zero |

# QC Out Of Limits

| Measurement Type | Analyte | Mass | Out of Limits Message |
|---|---|---|---|

**Raw Data - Instrument Tuning**

## Sample Information

Sample Date/Time: Wednesday, February 01, 2017 06:48:37
Method File: C:\Elandata\Method\EL 9000  Methods\BC_Tuning NEW.mth
Dataset File: C:\Elandata\Dataset\Default\Mass Calibration and Resolution.1750
Tuning File: C:\Elandata\Tuning\Default.tun
Number of Sweeps: 35
Number of Readings: 1
Number of Replicates: 5
Measurement Unit: cps

## Instrument Tuning Report

File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

| Analyte | Exact Mass | Meas. Mass | Mass DAC | Res. DAC | Meas. Pk. Width | Custom Res. |
|---|---|---|---|---|---|---|
| Li | 7.016 | 7.075 | 1527 | 2074 | 0.699 | |
| Mg | 23.985 | 23.925 | 5645 | 2090 | 0.704 | |
| Rh | 102.905 | 102.925 | 24874 | 2186 | 0.714 | |
| Ce | 139.905 | 139.875 | 33856 | 2240 | 0.694 | |
| Pb | 207.977 | 207.975 | 50409 | 2328 | 0.701 | |
| U | 238.050 | 238.075 | 57723 | 2364 | 0.702 | |

## Complete Mass Scanning Results

| Mass | Meas. Intens. Mean | Meas. Intens. SD | Meas. Intens. RSD |
|---|---|---|---|
| 5.000 | 8.286 | 2.347 | 28.330 |
| 22.000 | 45.715 | 12.897 | 28.212 |
| 102.000 | 1215.430 | 34.690 | 2.854 |
| 137.000 | 13023.620 | 113.118 | 0.869 |
| 205.000 | 106976.461 | 1322.250 | 1.236 |
| 235.000 | 1039.254 | 19.763 | 1.902 |

# Daily Performance Report

**Sample ID: Daily Performance Check**
Sample Date/Time: Wednesday, February 01, 2017 06:55:59
Sample Description:
Method File: C:\Elandata\Method\EL 9000  Methods\Daily auto FAST.mth
Dataset File: C:\Elandata\Dataset\Default\Daily Performance Check.1752
Tuning File: C:\Elandata\Tuning\Default.tun
Optimization File: C:\Elandata\Optimize\Default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 55
Current Dead Time (ns): 55

## Summary

| | Analyte | Mass | Meas. Intens. Mean | Net Intens. Mean | Net Intens. SD | Net Intens. RSD |
|---|---|---|---|---|---|---|
| | Mg | 24.0 | 75569.8 | 75569.804 | 490.454 | 0.6 |
| | Rh | 102.9 | 184177.0 | 184176.975 | 687.010 | 0.4 |
| | In | 114.9 | 280992.6 | 280992.584 | 1094.880 | 0.4 |
| | Pb | 208.0 | 212891.0 | 212891.049 | 1912.933 | 0.9 |
| | U | 238.1 | 362254.7 | 362254.657 | 3183.429 | 0.9 |
| ⌈> | Ba | 137.9 | 207625.4 | 207625.437 | 2937.102 | 1.4 |
| ⌊ | Ba++ | 69.0 | 2043.2 | 0.010 | 0.000 | 3.9 |
| ⌈> | Ce | 139.9 | 226721.8 | 226721.802 | 1790.149 | 0.8 |
| ⌊ | CeO | 155.9 | 5670.4 | 0.025 | 0.000 | 1.6 |
| | Bkgd | 220.0 | 9.7 | 9.667 | 3.206 | 33.2 |

### Current Optimization File Data

| Current Value | Description |
|---|---|
| 0.94 | Nebulizer Gas Flow |
| 6.00 | Lens Voltage |
| 1100.00 | ICP RF Power |
| -2150.00 | Analog Stage Voltage |
| 1250.00 | Pulse Stage Voltage |
| 21.00 | Discriminator Threshold |
| -8.50 | AC Rod Offset |
| 60.00 | Service DAC 1 |
| 0.00 | Quadrupole Rod Offset |
| -1.00 | Differential Aperture |

### Current Autolens Data

| Analyte | Mass | Num of Pts | DAC Value | Maximum Intensity |
|---|---|---|---|---|
| C | 12 | 37 | 4.5 | 652605.9 |
| Mg | 24 | 37 | 4.5 | 82590.1 |
| In | 115 | 37 | 6.0 | 283499.2 |
| Ce | 140 | 37 | 6.8 | 228824.0 |
| Pb | 208 | 37 | 7.3 | 213876.6 |

## Sample Information

Sample Date/Time: Wednesday, February 01, 2017 06:48:37
Method File: C:\Elandata\Method\EL 9000  Methods\BC_Tuning NEW.mth
Dataset File: C:\Elandata\Dataset\Default\Mass Calibration and Resolution.1750
Tuning File: C:\Elandata\Tuning\Default.tun
Number of Sweeps: 35
Number of Readings: 1
Number of Replicates: 5
Measurement Unit: cps

## Instrument Tuning Report

File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

| Analyte | Exact Mass | Meas. Mass | Mass DAC | Res. DAC | Meas. Pk. Width | Custom Res. |
|---|---|---|---|---|---|---|
| Li | 7.016 | 7.075 | 1527 | 2074 | 0.699 | |
| Mg | 23.985 | 23.925 | 5645 | 2090 | 0.704 | |
| Rh | 102.905 | 102.925 | 24874 | 2186 | 0.714 | |
| Ce | 139.905 | 139.875 | 33856 | 2240 | 0.694 | |
| Pb | 207.977 | 207.975 | 50409 | 2328 | 0.701 | |
| U | 238.050 | 238.075 | 57723 | 2364 | 0.702 | |

## Complete Mass Scanning Results

| Mass | Meas. Intens. Mean | Meas. Intens. SD | Meas. Intens. RSD |
|---|---|---|---|
| 5.000 | 8.286 | 2.347 | 28.330 |
| 22.000 | 45.715 | 12.897 | 28.212 |
| 102.000 | 1215.430 | 34.690 | 2.854 |
| 137.000 | 13023.620 | 113.118 | 0.869 |
| 205.000 | 106976.461 | 1322.250 | 1.236 |
| 235.000 | 1039.254 | 19.763 | 1.902 |

# Daily Performance Report

**Sample ID: Daily Performance Check**
Sample Date/Time: Wednesday, February 01, 2017 06:55:59
Sample Description:
Method File: C:\Elandata\Method\EL 9000  Methods\Daily auto FAST.mth
Dataset File: C:\Elandata\Dataset\Default\Daily Performance Check.1752
Tuning File: C:\Elandata\Tuning\Default.tun
Optimization File: C:\Elandata\Optimize\Default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 55
Current Dead Time (ns): 55

## Summary

| | Analyte | Mass | Meas. Intens. Mean | Net Intens. Mean | Net Intens. SD | Net Intens. RSD |
|---|---|---|---|---|---|---|
| | Mg | 24.0 | 75569.8 | 75569.804 | 490.454 | 0.6 |
| | Rh | 102.9 | 184177.0 | 184176.975 | 687.010 | 0.4 |
| | In | 114.9 | 280992.6 | 280992.584 | 1094.880 | 0.4 |
| | Pb | 208.0 | 212891.0 | 212891.049 | 1912.933 | 0.9 |
| | U | 238.1 | 362254.7 | 362254.657 | 3183.429 | 0.9 |
| ⌈> | Ba | 137.9 | 207625.4 | 207625.437 | 2937.102 | 1.4 |
| ⌊ | Ba++ | 69.0 | 2043.2 | 0.010 | 0.000 | 3.9 |
| ⌈> | Ce | 139.9 | 226721.8 | 226721.802 | 1790.149 | 0.8 |
| ⌊ | CeO | 155.9 | 5670.4 | 0.025 | 0.000 | 1.6 |
| | Bkgd | 220.0 | 9.7 | 9.667 | 3.206 | 33.2 |

### Current Optimization File Data

| Current Value | Description |
|---|---|
| 0.94 | Nebulizer Gas Flow |
| 6.00 | Lens Voltage |
| 1100.00 | ICP RF Power |
| -2150.00 | Analog Stage Voltage |
| 1250.00 | Pulse Stage Voltage |
| 21.00 | Discriminator Threshold |
| -8.50 | AC Rod Offset |
| 60.00 | Service DAC 1 |
| 0.00 | Quadrupole Rod Offset |
| -1.00 | Differential Aperture |

### Current Autolens Data

| Analyte | Mass | Num of Pts | DAC Value | Maximum Intensity |
|---|---|---|---|---|
| C | 12 | 37 | 4.5 | 652605.9 |
| Mg | 24 | 37 | 4.5 | 82590.1 |
| In | 115 | 37 | 6.0 | 283499.2 |
| Ce | 140 | 37 | 6.8 | 228824.0 |
| Pb | 208 | 37 | 7.3 | 213876.6 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:46:03PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# GC Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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## Case Narrative

**Analyses Requested**: **RSK 175M**
**Submission Number: 17-02734**

Instrument ID: GC-V1
Model: Varian 3400

Column Type: RTX 502.2, 60m x 0.25mm ID, 1.4µm film thickness.

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and extractions took place within holding times.

**Calibration**: Initial calibration criteria were met. Frequency and accuracy criteria for initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

**Blanks**: Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample and Duplicate:** Laboratory control sample analysis was performed at the required frequency. All parameters were within QC limits.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TPH-E -D, JP, M, Oil (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS

CHECK BY: JKS

DISTRIBUTION: MM MT JW SLA

SUB-OUT

| | | | |
|---|---|---|---|
| Sampler's Signature: | | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | MR | Date: 1/31/17 | Time: 14:50 |
| Received By: | Gary Bogan | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Gary Bogan | Date: 1-31-17 | Time: 1830 |
| Received By: | | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920
A = Actual / C = Corrected
Rev 21 05/23/2016
(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,J,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMPLE\Cooler 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blank Thermometer ID: 207<br>Temperature: (A) 0.1 °C / (C) 0.4 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OGT | OGT | | | | | | |
| 8oz / 16oz / ~~32oz VOA~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init 658

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.12 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PK UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:47:30PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **GC** |
| **Method:** | **RSK-175M** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## RSK-175M

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| M034A-R_170131 | 1702734-07 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## RSK-175M

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** GC-V1

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Methane | 0.00028 | 0.0006 | 0.001 | mg/L |
| Ethane | 0.00075 | 0.001 | 0.002 | mg/L |
| Ethene | 0.00077 | 0.001 | 0.002 | mg/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## RSK-175M

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07 | File ID: | 08FEB21.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/08/17 06:21 | Analyzed: | 02/08/17 09:22 |
| Solids: | | Preparation: | RSK-175M | Initial/Final: | 1 ml / 1 ml |
| Batch: | B[B0629 | Sequence: | 1702158 | Calibration: | 1702007 |
| Instrument: | GC-V1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 74-82-8 | Methane | 10 | 4.1 | 0.0028 | 0.0060 | 0.010 | D |
| 74-84-0 | Ethane | 10 | 0.010 | 0.0075 | 0.010 | 0.020 | UD |
| 74-85-1 | Ethene | 10 | 0.13 | 0.0077 | 0.010 | 0.020 | D |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## RSK-175M

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0629
Batch Matrix: Water
Preparation: RSK-175M

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| M034A-R_170131 | 1702734-07 | 08FEB21.D | 02/08/17 06:21 | |
| Blank | B[B0629-BLK1 | 08FEB07.D | 02/08/17 06:21 | |
| LCS | B[B0629-BS1 | 08FEB08.D | 02/08/17 06:21 | |
| LCS Dup | B[B0629-BSD1 | 08FEB09.D | 02/08/17 06:21 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## RSK-175M

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0629-BLK1 | File ID: | 08FEB07.D |
| Prepared: | 02/08/17 06:21 | Preparation: | RSK-175M | Initial/Final: | 1 ml / 1 ml |
| Analyzed: | 02/08/17 06:56 | Instrument: | GC-V1 | | |
| Batch: | B[B0629 | Sequence: | 1702158 | Calibration: | 1702007 |

| CAS NO. | COMPOUND | CONC. (mg/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 74-82-8 | Methane | 0.00060 | 0.00028 | 0.00060 | 0.0010 | U |
| 74-84-0 | Ethane | 0.0010 | 0.00075 | 0.0010 | 0.0020 | U |
| 74-85-1 | Ethene | 0.0010 | 0.00077 | 0.0010 | 0.0020 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## RSK-175M

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0629
Laboratory ID: B[B0629-BS1
Preparation: RSK-175M
Initial/Final: 1 ml / 1 ml

| COMPOUND | SPIKE ADDED (mg/L) | LCS CONCENTRATION (mg/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Methane | 0.010843 | 0.010802 | 99.6 | 73 - 125 |
| Ethane | 0.021736 | 0.023866 | 110 | 74 - 131 |
| Ethene | 0.028446 | 0.029657 | 104 | 72 - 133 |

| COMPOUND | SPIKE ADDED (mg/L) | LCSD CONCENTRATION (mg/L) | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methane | 0.010843 | 0.011445 | 106 | 5.78 | 20 | 73 - 125 |
| Ethane | 0.021736 | 0.022519 | 104 | 5.81 | 20 | 74 - 131 |
| Ethene | 0.028446 | 0.029203 | 103 | 1.54 | 20 | 72 - 133 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701454 | Instrument: | GC-V1 |
| Matrix: | Water | Calibration: | 1702007 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Cal Standard | 1701454-CAL4 | 27JAN02.D | 01/27/17 07:43 |
| Cal Standard | 1701454-CAL3 | 27JAN03.D | 01/27/17 07:47 |
| Cal Standard | 1701454-CAL2 | 27JAN04.D | 01/27/17 07:52 |
| Cal Standard | 1701454-CAL1 | 27JAN05.D | 01/27/17 07:56 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## RSK-175M

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702158
Instrument: GC-V1
Matrix: Water
Calibration: 1702007

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1702158-ICV1 | 27JAN06.D | 01/27/17 08:40 |
| Initial Cal Blank | 1702158-ICB1 | 27JAN07.D | 01/27/17 08:45 |
| Calibration Check | 1702158-CCV1 | 08FEB02.D | 02/08/17 06:13 |
| Calibration Blank | 1702158-CCB1 | 08FEB03.D | 02/08/17 06:19 |
| Blank | B[B0629-BLK1 | 08FEB07.D | 02/08/17 06:56 |
| LCS | B[B0629-BS1 | 08FEB08.D | 02/08/17 07:00 |
| LCS Dup | B[B0629-BSD1 | 08FEB09.D | 02/08/17 07:05 |
| Calibration Check | 1702158-CCV2 | 08FEB10.D | 02/08/17 07:13 |
| Calibration Blank | 1702158-CCB2 | 08FEB11.D | 02/08/17 07:53 |
| M034A-R_170131 | 1702734-07 | 08FEB21.D | 02/08/17 09:22 |
| Calibration Check | 1702158-CCV3 | 08FEB22.D | 02/08/17 09:51 |
| Calibration Blank | 1702158-CCB3 | 08FEB23.D | 02/08/17 09:56 |
| Calibration Check | 1702158-CCV4 | 08FEB32.D | 02/08/17 11:57 |
| Calibration Blank | 1702158-CCB4 | 08FEB33.D | 02/08/17 12:03 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V1 | Calibration: | 1702007 |
| Lab File ID: | 27JAN06.D | Calibration Date: | 01/27/17 07:43 |
| Sequence: | 1702158 | Injection Date: | 01/27/17 |
| Lab Sample ID: | 1702158-ICV1 | Injection Time: | 08:40 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Methane | A | 10.843 | 12.174 | 605292.5 | 679565.1 | | 12.3 | 15 |
| Ethane | A | 21.736 | 24.956 | 580938.9 | 666976.9 | | 14.8 | 15 |
| Ethene | A | 28.446 | 31.820 | 402477.4 | 450214.1 | | 11.9 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V1 | Calibration: | 1702007 |
| Lab File ID: | 08FEB02.D | Calibration Date: | 01/27/17 07:43 |
| Sequence: | 1702158 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702158-CCV1 | Injection Time: | 06:13 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Methane | A | 10.843 | 11.679 | 605292.5 | 651962.5 | | 7.7 | 15 |
| Ethane | A | 21.736 | 24.235 | 580938.9 | 647707.5 | | 11.5 | 15 |
| Ethene | A | 28.446 | 31.682 | 402477.4 | 448266.2 | | 11.4 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V1 | Calibration: | 1702007 |
| Lab File ID: | 08FEB10.D | Calibration Date: | 01/27/17 07:43 |
| Sequence: | 1702158 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702158-CCV2 | Injection Time: | 07:13 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Methane | A | 10.843 | 11.274 | 605292.5 | 629366.5 | | 4.0 | 15 |
| Ethane | A | 21.736 | 23.844 | 580938.9 | 637261.7 | | 9.7 | 15 |
| Ethene | A | 28.446 | 31.125 | 402477.4 | 440386 | | 9.4 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V1 | Calibration: | 1702007 |
| Lab File ID: | 08FEB22.D | Calibration Date: | 01/27/17 07:43 |
| Sequence: | 1702158 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702158-CCV3 | Injection Time: | 09:51 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Methane | A | 10.843 | 11.491 | 605292.5 | 641446.3 | | 6.0 | 15 |
| Ethane | A | 21.736 | 22.649 | 580938.9 | 605302.7 | | 4.2 | 15 |
| Ethene | A | 28.446 | 29.219 | 402477.4 | 413418.1 | | 2.7 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-V1 | Calibration: | 1702007 |
| Lab File ID: | 08FEB32.D | Calibration Date: | 01/27/17 07:43 |
| Sequence: | 1702158 | Injection Date: | 02/08/17 |
| Lab Sample ID: | 1702158-CCV4 | Injection Time: | 11:57 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Methane | A | 10.843 | 11.592 | 605292.5 | 647129.4 | | 6.9 | 15 |
| Ethane | A | 21.736 | 24.777 | 580938.9 | 662189.9 | | 14.0 | 15 |
| Ethene | A | 28.446 | 30.894 | 402477.4 | 437121.6 | | 8.6 | 15 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## RSK-175M

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701454 | Instrument: | GC-V1 |
| Calibration: | 1702007 | | |

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 7B07024 | RSK-175M CAL4 | 1701454-CAL4 | 27JAN02.D | 01/27/17 07:43 |
| 7B07023 | RSK-175M CAL3 | 1701454-CAL3 | 27JAN03.D | 01/27/17 07:47 |
| 7B07022 | RSK-175M CAL2 | 1701454-CAL2 | 27JAN04.D | 01/27/17 07:52 |
| 7B07021 | RSK-175M CAL1 | 1701454-CAL1 | 27JAN05.D | 01/27/17 07:56 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## RSK-175M

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Calibration: 1702007
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: GC-V1
Calibration Date: 01/27/17 07:43

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Methane | 1.0843 | 637975.6 | 10.843 | 692653.9 | 108.43 | 493653.4 | 542.15 | 596887 | | | | |
| Ethane | 2.1736 | 586625.4 | 21.736 | 661756.1 | 217.36 | 501173.7 | 1086.8 | 574200.6 | | | | |
| Ethene | 2.8446 | 439934.3 | 28.446 | 440075.9 | 284.46 | 333630.7 | 1422.3 | 396268.7 | | | | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## RSK-175M

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702007
Instrument: GC-V1
Matrix: Water
Calibration Date: 01/27/17 07:43

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Methane | 605292.5 | 13.89925 | 0.73 | 1.372967E-02 | | | 20 | |
| Ethane | 580938.9 | 11.31896 | 2.0825 | 0.4599198 | | | 20 | |
| Ethene | 402477.4 | 12.50156 | 1.7325 | 0.5526404 | | | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## RSK-175M

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/08/17 06:21 | 8.00 | 14.00 | 02/08/17 09:22 | 8.00 | 14.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:47:30PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# Pesticide Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Certifications: CA ELAP #1186; NV #CA00014; AK UST101; OR ELAP #4032; DoD ELAP #66175

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## Case Narrative

**Analyses Requested: 8081**
**Submission#: 17-02734**

Instrument ID: GC-17
Model: HP6890 Series

Column Types
Primary: ZB-MultiResidue-1 30M x 0.32mm x 0.50µm
Confirmation: ZB-MultiResidue-2 30M x 0.32mm x 0.50µm

Detector: Dual ECD

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time**: All analyses and extractions took place within holding times.

**Calibration**: Initial calibration criteria was met. Frequency and accuracy criteria for initial calibration verification (ICV) and continuing calibration verifications (CCV) were met.

**Blanks**: Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample:** Laboratory control sample analysis was performed at the required frequency. All parameters were within QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy and precision requirements were met.

**Note:** Sample 17-02734-06 surrogate recovery for Decachlorobiphenyl was outside QC limits.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TVH-E -D, JP, M, Oil (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | RUSH 24 Hour | RUSH 48 Hour | RUSH 72 Hour | RUSH 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS TC BOD MBAS CO

CHECK BY: JKS

DISTRIBUTION: MM JKS SUB-OUT

| | | |
|---|---|---|
| Sampler's Signature: | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 14:50 |
| Received By: | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Date: 1-31-17 | Time: 1830 |
| Received By: | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,G,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMPLE\Cooler 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 4 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blank Thermometer ID: 207<br>Temperature: (A) 0.1 °C / (C) 0.4 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | PE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OGT | OGT | | | | | | |
| 8oz / 16oz / ~~32oz VOA~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init 658

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz ~~AMB~~ Ambers | N | J | | | | | | | | |
| ~~SOIL SLEEVE~~ for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C

Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PK UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
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| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:51:18PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **PEST** |
| **Method:** | **EPA-8081A** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03RE1 |
| M003E-R_170131 | 1702734-04RE1 |
| M028A-R_170131 | 1702734-06 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8081A

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** GC-17

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Aldrin | 0.0013 | 0.0030 | 0.010 | ug/L |
| alpha-BHC | 0.0011 | 0.0030 | 0.010 | ug/L |
| beta-BHC | 0.0021 | 0.0030 | 0.010 | ug/L |
| delta-BHC | 0.0014 | 0.0030 | 0.010 | ug/L |
| gamma-BHC (Lindane) | 0.00094 | 0.0030 | 0.010 | ug/L |
| alpha-Chlordane | 0.0012 | 0.0030 | 0.010 | ug/L |
| gamma-Chlordane | 0.0026 | 0.0030 | 0.010 | ug/L |
| Chlordane (Technical) | 0.38 | 0.60 | 2.0 | ug/L |
| 4,4'-DDD | 0.0017 | 0.0030 | 0.010 | ug/L |
| 4,4'-DDE | 0.0019 | 0.0030 | 0.010 | ug/L |
| 4,4'-DDT | 0.00076 | 0.0030 | 0.010 | ug/L |
| Dieldrin | 0.0012 | 0.0030 | 0.010 | ug/L |
| Endosulfan I | 0.0016 | 0.0030 | 0.010 | ug/L |
| Endosulfan II | 0.0014 | 0.0030 | 0.010 | ug/L |
| Endosulfan sulfate | 0.0026 | 0.0030 | 0.010 | ug/L |
| Endrin | 0.00082 | 0.0030 | 0.010 | ug/L |
| Endrin aldehyde | 0.0032 | 0.0060 | 0.020 | ug/L |
| Endrin ketone | 0.00056 | 0.0030 | 0.010 | ug/L |
| Heptachlor | 0.0012 | 0.0030 | 0.010 | ug/L |
| Heptachlor epoxide | 0.00099 | 0.0030 | 0.010 | ug/L |
| Methoxychlor | 0.0011 | 0.0030 | 0.010 | ug/L |
| Toxaphene | 0.42 | 1.0 | 4.0 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8081A

**EB03_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-01 | File ID: | 06FEB047.D |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/02/17 13:00 | Analyzed: | 02/06/17 21:38 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Batch: | B[B0436 | Sequence: | 1702299 | Calibration: | 1702012 |
| Instrument: | GC-17 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 1 | 0.0030 | 0.0013 | 0.0030 | 0.010 | U |
| 319-84-6 | alpha-BHC | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 319-85-7 | beta-BHC | 1 | 0.0030 | 0.0021 | 0.0030 | 0.010 | U |
| 319-86-8 | delta-BHC | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1 | 0.0030 | 0.00094 | 0.0030 | 0.010 | U |
| 5103-71-9 | alpha-Chlordane | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 5566-34-7 | gamma-Chlordane | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 57-74-9 | Chlordane (Technical) | 1 | 0.60 | 0.38 | 0.60 | 2.0 | U |
| 72-54-8 | 4,4'-DDD | 1 | 0.0030 | 0.0017 | 0.0030 | 0.010 | U |
| 72-55-9 | 4,4'-DDE | 1 | 0.0030 | 0.0019 | 0.0030 | 0.010 | U |
| 50-29-3 | 4,4'-DDT | 1 | 0.0030 | 0.00076 | 0.0030 | 0.010 | U |
| 60-57-1 | Dieldrin | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 959-98-8 | Endosulfan I | 1 | 0.0030 | 0.0016 | 0.0030 | 0.010 | U |
| 33213-65-9 | Endosulfan II | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 1031-07-8 | Endosulfan sulfate | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 72-20-8 | Endrin | 1 | 0.0030 | 0.00082 | 0.0030 | 0.010 | U |
| 7421-93-4 | Endrin aldehyde | 1 | 0.0060 | 0.0032 | 0.0060 | 0.020 | U |
| 53494-70-5 | Endrin ketone | 1 | 0.0030 | 0.00056 | 0.0030 | 0.010 | U |
| 76-44-8 | Heptachlor | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 1024-57-3 | Heptachlor epoxide | 1 | 0.0030 | 0.00099 | 0.0030 | 0.010 | U |
| 72-43-5 | Methoxychlor | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 8001-35-2 | Toxaphene | 1 | 1.0 | 0.42 | 1.0 | 4.0 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| TCMX (Surrogate) | 0.30000 | 0.22607 | 75.4 | 44 - 124 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 0.41283 | 68.8 | 50 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8081A

**EB04_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-02 | File ID: | 06FEB048.D |
| Sampled: | 01/31/17 14:15 | Prepared: | 02/02/17 13:00 | Analyzed: | 02/06/17 21:53 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Batch: | B[B0436 | Sequence: | 1702299 | Calibration: | 1702012 |
| Instrument: | GC-17 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 1 | 0.0030 | 0.0013 | 0.0030 | 0.010 | U |
| 319-84-6 | alpha-BHC | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 319-85-7 | beta-BHC | 1 | 0.0030 | 0.0021 | 0.0030 | 0.010 | U |
| 319-86-8 | delta-BHC | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1 | 0.0030 | 0.00094 | 0.0030 | 0.010 | U |
| 5103-71-9 | alpha-Chlordane | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 5566-34-7 | gamma-Chlordane | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 57-74-9 | Chlordane (Technical) | 1 | 0.60 | 0.38 | 0.60 | 2.0 | U |
| 72-54-8 | 4,4'-DDD | 1 | 0.0030 | 0.0017 | 0.0030 | 0.010 | U |
| 72-55-9 | 4,4'-DDE | 1 | 0.0030 | 0.0019 | 0.0030 | 0.010 | U |
| 50-29-3 | 4,4'-DDT | 1 | 0.0030 | 0.00076 | 0.0030 | 0.010 | U |
| 60-57-1 | Dieldrin | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 959-98-8 | Endosulfan I | 1 | 0.0030 | 0.0016 | 0.0030 | 0.010 | U |
| 33213-65-9 | Endosulfan II | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 1031-07-8 | Endosulfan sulfate | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 72-20-8 | Endrin | 1 | 0.0030 | 0.00082 | 0.0030 | 0.010 | U |
| 7421-93-4 | Endrin aldehyde | 1 | 0.0060 | 0.0032 | 0.0060 | 0.020 | U |
| 53494-70-5 | Endrin ketone | 1 | 0.0030 | 0.00056 | 0.0030 | 0.010 | U |
| 76-44-8 | Heptachlor | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 1024-57-3 | Heptachlor epoxide | 1 | 0.0030 | 0.00099 | 0.0030 | 0.010 | U |
| 72-43-5 | Methoxychlor | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 8001-35-2 | Toxaphene | 1 | 1.0 | 0.42 | 1.0 | 4.0 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| TCMX (Surrogate) | 0.30000 | 0.23918 | 79.7 | 44 - 124 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 0.41312 | 68.9 | 50 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8081A

**M002A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-03RE1 | File ID: | 15FEB015.D |
| Sampled: | 01/31/17 08:35 | Prepared: | 02/02/17 13:00 | Analyzed: | 02/15/17 13:31 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Batch: | B[B0436 | Sequence: | 1702826 | Calibration: | 1702026 |
| Instrument: | GC-17 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 1 | 0.0030 | 0.0013 | 0.0030 | 0.010 | U |
| 319-84-6 | alpha-BHC | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 319-85-7 | beta-BHC | 1 | 0.0030 | 0.0021 | 0.0030 | 0.010 | U |
| 319-86-8 | delta-BHC | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1 | 0.0030 | 0.00094 | 0.0030 | 0.010 | U |
| 5103-71-9 | alpha-Chlordane | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 5566-34-7 | gamma-Chlordane | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 57-74-9 | Chlordane (Technical) | 1 | 0.60 | 0.38 | 0.60 | 2.0 | U |
| 72-54-8 | 4,4'-DDD | 1 | 0.0030 | 0.0017 | 0.0030 | 0.010 | U |
| 72-55-9 | 4,4'-DDE | 1 | 0.0030 | 0.0019 | 0.0030 | 0.010 | U |
| 50-29-3 | 4,4'-DDT | 1 | 0.0030 | 0.00076 | 0.0030 | 0.010 | U |
| 60-57-1 | Dieldrin | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 959-98-8 | Endosulfan I | 1 | 0.0030 | 0.0016 | 0.0030 | 0.010 | U |
| 33213-65-9 | Endosulfan II | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 1031-07-8 | Endosulfan sulfate | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 72-20-8 | Endrin | 1 | 0.0030 | 0.00082 | 0.0030 | 0.010 | U |
| 7421-93-4 | Endrin aldehyde | 1 | 0.0060 | 0.0032 | 0.0060 | 0.020 | U |
| 53494-70-5 | Endrin ketone | 1 | 0.0030 | 0.00056 | 0.0030 | 0.010 | U |
| 76-44-8 | Heptachlor | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 1024-57-3 | Heptachlor epoxide | 1 | 0.0030 | 0.00099 | 0.0030 | 0.010 | U |
| 72-43-5 | Methoxychlor | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 8001-35-2 | Toxaphene | 1 | 1.0 | 0.42 | 1.0 | 4.0 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| TCMX (Surrogate) | 0.30000 | 0.17770 | 59.2 | 44 - 124 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 0.39580 | 66.0 | 50 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8081A

**M003E-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-04RE1 | File ID: | 15FEB016.D |
| Sampled: | 01/31/17 13:25 | Prepared: | 02/02/17 13:00 | Analyzed: | 02/15/17 13:46 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Batch: | B[B0436 | Sequence: | 1702826 | Calibration: | 1702026 |
| Instrument: | GC-17 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 1 | 0.0030 | 0.0013 | 0.0030 | 0.010 | U |
| 319-84-6 | alpha-BHC | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 319-85-7 | beta-BHC | 1 | 0.0030 | 0.0021 | 0.0030 | 0.010 | U |
| 319-86-8 | delta-BHC | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1 | 0.0030 | 0.00094 | 0.0030 | 0.010 | U |
| 5103-71-9 | alpha-Chlordane | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 5566-34-7 | gamma-Chlordane | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 57-74-9 | Chlordane (Technical) | 1 | 0.60 | 0.38 | 0.60 | 2.0 | U |
| 72-54-8 | 4,4'-DDD | 1 | 0.0030 | 0.0017 | 0.0030 | 0.010 | U |
| 72-55-9 | 4,4'-DDE | 1 | 0.0030 | 0.0019 | 0.0030 | 0.010 | U |
| 50-29-3 | 4,4'-DDT | 1 | 0.0030 | 0.00076 | 0.0030 | 0.010 | U |
| 60-57-1 | Dieldrin | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 959-98-8 | Endosulfan I | 1 | 0.0030 | 0.0016 | 0.0030 | 0.010 | U |
| 33213-65-9 | Endosulfan II | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 1031-07-8 | Endosulfan sulfate | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 72-20-8 | Endrin | 1 | 0.0030 | 0.00082 | 0.0030 | 0.010 | U |
| 7421-93-4 | Endrin aldehyde | 1 | 0.0060 | 0.0032 | 0.0060 | 0.020 | U |
| 53494-70-5 | Endrin ketone | 1 | 0.0030 | 0.00056 | 0.0030 | 0.010 | U |
| 76-44-8 | Heptachlor | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 1024-57-3 | Heptachlor epoxide | 1 | 0.0030 | 0.00099 | 0.0030 | 0.010 | U |
| 72-43-5 | Methoxychlor | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 8001-35-2 | Toxaphene | 1 | 1.0 | 0.42 | 1.0 | 4.0 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| TCMX (Surrogate) | 0.30000 | 0.26377 | 87.9 | 44 - 124 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 0.33573 | 56.0 | 50 - 130 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8081A

**M028A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-06 | File ID: | 06FEB051.D |
| Sampled: | 01/31/17 08:34 | Prepared: | 02/02/17 13:00 | Analyzed: | 02/06/17 22:37 |
| Solids: | | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Batch: | B[B0436 | Sequence: | 1702299 | Calibration: | 1702012 |
| Instrument: | GC-17 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 1 | 0.0030 | 0.0013 | 0.0030 | 0.010 | U |
| 319-84-6 | alpha-BHC | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 319-85-7 | beta-BHC | 1 | 0.0030 | 0.0021 | 0.0030 | 0.010 | U |
| 319-86-8 | delta-BHC | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1 | 0.0030 | 0.00094 | 0.0030 | 0.010 | U |
| 5103-71-9 | alpha-Chlordane | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 5566-34-7 | gamma-Chlordane | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 57-74-9 | Chlordane (Technical) | 1 | 0.60 | 0.38 | 0.60 | 2.0 | U |
| 72-54-8 | 4,4'-DDD | 1 | 0.0030 | 0.0017 | 0.0030 | 0.010 | U |
| 72-55-9 | 4,4'-DDE | 1 | 0.0030 | 0.0019 | 0.0030 | 0.010 | U |
| 50-29-3 | 4,4'-DDT | 1 | 0.0030 | 0.00076 | 0.0030 | 0.010 | U |
| 60-57-1 | Dieldrin | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 959-98-8 | Endosulfan I | 1 | 0.0030 | 0.0016 | 0.0030 | 0.010 | U |
| 33213-65-9 | Endosulfan II | 1 | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 1031-07-8 | Endosulfan sulfate | 1 | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 72-20-8 | Endrin | 1 | 0.0030 | 0.00082 | 0.0030 | 0.010 | U |
| 7421-93-4 | Endrin aldehyde | 1 | 0.0060 | 0.0032 | 0.0060 | 0.020 | U |
| 53494-70-5 | Endrin ketone | 1 | 0.0030 | 0.00056 | 0.0030 | 0.010 | U |
| 76-44-8 | Heptachlor | 1 | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 1024-57-3 | Heptachlor epoxide | 1 | 0.0030 | 0.00099 | 0.0030 | 0.010 | U |
| 72-43-5 | Methoxychlor | 1 | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 8001-35-2 | Toxaphene | 1 | 1.0 | 0.42 | 1.0 | 4.0 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| TCMX (Surrogate) | 0.30000 | 0.23352 | 77.8 | 44 - 124 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 0.23099 | 38.5 | 50 - 130 | * |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0436
Batch Matrix: Water
Preparation: EPA 3510B

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | 06FEB047.D | 02/02/17 13:00 | |
| EB04_170131 | 1702734-02 | 06FEB048.D | 02/02/17 13:00 | |
| M002A-R_170131 | 1702734-03RE1 | 15FEB015.D | 02/02/17 13:00 | Added 2/17/2017 by HKS |
| M003E-R_170131 | 1702734-04RE1 | 15FEB016.D | 02/02/17 13:00 | Added 2/17/2017 by HKS |
| M028A-R_170131 | 1702734-06 | 06FEB051.D | 02/02/17 13:00 | |
| Blank | B[B0436-BLK1 | 06FEB032.D | 02/02/17 13:00 | |
| LCS | B[B0436-BS1 | 06FEB033.D | 02/02/17 13:00 | |
| Matrix Spike | B[B0436-MS1 | 06FEB034.D | 02/02/17 13:00 | |
| Matrix Spike Dup | B[B0436-MSD1 | 06FEB035.D | 02/02/17 13:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8081A

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | SDG: | 17-02734 | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | Project: | Alameda | |
| Matrix: | Water | Laboratory ID: | B[B0436-BLK1 | File ID: | 06FEB032.D |
| Prepared: | 02/02/17 13:00 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Analyzed: | 02/06/17 18:00 | Instrument: | GC-17 | | |
| Batch: | B[B0436 | Sequence: | 1702299 | Calibration: | 1702012 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 0.0030 | 0.0013 | 0.0030 | 0.010 | U |
| 319-84-6 | alpha-BHC | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 319-85-7 | beta-BHC | 0.0030 | 0.0021 | 0.0030 | 0.010 | U |
| 319-86-8 | delta-BHC | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.0030 | 0.00094 | 0.0030 | 0.010 | U |
| 5103-71-9 | alpha-Chlordane | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 5566-34-7 | gamma-Chlordane | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 57-74-9 | Chlordane (Technical) | 0.60 | 0.38 | 0.60 | 2.0 | U |
| 72-54-8 | 4,4'-DDD | 0.0030 | 0.0017 | 0.0030 | 0.010 | U |
| 72-55-9 | 4,4'-DDE | 0.0030 | 0.0019 | 0.0030 | 0.010 | U |
| 50-29-3 | 4,4'-DDT | 0.0030 | 0.00076 | 0.0030 | 0.010 | U |
| 60-57-1 | Dieldrin | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 959-98-8 | Endosulfan I | 0.0030 | 0.0016 | 0.0030 | 0.010 | U |
| 33213-65-9 | Endosulfan II | 0.0030 | 0.0014 | 0.0030 | 0.010 | U |
| 1031-07-8 | Endosulfan sulfate | 0.0030 | 0.0026 | 0.0030 | 0.010 | U |
| 72-20-8 | Endrin | 0.0030 | 0.00082 | 0.0030 | 0.010 | U |
| 7421-93-4 | Endrin aldehyde | 0.0060 | 0.0032 | 0.0060 | 0.020 | U |
| 53494-70-5 | Endrin ketone | 0.0030 | 0.00056 | 0.0030 | 0.010 | U |
| 76-44-8 | Heptachlor | 0.0030 | 0.0012 | 0.0030 | 0.010 | U |
| 1024-57-3 | Heptachlor epoxide | 0.0030 | 0.00099 | 0.0030 | 0.010 | U |
| 72-43-5 | Methoxychlor | 0.0030 | 0.0011 | 0.0030 | 0.010 | U |
| 8001-35-2 | Toxaphene | 1.0 | 0.42 | 1.0 | 4.0 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| TCMX (Surrogate) | 0.30000 | 0.25362 | 84.5 | 44 - 124 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8081A

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0436-BLK1 | File ID: | 06FEB032.D |
| Prepared: | 02/02/17 13:00 | Preparation: | EPA 3510B | Initial/Final: | 1000 ml / 10 ml |
| Analyzed: | 02/06/17 18:00 | Instrument: | GC-17 | | |
| Batch: | B[B0436 | Sequence: | 1702299 | Calibration: | 1702012 |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| Decachlorobiphenyl (Surrogate) | 0.60000 | 0.49063 | 81.8 | 50 - 130 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8081A

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0436
Laboratory ID: B[B0436-MS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Aldrin | 0.15000 | ND | 0.085380 | 56.9 | 45 - 134 |
| alpha-BHC | 0.15000 | ND | 0.10280 | 68.5 | 54 - 138 |
| beta-BHC | 0.15000 | ND | 0.12329 | 82.2 | 56 - 136 |
| delta-BHC | 0.15000 | ND | 0.12845 | 85.6 | 52 - 142 |
| gamma-BHC (Lindane) | 0.15000 | ND | 0.11450 | 76.3 | 59 - 134 |
| alpha-Chlordane | 0.15000 | ND | 0.095490 | 63.7 | 60 - 129 |
| gamma-Chlordane | 0.15000 | ND | 0.11502 | 76.7 | 56 - 136 |
| 4,4'-DDD | 0.15000 | ND | 0.11760 | 78.4 | 56 - 143 |
| 4,4'-DDE | 0.15000 | ND | 0.10380 | 69.2 | 57 - 135 |
| 4,4'-DDT | 0.15000 | ND | 0.099780 | 66.5 | 51 - 143 |
| Dieldrin | 0.15000 | ND | 0.11763 | 78.4 | 60 - 136 |
| Endosulfan I | 0.15000 | ND | 0.10547 | 70.3 | 62 - 126 |
| Endosulfan II | 0.15000 | ND | 0.13069 | 87.1 | 52 - 135 |
| Endosulfan sulfate | 0.15000 | ND | 0.12479 | 83.2 | 62 - 133 |
| Endrin | 0.15000 | ND | 0.12124 | 80.8 | 60 - 138 |
| Endrin aldehyde | 0.15000 | ND | 0.10088 | 67.3 | 51 - 132 |
| Endrin ketone | 0.15000 | ND | 0.12517 | 83.4 | 58 - 134 |
| Heptachlor | 0.15000 | ND | 0.10639 | 70.9 | 54 - 130 |
| Heptachlor epoxide | 0.15000 | ND | 0.10539 | 70.3 | 61 - 133 |
| Methoxychlor | 0.15000 | ND | 0.13485 | 89.9 | 54 - 145 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Aldrin | 0.15000 | 0.085600 | 57.1 | 0.257 | 30 | 45 - 134 |
| alpha-BHC | 0.15000 | 0.094530 | 63.0 | 8.38 | 30 | 54 - 138 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8081A

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0436
Laboratory ID: B[B0436-MSD1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 10 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| beta-BHC | 0.15000 | 0.11557 | 77.0 | 6.46 | 30 | 56 - 136 |
| delta-BHC | 0.15000 | 0.11916 | 79.4 | 7.50 | 30 | 52 - 142 |
| gamma-BHC (Lindane) | 0.15000 | 0.10972 | 73.1 | 4.26 | 30 | 59 - 134 |
| alpha-Chlordane | 0.15000 | 0.099460 | 66.3 | 4.07 | 30 | 60 - 129 |
| gamma-Chlordane | 0.15000 | 0.11030 | 73.5 | 4.19 | 30 | 56 - 136 |
| 4,4'-DDD | 0.15000 | 0.11563 | 77.1 | 1.69 | 30 | 56 - 143 |
| 4,4'-DDE | 0.15000 | 0.097850 | 65.2 | 5.90 | 30 | 57 - 135 |
| 4,4'-DDT | 0.15000 | 0.095780 | 63.9 | 4.09 | 30 | 51 - 143 |
| Dieldrin | 0.15000 | 0.11136 | 74.2 | 5.48 | 30 | 60 - 136 |
| Endosulfan I | 0.15000 | 0.099580 | 66.4 | 5.74 | 30 | 62 - 126 |
| Endosulfan II | 0.15000 | 0.11903 | 79.4 | 9.34 | 30 | 52 - 135 |
| Endosulfan sulfate | 0.15000 | 0.12459 | 83.1 | 0.160 | 30 | 62 - 133 |
| Endrin | 0.15000 | 0.11208 | 74.7 | 7.85 | 30 | 60 - 138 |
| Endrin aldehyde | 0.15000 | 0.10024 | 66.8 | 0.636 | 30 | 51 - 132 |
| Endrin ketone | 0.15000 | 0.11890 | 79.3 | 5.14 | 30 | 58 - 134 |
| Heptachlor | 0.15000 | 0.093200 | 62.1 | 13.2 | 30 | 54 - 130 |
| Heptachlor epoxide | 0.15000 | 0.098770 | 65.8 | 6.49 | 30 | 61 - 133 |
| Methoxychlor | 0.15000 | 0.13133 | 87.6 | 2.64 | 30 | 54 - 145 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

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Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0436
Laboratory ID: B[B0436-BS1
Preparation: EPA 3510B
Initial/Final: 1000 ml / 10 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Aldrin | 0.15000 | 0.12838 | 85.6 | 45 - 134 |
| alpha-BHC | 0.15000 | 0.14542 | 96.9 | 54 - 138 |
| beta-BHC | 0.15000 | 0.14684 | 97.9 | 56 - 136 |
| delta-BHC | 0.15000 | 0.14361 | 95.7 | 52 - 142 |
| gamma-BHC (Lindane) | 0.15000 | 0.14739 | 98.3 | 59 - 134 |
| alpha-Chlordane | 0.15000 | 0.13578 | 90.5 | 60 - 129 |
| gamma-Chlordane | 0.15000 | 0.14078 | 93.9 | 56 - 136 |
| 4,4'-DDD | 0.15000 | 0.12438 | 82.9 | 56 - 143 |
| 4,4'-DDE | 0.15000 | 0.13675 | 91.2 | 57 - 135 |
| 4,4'-DDT | 0.15000 | 0.12459 | 83.1 | 51 - 143 |
| Dieldrin | 0.15000 | 0.14042 | 93.6 | 60 - 136 |
| Endosulfan I | 0.15000 | 0.13597 | 90.6 | 62 - 126 |
| Endosulfan II | 0.15000 | 0.15293 | 102 | 52 - 135 |
| Endosulfan sulfate | 0.15000 | 0.13535 | 90.2 | 62 - 133 |
| Endrin | 0.15000 | 0.12527 | 83.5 | 60 - 138 |
| Endrin aldehyde | 0.15000 | 0.12099 | 80.7 | 51 - 132 |
| Endrin ketone | 0.15000 | 0.13670 | 91.1 | 58 - 134 |
| Heptachlor | 0.15000 | 0.13893 | 92.6 | 54 - 130 |
| Heptachlor epoxide | 0.15000 | 0.13735 | 91.6 | 61 - 133 |
| Methoxychlor | 0.15000 | 0.12425 | 82.8 | 54 - 145 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702299
Instrument: GC-17
Matrix: Water
Calibration: 1702012

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Cal Standard | 1702299-CAL6 | 06FEB007.D | 02/06/17 11:27 |
| Cal Standard | 1702299-CAL5 | 06FEB008.D | 02/06/17 11:42 |
| Cal Standard | 1702299-CAL4 | 06FEB009.D | 02/06/17 11:56 |
| Cal Standard | 1702299-CAL3 | 06FEB010.D | 02/06/17 12:11 |
| Cal Standard | 1702299-CAL2 | 06FEB011.D | 02/06/17 12:25 |
| Cal Standard | 1702299-CAL1 | 06FEB012.D | 02/06/17 12:40 |
| Initial Cal Check | 1702299-ICV1 | 06FEB013.D | 02/06/17 13:22 |
| Initial Cal Blank | 1702299-ICB1 | 06FEB014.D | 02/06/17 13:37 |
| Calibration Check | 1702299-CCV1 | 06FEB027.D | 02/06/17 16:47 |
| Calibration Blank | 1702299-CCB1 | 06FEB029.D | 02/06/17 17:16 |
| Blank | B[B0436-BLK1 | 06FEB032.D | 02/06/17 18:00 |
| LCS | B[B0436-BS1 | 06FEB033.D | 02/06/17 18:14 |
| Matrix Spike | B[B0436-MS1 | 06FEB034.D | 02/06/17 18:29 |
| Matrix Spike Dup | B[B0436-MSD1 | 06FEB035.D | 02/06/17 18:43 |
| Calibration Check | 1702299-CCV2 | 06FEB041.D | 02/06/17 20:11 |
| Calibration Blank | 1702299-CCB2 | 06FEB042.D | 02/06/17 20:25 |
| EB03_170131 | 1702734-01 | 06FEB047.D | 02/06/17 21:38 |
| EB04_170131 | 1702734-02 | 06FEB048.D | 02/06/17 21:53 |
| M028A-R_170131 | 1702734-06 | 06FEB051.D | 02/06/17 22:37 |
| Calibration Check | 1702299-CCV3 | 06FEB053.D | 02/06/17 23:06 |
| Calibration Blank | 1702299-CCB3 | 06FEB054.D | 02/06/17 23:21 |

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Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702826 | Instrument: | GC-17 |
| Matrix: | Water | Calibration: | 1702026 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Cal Standard | 1702826-CAL6 | 15FEB007.D | 02/15/17 11:34 |
| Cal Standard | 1702826-CAL5 | 15FEB008.D | 02/15/17 11:49 |
| Cal Standard | 1702826-CAL4 | 15FEB009.D | 02/15/17 12:04 |
| Cal Standard | 1702826-CAL3 | 15FEB010.D | 02/15/17 12:18 |
| Cal Standard | 1702826-CAL2 | 15FEB011.D | 02/15/17 12:33 |
| Cal Standard | 1702826-CAL1 | 15FEB012.D | 02/15/17 12:47 |
| Initial Cal Check | 1702826-ICV1 | 15FEB013.D | 02/15/17 13:02 |
| Initial Cal Blank | 1702826-ICB1 | 15FEB014.D | 02/15/17 13:16 |
| M002A-R_170131 | 1702734-03RE1 | 15FEB015.D | 02/15/17 13:31 |
| M003E-R_170131 | 1702734-04RE1 | 15FEB016.D | 02/15/17 13:46 |
| Calibration Check | 1702826-CCV1 | 15FEB025.D | 02/15/17 15:57 |
| Calibration Blank | 1702826-CCB1 | 15FEB026.D | 02/15/17 16:11 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-17 | Calibration: | 1702012 |
| Lab File ID: | 06FEB013.D | Calibration Date: | 02/06/17 11:27 |
| Sequence: | 1702299 | Injection Date: | 02/06/17 |
| Lab Sample ID: | 1702299-ICV1 | Injection Time: | 13:22 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Aldrin | A | 15.000 | 15.275 | 4.967778E+07 | 5.058667E+07 | | 1.8 | 15 |
| alpha-BHC | A | 15.000 | 15.086 | 5.999091E+07 | 6.034E+07 | | 0.6 | 15 |
| beta-BHC | A | 15.000 | 14.575 | 2.442652E+07 | 2.374E+07 | | -2.8 | 15 |
| delta-BHC | A | 15.000 | 14.694 | 4.315982E+07 | 4.228E+07 | | -2.0 | 15 |
| gamma-BHC (Lindane) | Q | 15.000 | 15.738 | 5.277197E+07 | 5.154E+07 | | 4.9 | 15 |
| alpha-Chlordane | A | 15.000 | 15.305 | 4.596484E+07 | 4.69E+07 | | 2.0 | 15 |
| gamma-Chlordane | L | 15.000 | 15.522 | 5.479867E+07 | 4.856E+07 | | 3.5 | 15 |
| 4,4'-DDD | Q | 15.000 | 15.871 | 3.776883E+07 | 3.662E+07 | | 5.8 | 15 |
| 4,4'-DDE | A | 15.000 | 15.471 | 8.646894E+07 | 8.918667E+07 | | 3.1 | 15 |
| 4,4'-DDT | A | 15.000 | 14.099 | 3.356677E+07 | 3.154667E+07 | | -6.0 | 15 |
| Dieldrin | L | 15.000 | 15.521 | 4.892527E+07 | 4.946667E+07 | | 3.5 | 15 |
| Endosulfan I | A | 15.000 | 15.471 | 8.646894E+07 | 8.918667E+07 | | 3.1 | 15 |
| Endosulfan II | Q | 15.000 | 15.868 | 3.96701E+07 | 3.902E+07 | | 5.8 | 15 |
| Endosulfan sulfate | L | 15.000 | 15.765 | 3.333916E+07 | 3.182667E+07 | | 5.1 | 15 |
| Endrin | A | 15.000 | 13.858 | 4.290788E+07 | 3.964E+07 | | -7.6 | 15 |
| Endrin aldehyde | L | 15.000 | 14.608 | 3.263072E+07 | 2.897333E+07 | | -2.6 | 15 |
| Endrin ketone | L | 15.000 | 15.681 | 3.993536E+07 | 4.056667E+07 | | 4.5 | 15 |
| Heptachlor | A | 15.000 | 14.271 | 5.388692E+07 | 5.126667E+07 | | -4.9 | 15 |
| Heptachlor epoxide | L | 15.000 | 14.923 | 4.84144E+07 | 4.566E+07 | | -0.5 | 15 |
| Methoxychlor | A | 15.000 | 13.468 | 1.857743E+07 | 1.668E+07 | | -10.2 | 15 |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:51:18PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-17 | Calibration: | 1702012 |
| Lab File ID: | 06FEB027.D | Calibration Date: | 02/06/17 11:27 |
| Sequence: | 1702299 | Injection Date: | 02/06/17 |
| Lab Sample ID: | 1702299-CCV1 | Injection Time: | 16:47 |

| | (1) CAL | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Aldrin | A | 15.000 | 14.917 | 4.967778E+07 | 5.358667E+07 | | 7.9 | 15 |
| alpha-BHC | A | 15.000 | 16.169 | 5.999091E+07 | 6.466667E+07 | | 7.8 | 15 |
| beta-BHC | A | 15.000 | 16.021 | 2.442652E+07 | 2.499333E+07 | | 2.3 | 15 |
| delta-BHC | A | 15.000 | 15.722 | 4.315982E+07 | 4.524E+07 | | 4.8 | 15 |
| gamma-BHC (Lindane) | Q | 15.000 | 16.698 | 5.277197E+07 | 5.531333E+07 | | 11.3 | 15 |
| alpha-Chlordane | A | 15.000 | 16.006 | 4.596484E+07 | 4.904667E+07 | | 6.7 | 15 |
| gamma-Chlordane | L | 15.000 | 16.140 | 5.479867E+07 | 5.049333E+07 | | 7.6 | 15 |
| 4,4'-DDD | Q | 15.000 | 15.686 | 3.776883E+07 | 3.611333E+07 | | 4.6 | 15 |
| 4,4'-DDE | A | 15.000 | 15.858 | 8.646894E+07 | 9.141333E+07 | | 5.7 | 15 |
| 4,4'-DDT | A | 15.000 | 14.288 | 3.356677E+07 | 3.197333E+07 | | -4.7 | 15 |
| Dieldrin | L | 15.000 | 15.980 | 4.892527E+07 | 5.096667E+07 | | 6.5 | 15 |
| Endosulfan I | A | 15.000 | 15.858 | 8.646894E+07 | 9.141333E+07 | | 5.7 | 15 |
| Endosulfan II | Q | 15.000 | 16.115 | 3.96701E+07 | 3.972E+07 | | 7.4 | 15 |
| Endosulfan sulfate | L | 15.000 | 15.782 | 3.333916E+07 | 3.186E+07 | | 5.2 | 15 |
| Endrin | A | 15.000 | 14.040 | 4.290788E+07 | 4.016667E+07 | | -6.4 | 15 |
| Endrin aldehyde | L | 15.000 | 14.085 | 3.263072E+07 | 2.792667E+07 | | -6.1 | 15 |
| Endrin ketone | L | 15.000 | 15.755 | 3.993536E+07 | 4.076E+07 | | 5.0 | 15 |
| Heptachlor | A | 15.000 | 15.409 | 5.388692E+07 | 5.535333E+07 | | 2.7 | 15 |
| Heptachlor epoxide | L | 15.000 | 15.376 | 4.84144E+07 | 4.707333E+07 | | 2.5 | 15 |
| Methoxychlor | A | 15.000 | 13.510 | 1.857743E+07 | 1.673333E+07 | | -9.9 | 15 |

| | |
|---|---|
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# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-17 | Calibration: | 1702012 |
| Lab File ID: | 06FEB041.D | Calibration Date: | 02/06/17 11:27 |
| Sequence: | 1702299 | Injection Date: | 02/06/17 |
| Lab Sample ID: | 1702299-CCV2 | Injection Time: | 20:11 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Aldrin | A | 15.000 | 15.241 | 4.967778E+07 | 5.475333E+07 | | 10.2 | 15 |
| alpha-BHC | A | 15.000 | 15.638 | 5.999091E+07 | 6.254E+07 | | 4.2 | 15 |
| beta-BHC | A | 15.000 | 15.887 | 2.442652E+07 | 2.478667E+07 | | 1.5 | 15 |
| delta-BHC | A | 15.000 | 15.565 | 4.315982E+07 | 4.478667E+07 | | 3.8 | 15 |
| gamma-BHC (Lindane) | Q | 15.000 | 16.112 | 5.277197E+07 | 5.3E+07 | | 7.4 | 15 |
| alpha-Chlordane | A | 15.000 | 15.499 | 4.596484E+07 | 4.749333E+07 | | 3.3 | 15 |
| gamma-Chlordane | L | 15.000 | 15.595 | 5.479867E+07 | 4.879333E+07 | | 4.0 | 15 |
| 4,4'-DDD | Q | 15.000 | 14.941 | 3.776883E+07 | 3.408667E+07 | | -0.4 | 15 |
| 4,4'-DDE | A | 15.000 | 15.271 | 8.646894E+07 | 8.802667E+07 | | 1.8 | 15 |
| 4,4'-DDT | A | 15.000 | 14.155 | 3.356677E+07 | 3.167333E+07 | | -5.6 | 15 |
| Dieldrin | L | 15.000 | 15.443 | 4.892527E+07 | 4.920667E+07 | | 3.0 | 15 |
| Endosulfan I | A | 15.000 | 15.271 | 8.646894E+07 | 8.802667E+07 | | 1.8 | 15 |
| Endosulfan II | Q | 15.000 | 15.555 | 3.96701E+07 | 3.813333E+07 | | 3.7 | 15 |
| Endosulfan sulfate | L | 15.000 | 15.106 | 3.333916E+07 | 3.051333E+07 | | 0.7 | 15 |
| Endrin | A | 15.000 | 13.346 | 4.290788E+07 | 3.817333E+07 | | -11.0 | 15 |
| Endrin aldehyde | L | 15.000 | 13.639 | 3.263072E+07 | 2.703333E+07 | | -9.1 | 15 |
| Endrin ketone | L | 15.000 | 15.132 | 3.993536E+07 | 3.912667E+07 | | 0.9 | 15 |
| Heptachlor | A | 15.000 | 15.241 | 5.388692E+07 | 5.475333E+07 | | 1.6 | 15 |
| Heptachlor epoxide | L | 15.000 | 14.738 | 4.84144E+07 | 4.508667E+07 | | -1.7 | 15 |
| Methoxychlor | A | 15.000 | 13.564 | 1.857743E+07 | 1.68E+07 | | -9.6 | 15 |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:51:18PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-17 | Calibration: | 1702012 |
| Lab File ID: | 06FEB053.D | Calibration Date: | 02/06/17 11:27 |
| Sequence: | 1702299 | Injection Date: | 02/06/17 |
| Lab Sample ID: | 1702299-CCV3 | Injection Time: | 23:06 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Aldrin | A | 15.000 | 16.493 | 4.967778E+07 | 5.462E+07 | | 9.9 | 15 |
| alpha-BHC | A | 15.000 | 16.535 | 5.999091E+07 | 6.613333E+07 | | 10.2 | 15 |
| beta-BHC | A | 15.000 | 15.996 | 2.442652E+07 | 2.605333E+07 | | 6.7 | 15 |
| delta-BHC | A | 15.000 | 16.946 | 4.315982E+07 | 4.876E+07 | | 13.0 | 15 |
| gamma-BHC (Lindane) | Q | 15.000 | 16.849 | 5.277197E+07 | 5.591333E+07 | | 12.3 | 15 |
| alpha-Chlordane | A | 15.000 | 16.107 | 4.596484E+07 | 4.936E+07 | | 7.4 | 15 |
| gamma-Chlordane | L | 15.000 | 16.202 | 5.479867E+07 | 5.068667E+07 | | 8.0 | 15 |
| 4,4'-DDD | Q | 15.000 | 15.419 | 3.776883E+07 | 3.538E+07 | | 2.8 | 15 |
| 4,4'-DDE | A | 15.000 | 15.940 | 8.646894E+07 | 9.188667E+07 | | 6.3 | 15 |
| 4,4'-DDT | A | 15.000 | 14.540 | 3.356677E+07 | 3.253333E+07 | | -3.1 | 15 |
| Dieldrin | L | 15.000 | 15.931 | 4.892527E+07 | 5.080667E+07 | | 6.2 | 15 |
| Endosulfan I | A | 15.000 | 15.940 | 8.646894E+07 | 9.188667E+07 | | 6.3 | 15 |
| Endosulfan II | Q | 15.000 | 15.922 | 3.96701E+07 | 3.917333E+07 | | 6.1 | 15 |
| Endosulfan sulfate | L | 15.000 | 15.247 | 3.333916E+07 | 3.079333E+07 | | 1.6 | 15 |
| Endrin | A | 15.000 | 13.478 | 4.290788E+07 | 3.855333E+07 | | -10.1 | 15 |
| Endrin aldehyde | L | 15.000 | 13.804 | 3.263072E+07 | 2.736667E+07 | | -8.0 | 15 |
| Endrin ketone | L | 15.000 | 15.641 | 3.993536E+07 | 4.046667E+07 | | 4.3 | 15 |
| Heptachlor | A | 15.000 | 15.911 | 5.388692E+07 | 5.716E+07 | | 6.1 | 15 |
| Heptachlor epoxide | L | 15.000 | 15.111 | 4.84144E+07 | 4.625333E+07 | | 0.7 | 15 |
| Methoxychlor | A | 15.000 | 13.617 | 1.857743E+07 | 1.686667E+07 | | -9.2 | 15 |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:51:18PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-17 | Calibration: | 1702026 |
| Lab File ID: | 15FEB013.D | Calibration Date: | 02/15/17 11:34 |
| Sequence: | 1702826 | Injection Date: | 02/15/17 |
| Lab Sample ID: | 1702826-ICV1 | Injection Time: | 13:02 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Aldrin | L | 15.000 | 14.867 | 5.899779E+07 | 5.492667E+07 | | -0.9 | 15 |
| alpha-BHC | A | 15.000 | 14.035 | 7.19641E+07 | 6.733333E+07 | | -6.4 | 15 |
| beta-BHC | L | 15.000 | 14.764 | 2.870987E+07 | 2.522E+07 | | -1.6 | 15 |
| delta-BHC | A | 15.000 | 14.011 | 5.715333E+07 | 5.338667E+07 | | -6.6 | 15 |
| gamma-BHC (Lindane) | A | 15.000 | 13.862 | 6.129625E+07 | 5.664667E+07 | | -7.6 | 15 |
| alpha-Chlordane | A | 15.000 | 14.083 | 5.226782E+07 | 4.907333E+07 | | -6.1 | 15 |
| gamma-Chlordane | L | 15.000 | 14.973 | 5.804161E+07 | 5.085333E+07 | | -0.2 | 15 |
| 4,4'-DDD | A | 15.000 | 14.278 | 3.977988E+07 | 3.786667E+07 | | -4.8 | 15 |
| 4,4'-DDE | A | 15.000 | 14.367 | 9.733186E+07 | 9.322667E+07 | | -4.2 | 15 |
| 4,4'-DDT | A | 15.000 | 14.672 | 4.040238E+07 | 3.952E+07 | | -2.2 | 15 |
| Dieldrin | L | 15.000 | 15.003 | 5.491021E+07 | 5.152667E+07 | | 0.02 | 15 |
| Endosulfan I | A | 15.000 | 14.367 | 9.733186E+07 | 9.322667E+07 | | -4.2 | 15 |
| Endosulfan II | L | 15.000 | 14.678 | 4.352619E+07 | 4.035333E+07 | | -2.1 | 15 |
| Endosulfan sulfate | L | 15.000 | 15.039 | 3.872841E+07 | 3.253333E+07 | | 0.3 | 15 |
| Endrin | A | 15.000 | 14.448 | 4.339935E+07 | 4.18E+07 | | -3.7 | 15 |
| Endrin aldehyde | L | 15.000 | 14.330 | 3.500724E+07 | 3.082E+07 | | -4.5 | 15 |
| Endrin ketone | L | 15.000 | 15.334 | 4.706951E+07 | 4.438E+07 | | 2.2 | 15 |
| Heptachlor | A | 15.000 | 14.420 | 6.289311E+07 | 6.046E+07 | | -3.9 | 15 |
| Heptachlor epoxide | L | 15.000 | 14.862 | 5.334837E+07 | 4.861333E+07 | | -0.9 | 15 |
| Methoxychlor | L | 15.000 | 15.492 | 2.179753E+07 | 1.959333E+07 | | 3.3 | 15 |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:51:18PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | GC-17 | Calibration: | 1702026 |
| Lab File ID: | 15FEB025.D | Calibration Date: | 02/15/17 11:34 |
| Sequence: | 1702826 | Injection Date: | 02/15/17 |
| Lab Sample ID: | 1702826-CCV1 | Injection Time: | 15:57 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Aldrin | L | 15.000 | 16.058 | 5.899779E+07 | 5.92E+07 | | 7.1 | 15 |
| alpha-BHC | A | 15.000 | 15.259 | 7.19641E+07 | 7.320667E+07 | | 1.7 | 15 |
| beta-BHC | L | 15.000 | 16.284 | 2.870987E+07 | 2.768667E+07 | | 8.6 | 15 |
| delta-BHC | A | 15.000 | 15.801 | 5.715333E+07 | 6.020667E+07 | | 5.3 | 15 |
| gamma-BHC (Lindane) | A | 15.000 | 15.647 | 6.129625E+07 | 6.394E+07 | | 4.3 | 15 |
| alpha-Chlordane | A | 15.000 | 15.169 | 5.226782E+07 | 5.286E+07 | | 1.1 | 15 |
| gamma-Chlordane | L | 15.000 | 16.072 | 5.804161E+07 | 5.442E+07 | | 7.1 | 15 |
| 4,4'-DDD | A | 15.000 | 15.348 | 3.977988E+07 | 4.07E+07 | | 2.3 | 15 |
| 4,4'-DDE | A | 15.000 | 15.351 | 9.733186E+07 | 9.960667E+07 | | 2.3 | 15 |
| 4,4'-DDT | A | 15.000 | 15.460 | 4.040238E+07 | 4.164E+07 | | 3.1 | 15 |
| Dieldrin | L | 15.000 | 15.989 | 5.491021E+07 | 5.482E+07 | | 6.6 | 15 |
| Endosulfan I | A | 15.000 | 15.351 | 9.733186E+07 | 9.960667E+07 | | 2.3 | 15 |
| Endosulfan II | L | 15.000 | 15.659 | 4.352619E+07 | 4.299333E+07 | | 4.4 | 15 |
| Endosulfan sulfate | L | 15.000 | 15.805 | 3.872841E+07 | 3.408667E+07 | | 5.4 | 15 |
| Endrin | A | 15.000 | 14.655 | 4.339935E+07 | 4.24E+07 | | -2.3 | 15 |
| Endrin aldehyde | L | 15.000 | 14.745 | 3.500724E+07 | 3.168667E+07 | | -1.7 | 15 |
| Endrin ketone | L | 15.000 | 16.119 | 4.706951E+07 | 4.656E+07 | | 7.5 | 15 |
| Heptachlor | A | 15.000 | 15.540 | 6.289311E+07 | 6.515333E+07 | | 3.6 | 15 |
| Heptachlor epoxide | L | 15.000 | 16.297 | 5.334837E+07 | 5.309333E+07 | | 8.6 | 15 |
| Methoxychlor | L | 15.000 | 16.054 | 2.179753E+07 | 2.026667E+07 | | 7.0 | 15 |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:51:18PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY
## EPA-8081A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702299
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: GC-17
Calibration: 1702012

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1702299-CAL6 )** | | | Lab File ID: 06FEB007.D | | Analyzed: 02/06/17 11:27 | | | |
| TCMX (Surrogate) | 42.000 | 92.0 | | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 84.000 | 95.2 | | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Cal Standard (1702299-CAL5 )** | | | Lab File ID: 06FEB008.D | | Analyzed: 02/06/17 11:42 | | | |
| TCMX (Surrogate) | 36.000 | 89.6 | | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 72.000 | 97.0 | | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Cal Standard (1702299-CAL4 )** | | | Lab File ID: 06FEB009.D | | Analyzed: 02/06/17 11:56 | | | |
| TCMX (Surrogate) | 30.000 | 83.6 | | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 90.3 | | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Cal Standard (1702299-CAL3 )** | | | Lab File ID: 06FEB010.D | | Analyzed: 02/06/17 12:11 | | | |
| TCMX (Surrogate) | 24.000 | 82.6 | | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 48.000 | 92.4 | | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Cal Standard (1702299-CAL2 )** | | | Lab File ID: 06FEB011.D | | Analyzed: 02/06/17 12:25 | | | |
| TCMX (Surrogate) | 18.000 | 92.7 | | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 36.000 | 99.9 | | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Cal Standard (1702299-CAL1 )** | | | Lab File ID: 06FEB012.D | | Analyzed: 02/06/17 12:40 | | | |
| TCMX (Surrogate) | 12.000 | 88.5 | | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 24.000 | 98.4 | | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Initial Cal Check (1702299-ICV1 )** | | | Lab File ID: 06FEB013.D | | Analyzed: 02/06/17 13:22 | | | |
| TCMX (Surrogate) | 30.000 | 106 | 85 - 115 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 108 | 85 - 115 | 5.93 | 5.92 | 0.0100 | +/-1.0 | |
| **Initial Cal Blank (1702299-ICB1 )** | | | Lab File ID: 06FEB014.D | | Analyzed: 02/06/17 13:37 | | | |
| TCMX (Surrogate) | | | 44 - 124 | | 2.27 | Null Found | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | | | 50 - 130 | | 5.92 | Null Found | +/-1.0 | |
| **Calibration Check (1702299-CCV1 )** | | | Lab File ID: 06FEB027.D | | Analyzed: 02/06/17 16:47 | | | |
| TCMX (Surrogate) | 30.000 | 112 | 85 - 115 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 101 | 85 - 115 | 5.92 | 5.92 | 0.0000 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1702299
Instrument: GC-17
Matrix: Water
Calibration: 1702012

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Blank (1702299-CCB1 )** | | | Lab File ID: 06FEB029.D | | Analyzed: 02/06/17 17:16 | | | |
| TCMX (Surrogate) | | | 44 - 124 | | 2.27 | Null Found | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | | | 50 - 130 | | 5.92 | Null Found | +/-1.0 | |
| **Blank (B[B0436-BLK1 )** | | | Lab File ID: 06FEB032.D | | Analyzed: 02/06/17 18:00 | | | |
| TCMX (Surrogate) | 0.30000 | 84.5 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 81.8 | 50 - 130 | 5.93 | 5.92 | 0.0100 | +/-1.0 | |
| **LCS (B[B0436-BS1 )** | | | Lab File ID: 06FEB033.D | | Analyzed: 02/06/17 18:14 | | | |
| TCMX (Surrogate) | 0.30000 | 84.7 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 81.7 | 50 - 130 | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Matrix Spike (B[B0436-MS1 )** | | | Lab File ID: 06FEB034.D | | Analyzed: 02/06/17 18:29 | | | |
| TCMX (Surrogate) | 0.30000 | 64.3 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 44.6 | 50 - 130 | 5.92 | 5.92 | 0.0000 | +/-1.0 | * |
| **Matrix Spike Dup (B[B0436-MSD1 )** | | | Lab File ID: 06FEB035.D | | Analyzed: 02/06/17 18:43 | | | |
| TCMX (Surrogate) | 0.30000 | 59.9 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 43.4 | 50 - 130 | 5.92 | 5.92 | 0.0000 | +/-1.0 | * |
| **Calibration Check (1702299-CCV2 )** | | | Lab File ID: 06FEB041.D | | Analyzed: 02/06/17 20:11 | | | |
| TCMX (Surrogate) | 30.000 | 108 | 85 - 115 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 93.9 | 85 - 115 | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Calibration Blank (1702299-CCB2 )** | | | Lab File ID: 06FEB042.D | | Analyzed: 02/06/17 20:25 | | | |
| TCMX (Surrogate) | | | 44 - 124 | | 2.27 | Null Found | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | | | 50 - 130 | | 5.92 | Null Found | +/-1.0 | |
| **EB03_170131 (1702734-01 )** | | | Lab File ID: 06FEB047.D | | Analyzed: 02/06/17 21:38 | | | |
| TCMX (Surrogate) | 0.30000 | 75.4 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 68.8 | 50 - 130 | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **EB04_170131 (1702734-02 )** | | | Lab File ID: 06FEB048.D | | Analyzed: 02/06/17 21:53 | | | |
| TCMX (Surrogate) | 0.30000 | 79.7 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 68.9 | 50 - 130 | 5.92 | 5.92 | 0.0000 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702299 | Instrument: | GC-17 |
| Matrix: | Water | Calibration: | 1702012 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 06FEB051.D | | Analyzed: 02/06/17 22:37 | | | |
| TCMX (Surrogate) | 0.30000 | 77.8 | 44 - 124 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 38.5 | 50 - 130 | 5.92 | 5.92 | 0.0000 | +/-1.0 | * |
| **Calibration Check (1702299-CCV3 )** | | | Lab File ID: 06FEB053.D | | Analyzed: 02/06/17 23:06 | | | |
| TCMX (Surrogate) | 30.000 | 115 | 85 - 115 | 2.27 | 2.27 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 96.3 | 85 - 115 | 5.92 | 5.92 | 0.0000 | +/-1.0 | |
| **Calibration Blank (1702299-CCB3 )** | | | Lab File ID: 06FEB054.D | | Analyzed: 02/06/17 23:21 | | | |
| TCMX (Surrogate) | | | 44 - 124 | | 2.27 | Null Found | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | | | 50 - 130 | | 5.92 | Null Found | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY
## EPA-8081A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702826
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: GC-17
Calibration: 1702026

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1702826-CAL6 )** | | | Lab File ID: 15FEB007.D | | Analyzed: 02/15/17 11:34 | | | |
| TCMX (Surrogate) | 42.000 | 96.0 | | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 84.000 | 93.8 | | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702826-CAL5 )** | | | Lab File ID: 15FEB008.D | | Analyzed: 02/15/17 11:49 | | | |
| TCMX (Surrogate) | 36.000 | 94.8 | | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 72.000 | 96.3 | | 5.79 | 5.781667 | 0.0083 | +/-1.0 | |
| **Cal Standard (1702826-CAL4 )** | | | Lab File ID: 15FEB009.D | | Analyzed: 02/15/17 12:04 | | | |
| TCMX (Surrogate) | 30.000 | 105 | | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 103 | | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702826-CAL3 )** | | | Lab File ID: 15FEB010.D | | Analyzed: 02/15/17 12:18 | | | |
| TCMX (Surrogate) | 24.000 | 95.6 | | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 48.000 | 95.3 | | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702826-CAL2 )** | | | Lab File ID: 15FEB011.D | | Analyzed: 02/15/17 12:33 | | | |
| TCMX (Surrogate) | 18.000 | 110 | | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 36.000 | 113 | | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Cal Standard (1702826-CAL1 )** | | | Lab File ID: 15FEB012.D | | Analyzed: 02/15/17 12:47 | | | |
| TCMX (Surrogate) | 12.000 | 98.6 | | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 24.000 | 98.6 | | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Initial Cal Check (1702826-ICV1 )** | | | Lab File ID: 15FEB013.D | | Analyzed: 02/15/17 13:02 | | | |
| TCMX (Surrogate) | 30.000 | 98.1 | 85 - 115 | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 102 | 85 - 115 | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Initial Cal Blank (1702826-ICB1 )** | | | Lab File ID: 15FEB014.D | | Analyzed: 02/15/17 13:16 | | | |
| TCMX (Surrogate) | | | 44 - 124 | | 2.2 | Null Found | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | | | 50 - 130 | | 5.781667 | Null Found | +/-1.0 | |
| **M002A-R_170131 (1702734-03RE1 )** | | | Lab File ID: 15FEB015.D | | Analyzed: 02/15/17 13:31 | | | |
| TCMX (Surrogate) | 0.30000 | 59.2 | 44 - 124 | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 66.0 | 50 - 130 | 5.79 | 5.781667 | 0.0083 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8081A

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1702826 | Instrument: | GC-17 |
| Matrix: | Water | Calibration: | 1702026 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **M003E-R_170131 (1702734-04RE1 )** | | | Lab File ID: 15FEB016.D | | Analyzed: 02/15/17 13:46 | | | |
| TCMX (Surrogate) | 0.30000 | 87.9 | 44 - 124 | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 0.60000 | 56.0 | 50 - 130 | 5.79 | 5.781667 | 0.0083 | +/-1.0 | |
| **Calibration Check (1702826-CCV1 )** | | | Lab File ID: 15FEB025.D | | Analyzed: 02/15/17 15:57 | | | |
| TCMX (Surrogate) | 30.000 | 105 | 85 - 115 | 2.2 | 2.2 | 0.0000 | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | 60.000 | 104 | 85 - 115 | 5.78 | 5.781667 | -0.0017 | +/-1.0 | |
| **Calibration Blank (1702826-CCB1 )** | | | Lab File ID: 15FEB026.D | | Analyzed: 02/15/17 16:11 | | | |
| TCMX (Surrogate) | | | 44 - 124 | | 2.2 | Null Found | +/-1.0 | |
| Decachlorobiphenyl (Surrogate) | | | 50 - 130 | | 5.781667 | Null Found | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## EPA-8081A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702299
Calibration: 1702012

SDG: 17-02734
Project: Alameda
Instrument: GC-17

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 6J27013 | 8081 Mix A IC-6 | 1702299-CAL6 | 06FEB007.D | 02/06/17 11:27 |
| 6J27014 | 8081 Mix A IC-5 | 1702299-CAL5 | 06FEB008.D | 02/06/17 11:42 |
| 6J27016 | 8081 Mix A IC-4 | 1702299-CAL4 | 06FEB009.D | 02/06/17 11:56 |
| 6J27017 | 8081 Mix A IC-3 | 1702299-CAL3 | 06FEB010.D | 02/06/17 12:11 |
| 6J27018 | 8081 Mix A IC-2 | 1702299-CAL2 | 06FEB011.D | 02/06/17 12:25 |
| 6J27019 | 8081 Mix A IC-1 | 1702299-CAL1 | 06FEB012.D | 02/06/17 12:40 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## EPA-8081A

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1702826
Calibration: 1702026

SDG: 17-02734
Project: Alameda
Instrument: GC-17

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 7B10006 | 8081 Mix A IC-6 | 1702826-CAL6 | 15FEB007.D | 02/15/17 11:34 |
| 7B10007 | 8081 Mix A IC-5 | 1702826-CAL5 | 15FEB008.D | 02/15/17 11:49 |
| 7B10008 | 8081 Mix A IC-4 | 1702826-CAL4 | 15FEB009.D | 02/15/17 12:04 |
| 7B10009 | 8081 Mix A IC-3 | 1702826-CAL3 | 15FEB010.D | 02/15/17 12:18 |
| 7B10010 | 8081 Mix A IC-2 | 1702826-CAL2 | 15FEB011.D | 02/15/17 12:33 |
| 7B10011 | 8081 Mix A IC-1 | 1702826-CAL1 | 15FEB012.D | 02/15/17 12:47 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702012
Instrument: GC-17
Matrix: Water
Calibration Date: 02/06/17 11:27

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Aldrin | 25 | 5.186E+07 | 20 | 4.915E+07 | 15 | 4.584E+07 | 10 | 4.564E+07 | 5 | 4.96E+07 | 0.5 | 5.59767E+07 |
| alpha-BHC | 25 | 6.3684E+07 | 20 | 5.9905E+07 | 15 | 5.506667E+07 | 10 | 5.568E+07 | 5 | 6.058E+07 | 0.5 | 6.502978E+07 |
| beta-BHC | 25 | 2.3688E+07 | 20 | 2.3365E+07 | 15 | 2.265333E+07 | 10 | 2.31E+07 | 5 | 2.448E+07 | 0.5 | 2.927278E+07 |
| delta-BHC | 25 | 4.7148E+07 | 20 | 4.4075E+07 | 15 | 3.928666E+07 | 10 | 4.085E+07 | 5 | 4.178E+07 | 0.5 | 4.581928E+07 |
| gamma-BHC (Lindane) | 25 | 5.538E+07 | 20 | 5.1725E+07 | 15 | 4.629333E+07 | 10 | 4.78E+07 | 5 | 5.298E+07 | 0.5 | 6.245348E+07 |
| alpha-Chlordane | 25 | 4.7004E+07 | 20 | 4.495E+07 | 15 | 4.106667E+07 | 10 | 4.262E+07 | 5 | 4.664E+07 | 0.5 | 5.35084E+07 |
| gamma-Chlordane | 25 | 4.8752E+07 | 20 | 4.6675E+07 | 15 | 4.276667E+07 | 10 | 4.449E+07 | 5 | 5.17E+07 | 0.5 | 9.440832E+07 |
| 4,4'-DDD | 25 | 3.8944E+07 | 20 | 3.693E+07 | 15 | 3.186667E+07 | 10 | 3.42E+07 | 5 | 3.64E+07 | 0.5 | 4.827232E+07 |
| 4,4'-DDE | 25 | 9.04E+07 | 20 | 8.6175E+07 | 15 | 7.762666E+07 | 10 | 8.192E+07 | 5 | 8.768E+07 | 0.5 | 9.501198E+07 |
| 4,4'-DDT | 25 | 3.5404E+07 | 20 | 3.4405E+07 | 15 | 3.009333E+07 | 10 | 3.374E+07 | 5 | 3.226E+07 | 0.5 | 3.54983E+07 |
| Dieldrin | 25 | 5.0068E+07 | 20 | 4.8215E+07 | 15 | 4.318667E+07 | 10 | 4.476E+07 | 5 | 4.908E+07 | 0.5 | 5.824194E+07 |
| Endosulfan I | 25 | 9.04E+07 | 20 | 8.6175E+07 | 15 | 7.762666E+07 | 10 | 8.192E+07 | 5 | 8.768E+07 | 0.5 | 9.501198E+07 |
| Endosulfan II | 25 | 4.0628E+07 | 20 | 3.922E+07 | 15 | 3.400667E+07 | 10 | 3.654E+07 | 5 | 3.97E+07 | 0.5 | 4.792596E+07 |
| Endosulfan sulfate | 25 | 3.0636E+07 | 20 | 3.043E+07 | 15 | 2.830667E+07 | 10 | 3.036E+07 | 5 | 3.348E+07 | 0.5 | 4.682232E+07 |
| Endrin | 25 | 4.6124E+07 | 20 | 4.424E+07 | 15 | 3.960666E+07 | 10 | 4.098E+07 | 5 | 4.308E+07 | 0.5 | 4.341664E+07 |
| Endrin aldehyde | 25 | 3.0856E+07 | 20 | 3.006E+07 | 15 | 2.655333E+07 | 10 | 2.879E+07 | 5 | 3.218E+07 | 0.5 | 4.7345E+07 |
| Endrin ketone | 25 | 3.9968E+07 | 20 | 3.946E+07 | 15 | 3.525333E+07 | 10 | 3.786E+07 | 5 | 3.976E+07 | 0.5 | 4.73108E+07 |
| Heptachlor | 25 | 5.5848E+07 | 20 | 5.321E+07 | 15 | 4.988667E+07 | 10 | 5.018E+07 | 5 | 5.62E+07 | 0.5 | 5.799688E+07 |
| Heptachlor epoxide | 25 | 4.7928E+07 | 20 | 4.5895E+07 | 15 | 4.202E+07 | 10 | 4.317E+07 | 5 | 4.894E+07 | 0.5 | 6.25334E+07 |
| Methoxychlor | 25 | 1.8176E+07 | 20 | 1.8195E+07 | 15 | 1.640667E+07 | 10 | 1.817E+07 | 5 | 1.956695E+07 | 0.5 | 2.094996E+07 |
| TCMX (Surrogate) | 42 | 4.245E+07 | 36 | 4.1325E+07 | 30 | 3.856333E+07 | 24 | 3.809167E+07 | 18 | 4.277222E+07 | 12 | 4.080833E+07 |
| Decachlorobiphenyl (Surrogate) | 84 | 2.719643E+07 | 72 | 2.773333E+07 | 60 | 2.580333E+07 | 48 | 2.640833E+07 | 36 | 2.854722E+07 | 24 | 2.8125E+07 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702012
Instrument: GC-17
Matrix: Water
Calibration Date: 02/06/17 11:27

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Aldrin | 4.967778E+07 | 7.835367 | 3.42 | 1.112085E-02 | | | 20 | |
| alpha-BHC | 5.999091E+07 | 6.759378 | 2.68 | 1.480693E-02 | | | 20 | |
| beta-BHC | 2.442652E+07 | 10.03888 | 2.97 | 1.676345E-02 | | | 20 | |
| delta-BHC | 4.315982E+07 | 7.032023 | 3.09 | 7.787668E-03 | | | 20 | |
| gamma-BHC (Lindane) | 5.277197E+07 | 10.99611 | 2.9 | 1.880959E-02 | | 0.9973789 | 0.99 | |
| alpha-Chlordane | 4.596484E+07 | 9.465678 | 3.97 | 1.434498E-02 | | | 20 | |
| gamma-Chlordane | 5.479867E+07 | 35.87253 | 3.89 | 1.387619E-02 | 0.99589 | | 0.99 | |
| 4,4'-DDD | 3.776883E+07 | 15.06409 | 4.38 | 1.666568E-02 | | 0.9963576 | 0.99 | |
| 4,4'-DDE | 8.646894E+07 | 7.107791 | 4.033333 | 0.1287766 | | | 20 | |
| 4,4'-DDT | 3.356677E+07 | 6.193635 | 4.55 | 1.594624E-02 | | | 20 | |
| Dieldrin | 4.892527E+07 | 10.77351 | 4.19 | 1.581306E-02 | 0.99602 | | 0.99 | |
| Endosulfan I | 8.646894E+07 | 7.107791 | 4.033333 | 0.1287766 | | | 20 | |
| Endosulfan II | 3.96701E+07 | 11.88532 | 4.46 | 2.033007E-02 | | 0.9961258 | 0.99 | |
| Endosulfan sulfate | 3.333916E+07 | 20.42232 | 4.91 | 1.549219E-02 | 0.99840 | | 0.99 | |
| Endrin | 4.290788E+07 | 5.41789 | 4.33 | 8.783676E-03 | | | 20 | |
| Endrin aldehyde | 3.263072E+07 | 22.85775 | 4.71 | 2.007992E-02 | 0.99559 | | 0.99 | |
| Endrin ketone | 3.993536E+07 | 10.07134 | 5.14 | 0.0202814 | 0.99714 | | 0.99 | |
| Heptachlor | 5.388692E+07 | 6.226515 | 3.23 | 1.874711E-02 | | | 20 | |
| Heptachlor epoxide | 4.84144E+07 | 15.30698 | 3.81 | 1.739022E-02 | 0.99641 | | 0.99 | |
| Methoxychlor | 1.857743E+07 | 8.267107 | 4.84 | 1.571625E-02 | | | 20 | |
| TCMX (Surrogate) | 4.066843E+07 | 4.808629 | 2.27 | 1.997184E-02 | | | 20 | |
| Decachlorobiphenyl (Surrogate) | 2.730227E+07 | 3.83089 | 5.92 | 1.917853E-02 | | | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702026
Instrument: GC-17
Matrix: Water
Calibration Date: 02/15/17 11:34

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Aldrin | 25 | 5.498E+07 | 20 | 5.3895E+07 | 15 | 5.710667E+07 | 10 | 5.461E+07 | 5 | 6.292E+07 | 0.5 | 7.047506E+07 |
| alpha-BHC | 25 | 6.8108E+07 | 20 | 6.6565E+07 | 15 | 7.134E+07 | 10 | 6.741E+07 | 5 | 7.654E+07 | 0.5 | 8.18216E+07 |
| beta-BHC | 25 | 2.488E+07 | 20 | 2.4635E+07 | 15 | 2.754E+07 | 10 | 2.543E+07 | 5 | 2.988E+07 | 0.5 | 3.989424E+07 |
| delta-BHC | 25 | 5.4332E+07 | 20 | 5.3475E+07 | 15 | 6.1E+07 | 10 | 5.362E+07 | 5 | 5.954E+07 | 0.5 | 6.0953E+07 |
| gamma-BHC (Lindane) | 25 | 5.6948E+07 | 20 | 5.7455E+07 | 15 | 6.316E+07 | 10 | 5.686E+07 | 5 | 6.548E+07 | 0.5 | 6.787452E+07 |
| alpha-Chlordane | 25 | 4.8728E+07 | 20 | 4.7665E+07 | 15 | 5.111334E+07 | 10 | 4.885E+07 | 5 | 5.638E+07 | 0.5 | 6.087058E+07 |
| gamma-Chlordane | 25 | 5.0124E+07 | 20 | 4.922E+07 | 15 | 5.294E+07 | 10 | 5.073E+07 | 5 | 5.95E+07 | 0.5 | 8.573568E+07 |
| 4,4'-DDD | 25 | 3.7932E+07 | 20 | 3.715E+07 | 15 | 3.980667E+07 | 10 | 3.738E+07 | 5 | 4.272E+07 | 0.5 | 4.36906E+07 |
| 4,4'-DDE | 25 | 9.2136E+07 | 20 | 9.0435E+07 | 15 | 9.699333E+07 | 10 | 9.259E+07 | 5 | 1.0588E+08 | 0.5 | 1.059568E+08 |
| 4,4'-DDT | 25 | 3.83E+07 | 20 | 3.798E+07 | 15 | 4.029333E+07 | 10 | 3.775E+07 | 5 | 4.358E+07 | 0.5 | 4.451096E+07 |
| Dieldrin | 25 | 5.1116E+07 | 20 | 5.0005E+07 | 15 | 5.322667E+07 | 10 | 5.096E+07 | 5 | 5.844E+07 | 0.5 | 6.571358E+07 |
| Endosulfan I | 25 | 9.2136E+07 | 20 | 9.0435E+07 | 15 | 9.699333E+07 | 10 | 9.259E+07 | 5 | 1.0588E+08 | 0.5 | 1.059568E+08 |
| Endosulfan II | 25 | 4.1092E+07 | 20 | 4.0485E+07 | 15 | 4.197333E+07 | 10 | 3.984E+07 | 5 | 4.678E+07 | 0.5 | 5.098678E+07 |
| Endosulfan sulfate | 25 | 3.1668E+07 | 20 | 3.1205E+07 | 15 | 3.337333E+07 | 10 | 3.322E+07 | 5 | 4.022E+07 | 0.5 | 6.268412E+07 |
| Endrin | 25 | 4.2284E+07 | 20 | 4.1205E+07 | 15 | 4.138E+07 | 10 | 4.092E+07 | 5 | 4.744E+07 | 0.5 | 4.716708E+07 |
| Endrin aldehyde | 25 | 3.1908E+07 | 20 | 3.186E+07 | 15 | 3.249333E+07 | 10 | 3.166E+07 | 5 | 3.684E+07 | 0.5 | 4.528208E+07 |
| Endrin ketone | 25 | 4.2452E+07 | 20 | 4.229E+07 | 15 | 4.568666E+07 | 10 | 4.324E+07 | 5 | 5.042E+07 | 0.5 | 5.832838E+07 |
| Heptachlor | 25 | 5.8472E+07 | 20 | 5.8065E+07 | 15 | 6.243333E+07 | 10 | 5.959E+07 | 5 | 6.96E+07 | 0.5 | 6.91983E+07 |
| Heptachlor epoxide | 25 | 4.7512E+07 | 20 | 4.792E+07 | 15 | 5.232666E+07 | 10 | 4.841E+07 | 5 | 5.71E+07 | 0.5 | 6.682156E+07 |
| Methoxychlor | 25 | 1.8428E+07 | 20 | 1.8575E+07 | 15 | 1.977333E+07 | 10 | 1.903E+07 | 5 | 2.288E+07 | 0.5 | 3.209886E+07 |
| TCMX (Surrogate) | 42 | 4.34E+07 | 36 | 4.283889E+07 | 30 | 4.734334E+07 | 24 | 4.31875E+07 | 18 | 4.983889E+07 | 12 | 4.454167E+07 |
| Decachlorobiphenyl (Surrogate) | 84 | 2.540476E+07 | 72 | 2.608194E+07 | 60 | 2.780333E+07 | 48 | 2.581875E+07 | 36 | 3.07E+07 | 24 | 2.671667E+07 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1702026
Instrument: GC-17
Matrix: Water
Calibration Date: 02/15/17 11:34

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Aldrin | 5.899779E+07 | 11.04006 | 3.35 | 2.235342E-02 | 0.99914 | | 0.99 | |
| alpha-BHC | 7.19641E+07 | 8.412614 | 2.61 | 2.779896E-03 | | | 20 | |
| beta-BHC | 2.870987E+07 | 20.30143 | 2.895 | 0.1892222 | 0.99741 | | 0.99 | |
| delta-BHC | 5.715333E+07 | 6.495293 | 3.01 | 2.124719E-02 | | | 20 | |
| gamma-BHC (Lindane) | 6.129625E+07 | 7.911762 | 2.83 | 1.343933E-02 | | | 20 | |
| alpha-Chlordane | 5.226782E+07 | 10.03843 | 3.89 | 1.387619E-02 | | | 20 | |
| gamma-Chlordane | 5.804161E+07 | 24.23216 | 3.81 | 1.739022E-02 | 0.99888 | | 0.99 | |
| 4,4'-DDD | 3.977988E+07 | 7.112781 | 4.31 | 8.468176E-03 | | | 20 | |
| 4,4'-DDE | 9.733186E+07 | 7.186369 | 3.96 | 1.433547E-02 | | | 20 | |
| 4,4'-DDT | 4.040238E+07 | 7.368377 | 4.47 | 1.151735E-02 | | | 20 | |
| Dieldrin | 5.491021E+07 | 11.10958 | 4.111667 | 0.1001546 | 0.99908 | | 0.99 | |
| Endosulfan I | 9.733186E+07 | 7.186369 | 3.96 | 1.433547E-02 | | | 20 | |
| Endosulfan II | 4.352619E+07 | 10.14124 | 4.38 | 1.666568E-02 | 0.99927 | | 0.99 | |
| Endosulfan sulfate | 3.872841E+07 | 31.44574 | 4.83 | 7.874393E-03 | 0.99877 | | 0.99 | |
| Endrin | 4.339935E+07 | 7.049951 | 4.25 | 0 | | | 20 | |
| Endrin aldehyde | 3.500724E+07 | 15.43413 | 4.63 | 4.285375E-03 | 0.99956 | | 0.99 | |
| Endrin ketone | 4.706951E+07 | 13.39391 | 5.05 | 1.556668E-02 | 0.99856 | | 0.99 | |
| Heptachlor | 6.289311E+07 | 8.374834 | 3.151667 | 0.1295159 | | | 20 | |
| Heptachlor epoxide | 5.334837E+07 | 14.1411 | 3.73 | 1.215444E-02 | 0.99787 | | 0.99 | |
| Methoxychlor | 2.179753E+07 | 24.34359 | 4.76 | 8.336674E-03 | 0.99877 | | 0.99 | |
| TCMX (Surrogate) | 4.519171E+07 | 6.212493 | 2.2 | 1.191087E-02 | | | 20 | |
| Decachlorobiphenyl (Surrogate) | 2.708758E+07 | 7.22534 | 5.781667 | 6.933435E-02 | | | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY

## EPA-8081A

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/02/17 13:00 | 2.00 | 7.00 | 02/06/17 21:38 | 4.00 | 40.00 | |
| EB04_170131 | 01/31/17 14:15 | 01/31/17 22:10 | 02/02/17 13:00 | 2.00 | 7.00 | 02/06/17 21:53 | 4.00 | 40.00 | |
| M002A-R_170131 | 01/31/17 08:35 | 01/31/17 22:10 | 02/02/17 13:00 | 2.00 | 7.00 | 02/15/17 13:31 | 13.00 | 40.00 | |
| M003E-R_170131 | 01/31/17 13:25 | 01/31/17 22:10 | 02/02/17 13:00 | 2.00 | 7.00 | 02/15/17 13:46 | 13.00 | 40.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/02/17 13:00 | 2.00 | 7.00 | 02/06/17 22:37 | 4.00 | 40.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

**Raw Data From Instrument GC-17**

**Raw Data - Breakdown**

Quantitation Report (QT Reviewed)

Signal #1 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB06\06FEB001.D\ECD1A.CH Vial: 91
Signal #2 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB06\06FEB001.D\ECD2B.CH
Acq On : 6 Feb 2017 9:59 am Operator: HKS
Sample : 8080 BREAKDOWN Inst : GC-17
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Feb 9 9:27 2017 Quant Results File: 608.RES

Quant Method : C:\HPCHEM\4...\608.M (Chemstation Integrator)
Title : EPA 608 Pesticides
Last Update : Wed Feb 08 14:07:12 2017
Response via : Initial Calibration
DataAcq Meth : 608.M

Volume Inj. : 3uL
Signal #1 Phase : Rtx-440 30M x .32 Signal #2 Phase: Rtx CLPesticides2 30M x .32mm
Signal #1 Info : .32mm Signal #2 Info : .32mm

| | | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ng#1 | ng#2 | |
|---|---|---|---|---|---|---|---|---|---|
| | | System Monitoring Compounds | | | | | | | |
| | | Target Compounds | | | | | | | |
| 12) | T | PP-DDE | 4.02 | 4.72 | 39806394 | 41043319 | 0.460 | 0.779 | # |
| 14) | T | ENDRIN | 4.32 | 5.02 | 1808.0E6 | 2064.2E6 | 42.135 | 41.745 | |
| 15) | T | PP-DDD | 4.38 | 5.08 | 56245632 | 64688096 | 1.204 | 1.025 | |
| 17) | T | PP-DDT | 4.54 | 5.29 | 1309.6E6 | 1463.8E6 | 39.017 | 38.183 | |
| 18) | T | ENDRIN ALDEHYDE | 4.70 | 5.38 | 38459644 | 60248824 | 1.396m | 1.641 | |
| 21) | T | ENDRIN KETONE | 5.14 | 6.01 | 22976285 | 23270053 | 0.831m | 0.187 | # |

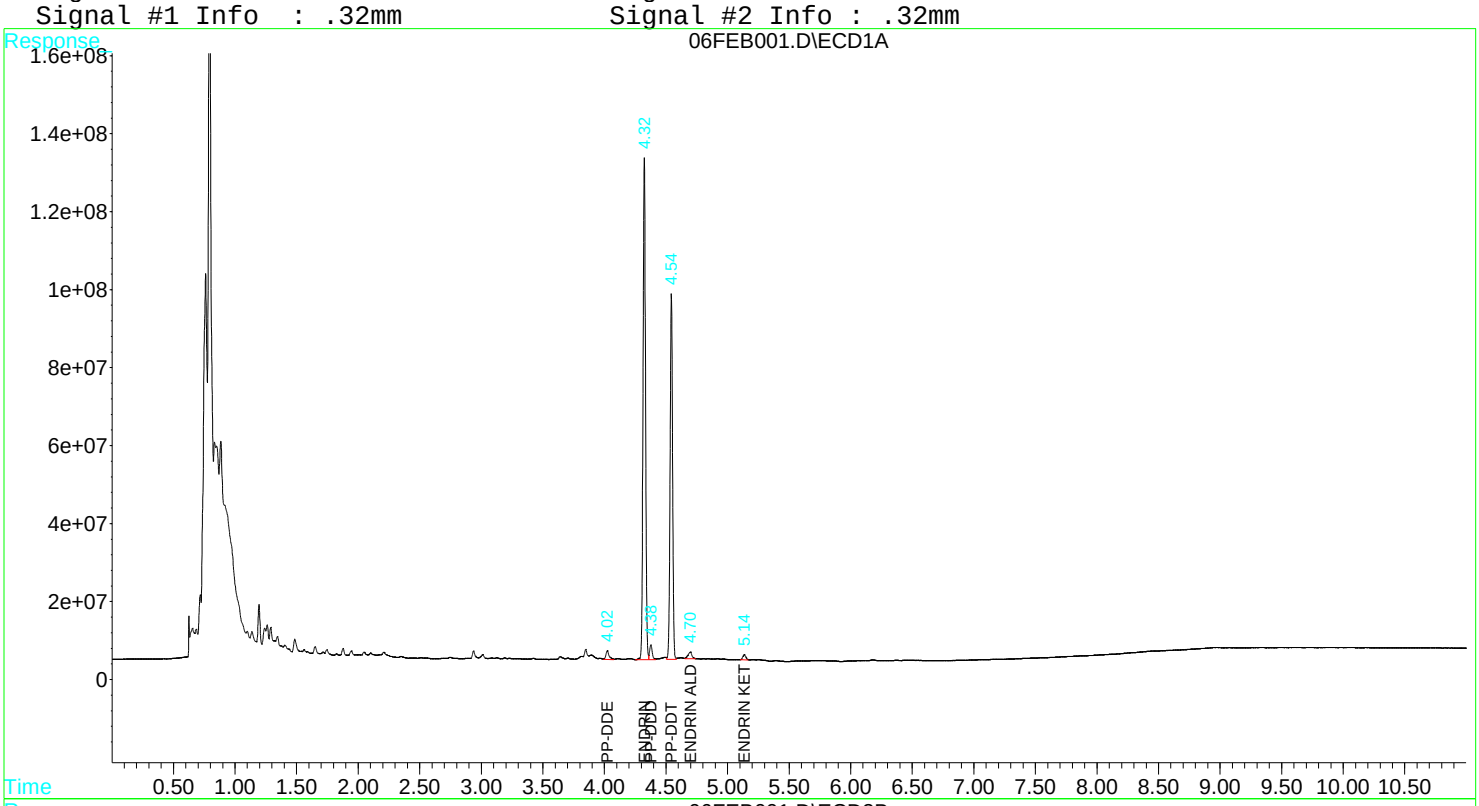
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

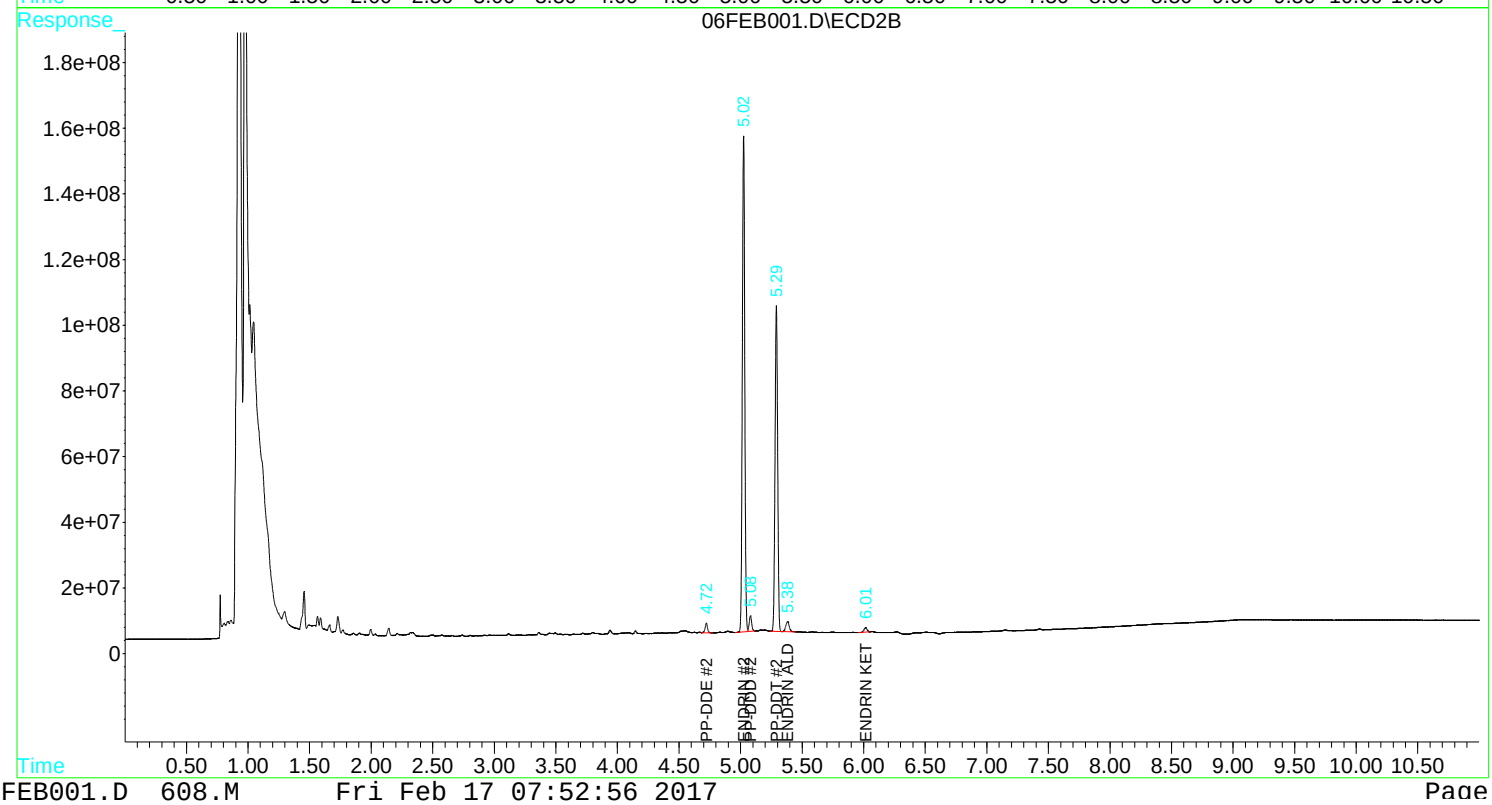
Quantitation Report (QT Reviewed)

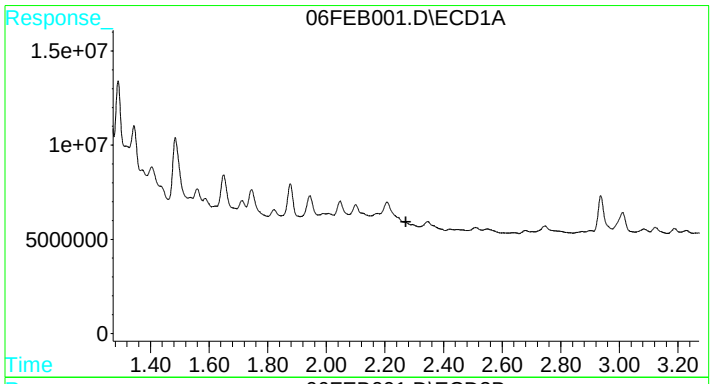
Signal #1 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB06\06FEB001.D\ECD1A.CH Vial: 91
Signal #2 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB06\06FEB001.D\ECD2B.CH
Acq On : 6 Feb 2017 9:59 am Operator: HKS
Sample : 8080 BREAKDOWN Inst : GC-17
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Feb 9 9:27 2017 Quant Results File: 608.RES

Quant Method : C:\HPCHEM\4...\608.M (Chemstation Integrator)
Title : EPA 608 Pesticides
Last Update : Wed Feb 08 14:07:12 2017
Response via : Multiple Level Calibration
DataAcq Meth : 608.M

Volume Inj. : 3uL
Signal #1 Phase : Rtx-440 30M x .32 Signal #2 Phase: Rtx CLPesticides2 30M x .32mm
Signal #1 Info : .32mm Signal #2 Info : .32mm

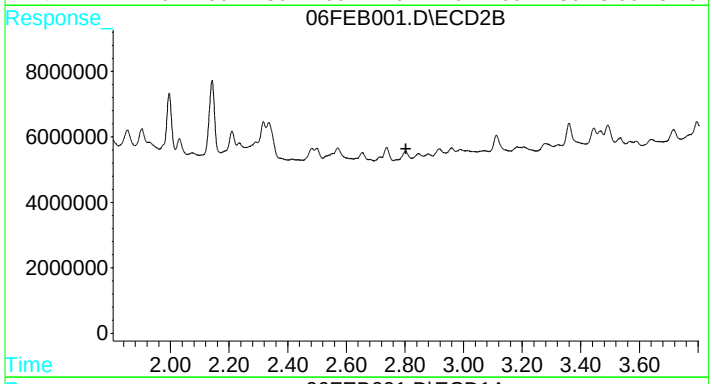




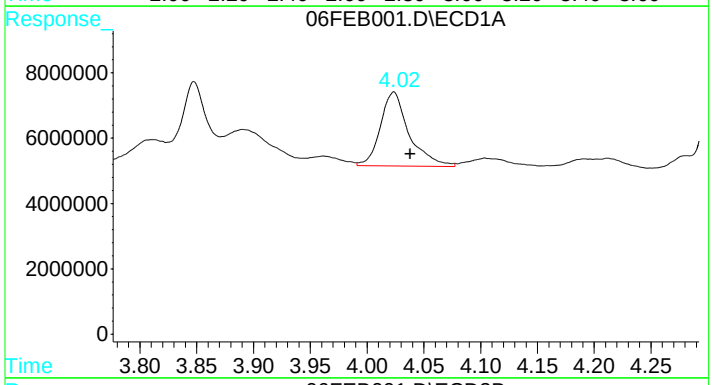

#1 TCMX (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 2.271 min
Response: 0
Conc: N.D.



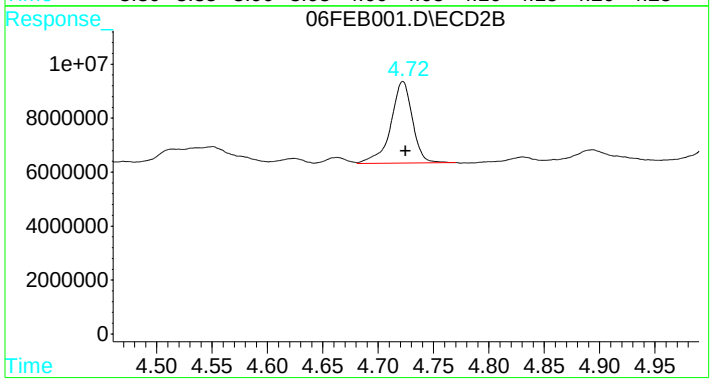

#1 TCMX (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 2.803 min
Response: 0
Conc: N.D.



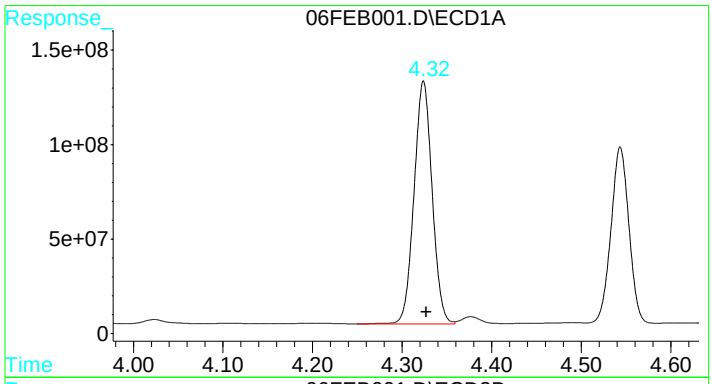

#12 PP-DDE

R.T.: 4.023 min
Delta R.T.: -0.015 min
Response: 39806394
Conc: 0.46 ng



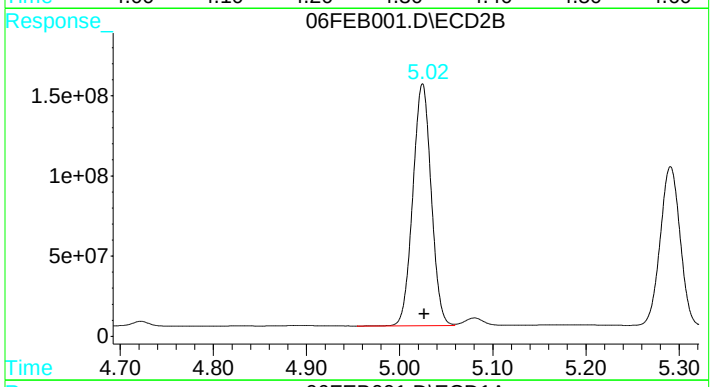

#12 PP-DDE

R.T.: 4.722 min
Delta R.T.: -0.003 min
Response: 41043319
Conc: 0.78 ng



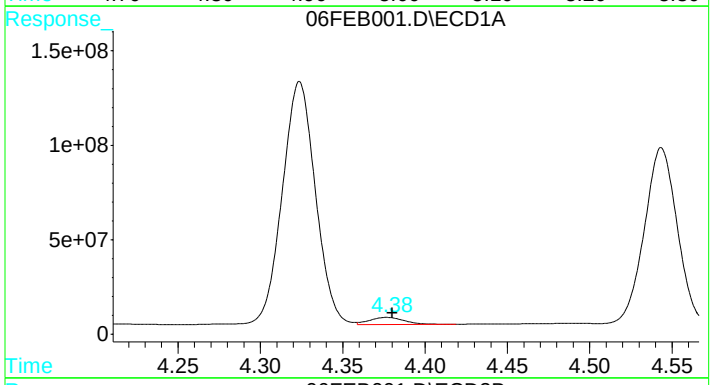

#14 ENDRIN

R.T.: 4.324 min
Delta R.T.: -0.003 min
Response: 1807963283
Conc: 42.14 ng



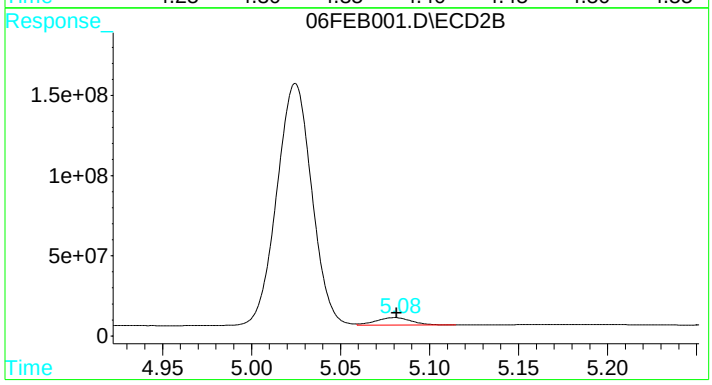

#14 ENDRIN

R.T.: 5.025 min
Delta R.T.: -0.002 min
Response: 2064164936
Conc: 41.74 ng



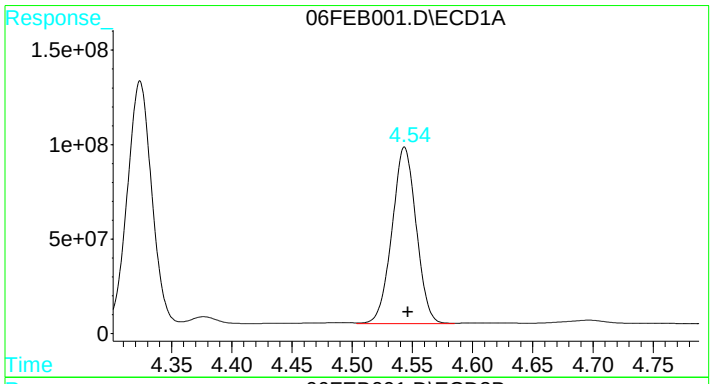

#15 PP-DDD

R.T.: 4.377 min
Delta R.T.: -0.003 min
Response: 56245632
Conc: 1.20 ng



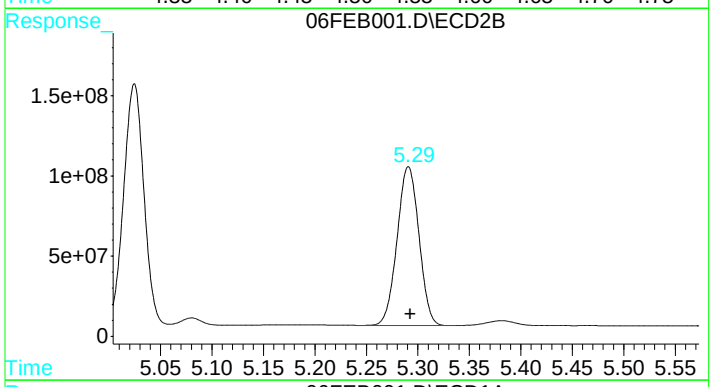

#15 PP-DDD

R.T.: 5.080 min
Delta R.T.: -0.001 min
Response: 64688096
Conc: 1.02 ng



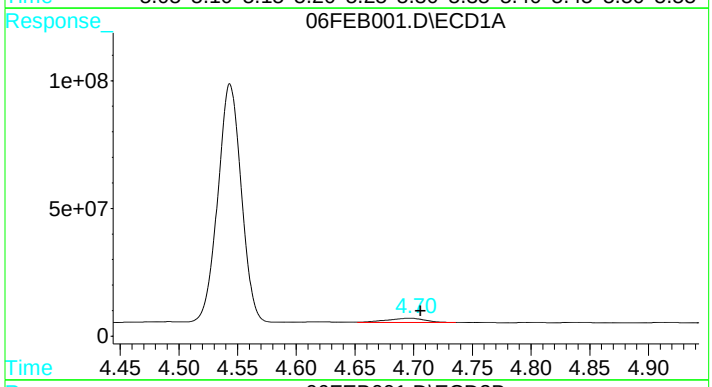

#17 PP-DDT

R.T.: 4.544 min
Delta R.T.: -0.003 min
Response: 1309603497
Conc: 39.02 ng



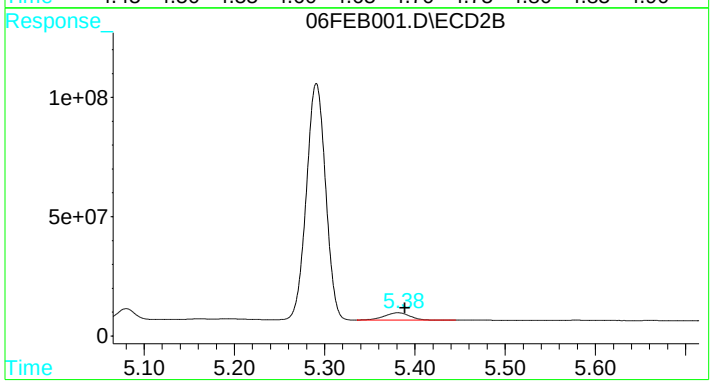

#17 PP-DDT

R.T.: 5.291 min
Delta R.T.: -0.002 min
Response: 1463772288
Conc: 38.18 ng



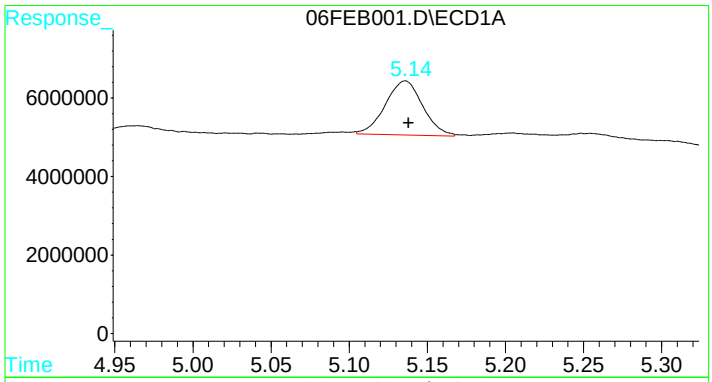

#18 ENDRIN ALDEHYDE

R.T.: 4.697 min
Delta R.T.: -0.009 min
Response: 38459644
Conc: 1.40 ng m



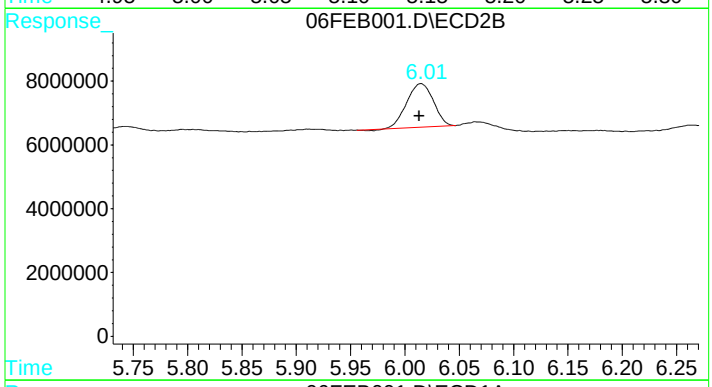

#18 ENDRIN ALDEHYDE

R.T.: 5.381 min
Delta R.T.: -0.008 min
Response: 60248824
Conc: 1.64 ng



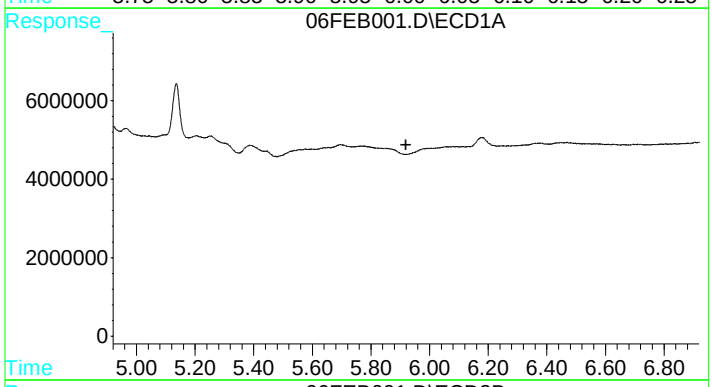

#21 ENDRIN KETONE

R.T.: 5.136 min
Delta R.T.: -0.002 min
Response: 22976285
Conc: 0.83 ng m



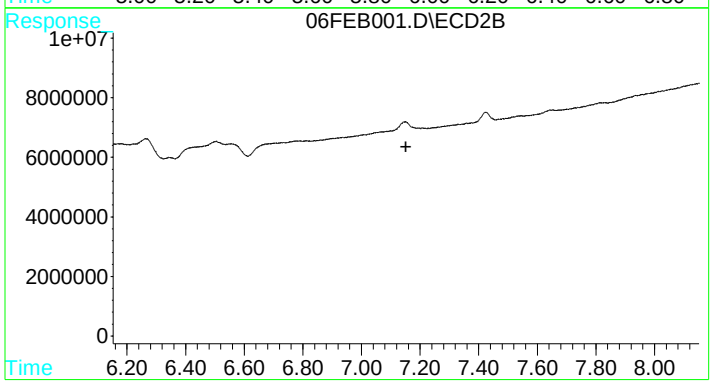

#21 ENDRIN KETONE

R.T.: 6.015 min
Delta R.T.: 0.002 min
Response: 23270053
Conc: 0.19 ng




#23 DCB (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 5.919 min
Response: 0
Conc: N.D.




#23 DCB (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 7.152 min
Response: 0
Conc: N.D.

Quantitation Report (QT Reviewed)

Signal #1 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB15\15FEB001.D\ECD1A.CH Vial: 91
Signal #2 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB15\15FEB001.D\ECD2B.CH
Acq On : 15 Feb 2017 8:25 am Operator: HKS
Sample : 8080 BREAKDOWN Inst : GC-17
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Feb 21 8:35 2017 Quant Results File: 608.RES

Quant Method : C:\HPCHEM\4...\608.M (Chemstation Integrator)
Title : EPA 608 Pesticides
Last Update : Thu Feb 16 11:01:55 2017
Response via : Initial Calibration
DataAcq Meth : 608.M

Volume Inj. : 3uL
Signal #1 Phase : Rtx-440 30M x .32 Signal #2 Phase: Rtx CLPesticides2 30M x .32mm
Signal #1 Info : .32mm Signal #2 Info : .32mm

| | | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ng#1 | ng#2 |
|---|---|---|---|---|---|---|---|---|
| | | System Monitoring Compounds | | | | | | |
| | | Target Compounds | | | | | | |
| 12) | T | PP-DDE | 3.95 | 4.64 | 50820578 | 65281596 | 0.522 | 1.099 # |
| 14) | T | ENDRIN | 4.25 | 4.93 | 2908.1E6 | 3364.2E6 | 67.007 | 62.918 |
| 15) | T | PP-DDD | 4.31 | 5.00 | 43041670 | 76537223 | 1.082 | 1.530 # |
| 17) | T | PP-DDT | 4.47 | 5.20 | 2136.5E6 | 2355.9E6 | 52.881 | 50.965 |
| 18) | T | ENDRIN ALDEHYDE | 4.63 | 5.29 | 6649982 | 34796865 | N.D. m | 0.416 |
| 21) | T | ENDRIN KETONE | 5.06 | 5.90 | 92778022 | 52869821 | 1.590 | N.D. m# |

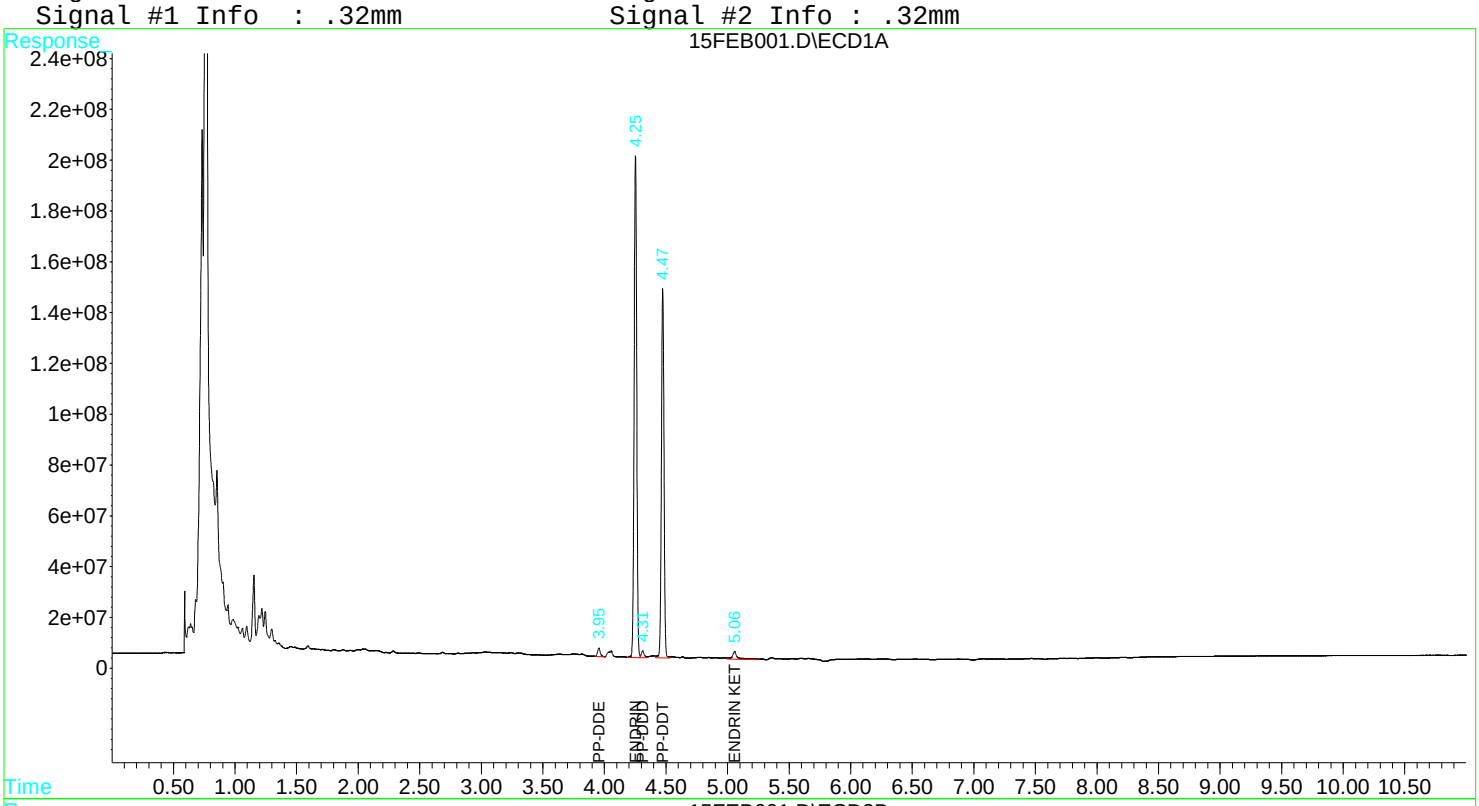
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

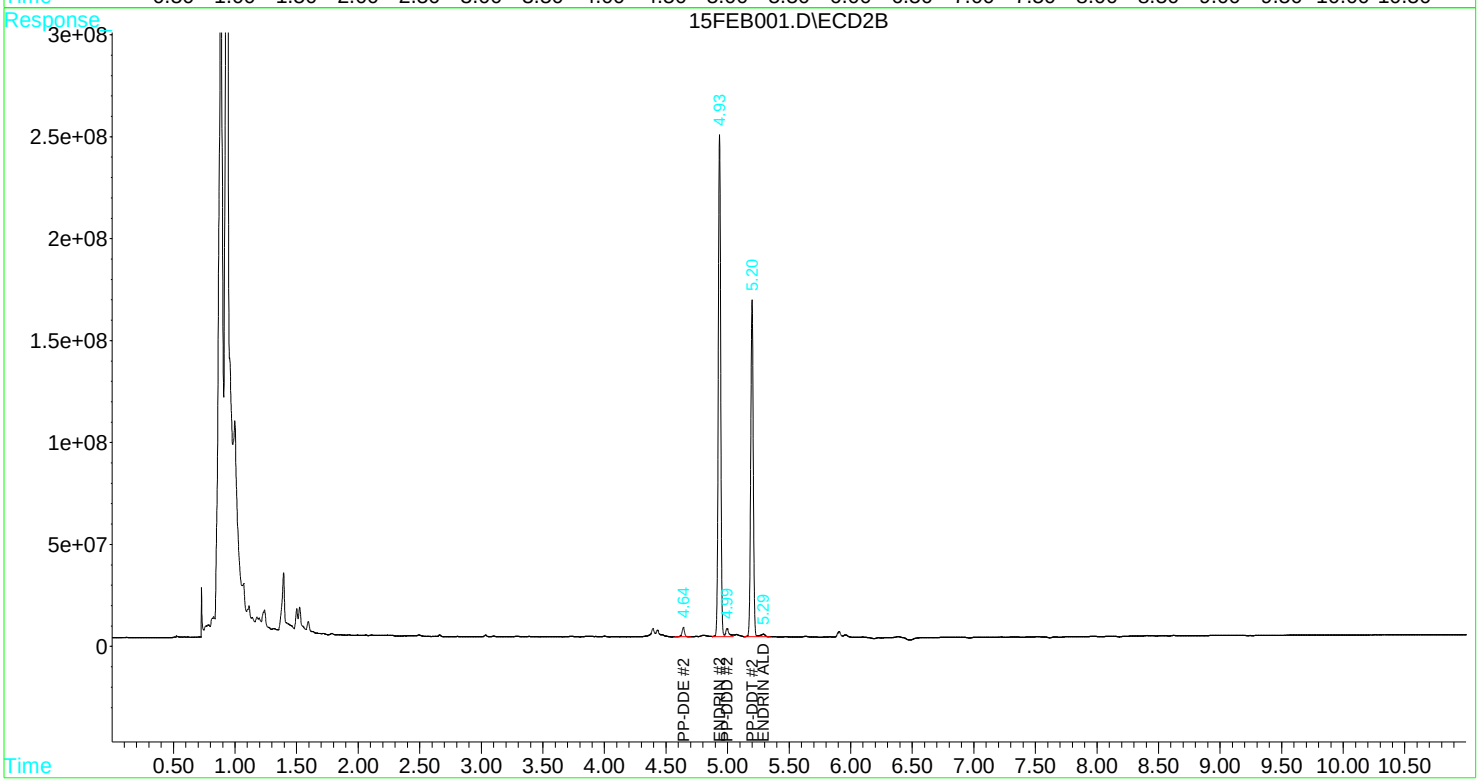
Quantitation Report (QT Reviewed)

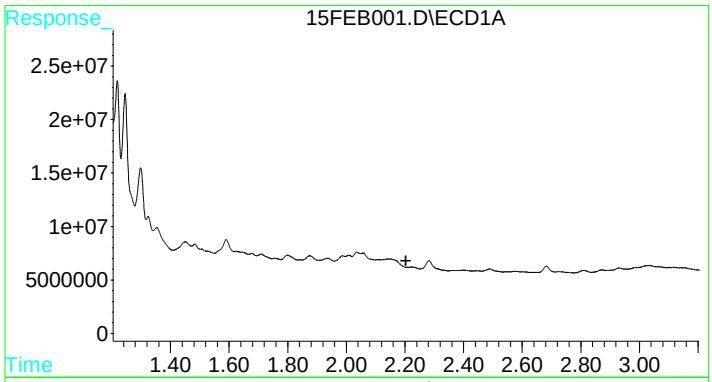
Signal #1 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB15\15FEB001.D\ECD1A.CH Vial: 91
Signal #2 : D:\INSTRMNT\GC-17\DATA\2017\FEB\FEB15\15FEB001.D\ECD2B.CH
Acq On : 15 Feb 2017 8:25 am Operator: HKS
Sample : 8080 BREAKDOWN Inst : GC-17
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Feb 21 8:35 2017 Quant Results File: 608.RES

Quant Method : C:\HPCHEM\4...\608.M (Chemstation Integrator)
Title : EPA 608 Pesticides
Last Update : Thu Feb 16 11:01:55 2017
Response via : Multiple Level Calibration
DataAcq Meth : 608.M

Volume Inj. : 3uL
Signal #1 Phase : Rtx-440 30M x .32 Signal #2 Phase: Rtx CLPesticides2 30M x .32mm
Signal #1 Info : .32mm Signal #2 Info : .32mm

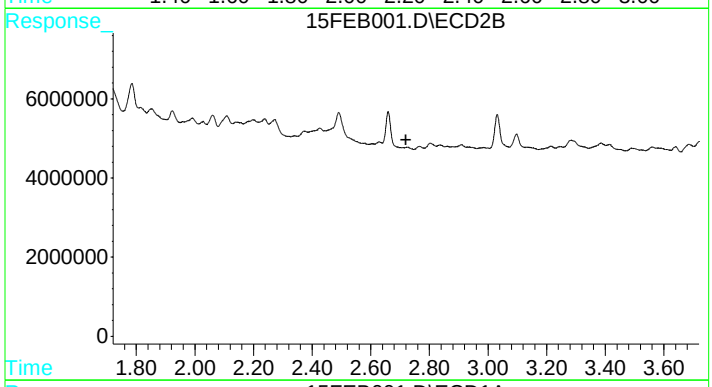




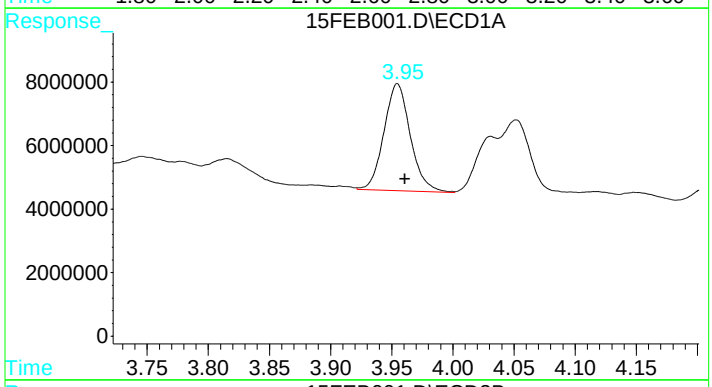

#1 TCMX (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 2.203 min
Response: 0
Conc: N.D.



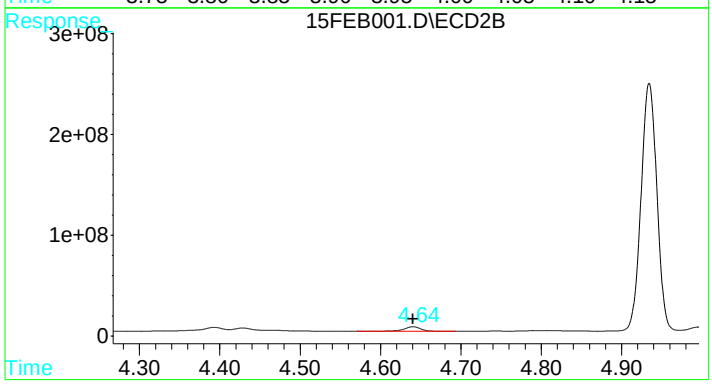

#1 TCMX (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 2.720 min
Response: 0
Conc: N.D.



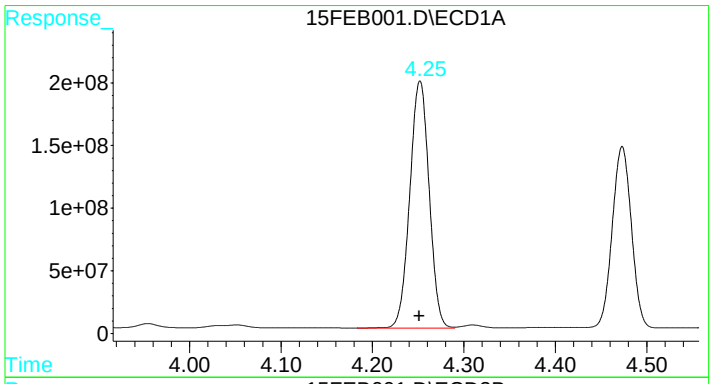

#12 PP-DDE

R.T.: 3.955 min
Delta R.T.: -0.006 min
Response: 50820578
Conc: 0.52 ng



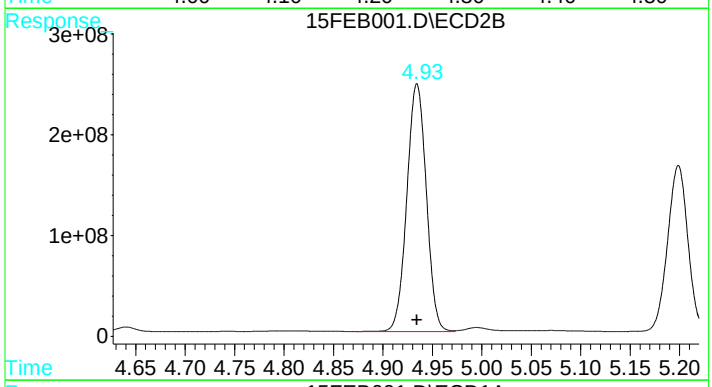

#12 PP-DDE

R.T.: 4.641 min
Delta R.T.: 0.000 min
Response: 65281596
Conc: 1.10 ng



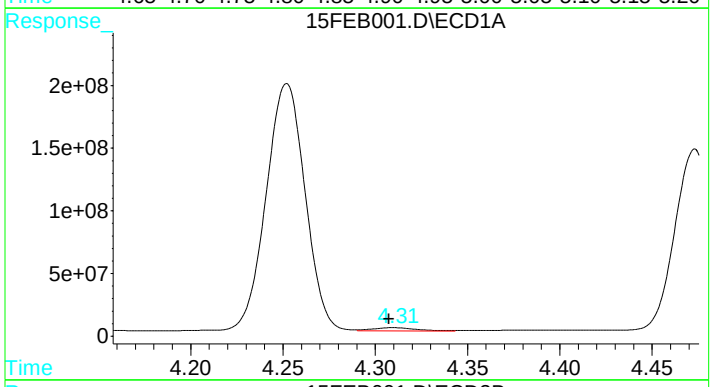

#14 ENDRIN

R.T.: 4.252 min
Delta R.T.: 0.001 min
Response: 2908098913
Conc: 67.01 ng



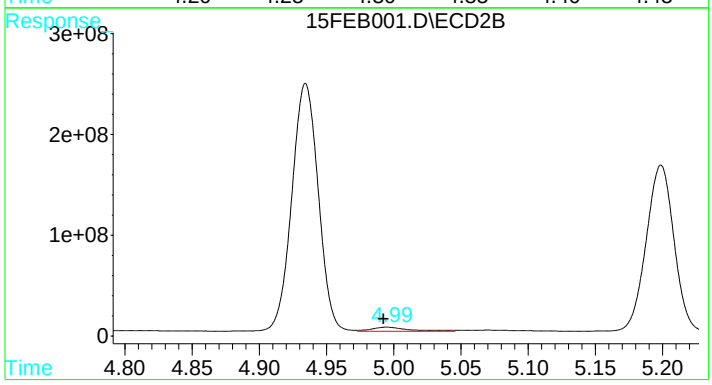

#14 ENDRIN

R.T.: 4.935 min
Delta R.T.: 0.000 min
Response: 3364215818
Conc: 62.92 ng



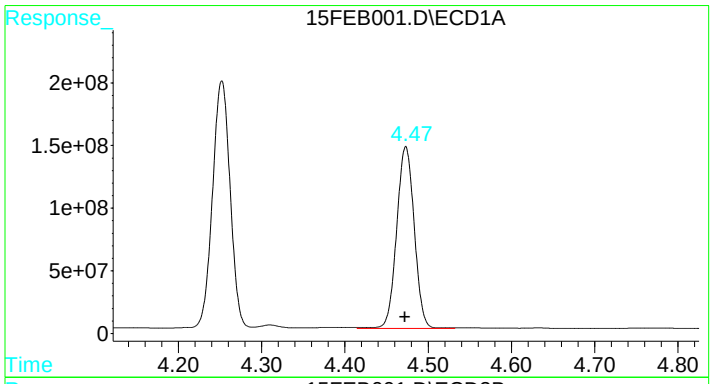

#15 PP-DDD

R.T.: 4.310 min
Delta R.T.: 0.002 min
Response: 43041670
Conc: 1.08 ng



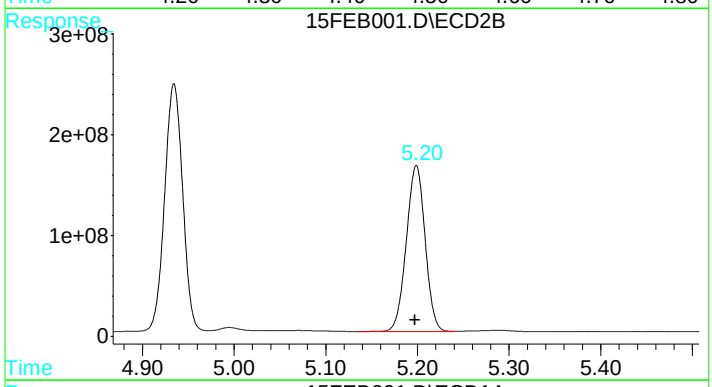

#15 PP-DDD

R.T.: 4.995 min
Delta R.T.: 0.003 min
Response: 76537223
Conc: 1.53 ng



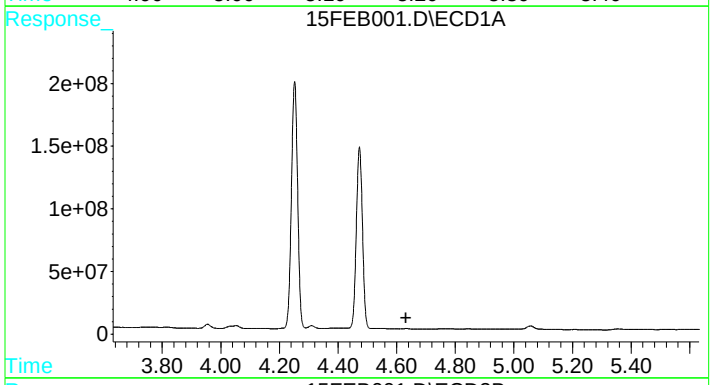

#17 PP-DDT

R.T.: 4.473 min
Delta R.T.: 0.001 min
Response: 2136471276
Conc: 52.88 ng



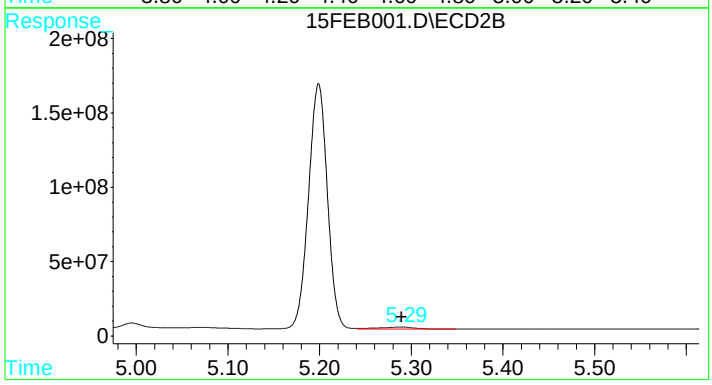

#17 PP-DDT

R.T.: 5.199 min
Delta R.T.: 0.002 min
Response: 2355918604
Conc: 50.97 ng



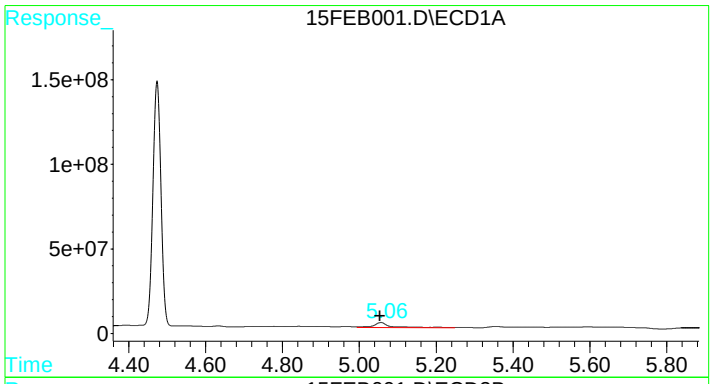

#18 ENDRIN ALDEHYDE

R.T.: 4.633 min
Delta R.T.: 0.001 min
Response: 6649982
Conc: N.D.



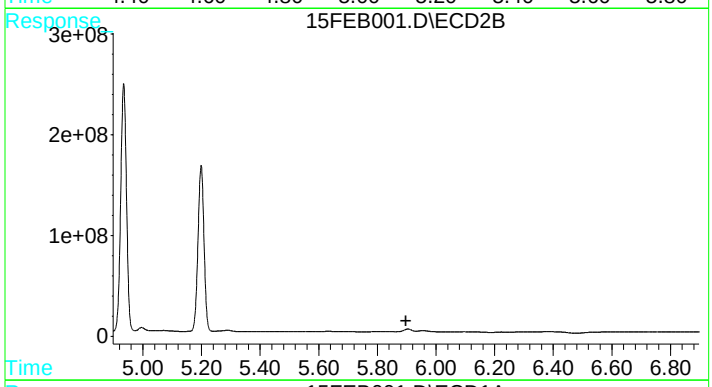

#18 ENDRIN ALDEHYDE

R.T.: 5.289 min
Delta R.T.: 0.000 min
Response: 34796865
Conc: 0.42 ng



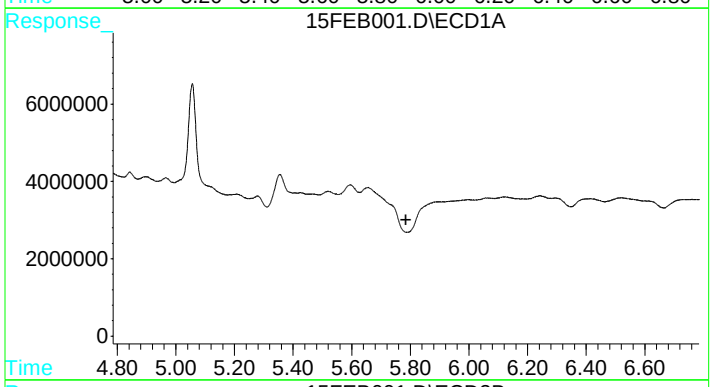

#21 ENDRIN KETONE

R.T.: 5.056 min
Delta R.T.: 0.002 min
Response: 92778022
Conc: 1.59 ng



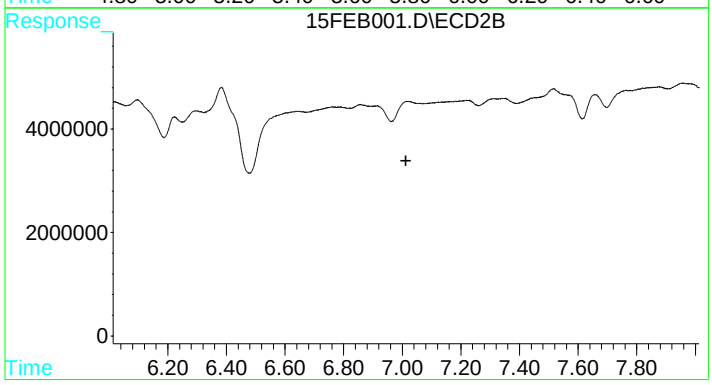

#21 ENDRIN KETONE

R.T.: 5.903 min
Delta R.T.: 0.005 min
Response: 52869821
Conc: N.D.




#23 DCB (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 5.785 min
Response: 0
Conc: N.D.




#23 DCB (SURROGATE)

R.T.: 0.000 min
Exp R.T. : 7.012 min
Response: 0
Conc: N.D.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:51:18PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |

BC LABORATORIES, INC.

**Work Order Number: 1702734**

# Laboratory Documentation Requirements
# For Data Validation of
# Volatiles Analysis

**Prepared By**

**BC Laboratories**

**For AMEC Environmental & Infrastructure**

**5023146096**

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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## Case Narrative

**Analyses Requested: 8260**
**Submission Number: 17-02734**

Instrument ID: MS-V5
Model: HP5973/GC6890

Column Type: Rxi R-624 Sil MS 30m x 0.25mm ID, 1.4µm film thickness.

Samples were received refrigerated to <6°C upon arrival at BC Laboratories, Inc. Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

**Holding Time:** All analyses and extractions took place within holding times.

**Calibration:** Initial calibration criteria were met. Frequency and accuracy criteria for initial calibration verification (ICV) were met. Frequency and accuracy criteria for continuing calibration verification (CCV) were met except the recovery for Bromomethane in 1701847-CCV3, the recoveries for Bromomethane and 1,2,3-Trichloropropane in 1701900-CCV1, and the recoveries for t-Amyl methyl ether, t-Butyl alcohol and Methyl ethyl ketone in 1701900-CCV2 were outside QC limits. Ending CCV criteria of fifty percent were met. Any compounds that were flagged, but not required, were not noted here.

**Blanks:** Method blank was prepared and analyzed at the required frequency. No detection of analytes of interest took place at or above the PQL. Initial and continuing calibration blanks were analyzed at the required frequencies and on an as needed basis.

**Laboratory Control Sample:** Laboratory control sample analysis was performed at the required frequency. All parameters for the required compounds were met except the recovery for cis-1,2-Dichloroethene was outside QC limits.

**Matrix Spikes and Duplicates:** Matrix spike analyses were performed at the required frequencies. All accuracy requirements were met except the matrix spike recoveries for Chlorobenzene and Vinyl chloride and the matrix spike duplicate recoveries for Chlorobenzene, 1,2-Dichlorobenzene and 1,3-Dichlorobenzene were outside QC limits.. All precision requirements were met.

# CHAIN OF CUSTODY

MMEC Group
9177 Sky Park Court
San Diego, CA
(858) 278-3600

SHIP TO:
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Attn:
Lab Phone#

DATE: 1/31/2017
COC #: COC170131
PAGE: 1 OF 1

17-02734

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Name: | Alameda Basewide | Project Contact: | Marina Mitchell | Bill To: | Amec Foster Wheeler | Disposal Instructions: | LAB |
| Project Number: | 5023146096 | Phone Number: | (503) 639-3400 | | 9210 Sky Park Court, Suite 200 | Shipment Method: | FEDEX |
| Project Manager: | Kevin Olness | Project Phase: | 03 **** | | San Diego, CA 92123 | Waybill Number: | N/A |

Sample Information / Methods for Analysis

| No. | Sample ID | Date & Time Sampled | Matrix | Sample Type | MS/MSD | VOCs (EPA 8260B) | SVOCs (EPA 8270C) | TVH-E -D, JP, M, Oil (EPA 8015B) | TPH-P as Gasoline (EPA 8015B) | Pesticides (EPA 8081) | Diss Metals (EPA 6000s) | Cyanide (EPA 335.2) | Diss.Gas- RSK175 | Anions- (EPA 300.0) | Cations - Na, K, Ca, Mg (EPA 6010) | Alkalinity (EPA 310.2) | Sulfide (EPA 376.2) | TDS (EPA 160.1) | TOC (EPA 415.1) | Gross α / β (EPA 9310/900.0) | Radium-226 (EPA 9315/903.0) | Tritium (EPA 906.0) | Total Radium (EPA 904.0) | Strontium-90 (EPA 905.0) | Cs137&Co60 (EPA 901.1) | Uranium Isotopes (EPA 908Mod) | 24 Hour | 48 Hour | 72 Hour | 5 Days | TOTAL BOTTLES | HOLD All Analyses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EB03_170131 | 01/31/17 14:00 | WQ | EB | N | X | X | X | X | X | X | X | | | X | | | | | X | X | X | X | X | X | X | | | | | | |
| 2 | EB04_170131 | 01/31/17 14:15 | WQ | EB | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 3 | M002A-R_170131 | 01/31/17 08:35 | WG | N | N | X | | | | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 4 | M003E-R_170131 | 01/31/17 13:25 | WG | N | N | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 5 | M026A-R_170131 | 01/31/17 10:05 | WG | N | N | X | | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 6 | M028A-R_170131 | 01/31/17 08:34 | WG | N | N | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | |
| 7 | M034A-R_170131 | 01/31/17 10:04 | WG | N | N | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 8 | TB02_170131 | 01/31/17 12:00 | WQ | TB | N | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHORT HOLDING TIME: $Cr^{+6}$ $NO_2$ $NO_3$ OP SS

OK BY: JKS

DISTRIBUTION: SUB-OUT

| | | | |
|---|---|---|---|
| Sampler's Signature: | | Date: 1-31-17 | Time: 1416 |
| Relinquished By/Affiliation: | MR | Date: 1/31/17 | Time: 14:50 |
| Received By: | Gary Bogan | Date: 1/31/17 | Time: 14:50 |
| Relinquished By/Affiliation: | Gary Bogan | Date: 1-31-17 | Time: 1830 |
| Received By: | | Date: 1/31/17 | Time: 18:30 |
| Relinquished By/Affiliation: | | Date: 1/31/17 | Time: 2210 |
| Received By (LAB): | | Date: 1/31 | Time: 2210 |

For Lab Use

| | |
|---|---|
| Does COC match samples: | Y or N |
| Broken Container: | Y or N |
| COC seal intact: | Y or N |
| Other problems: | Y or N |
| WSDOT contacted: | Y or N |
| Date contacted: | |
| Cooler Temperature at receipt: | ____ °C |

Comments:
X=Analyze H=Hold Analysis Request

Report DL/LOD/LOQ with Navy NIRIS valid values

VOC short list is Benzene & Ethylbenzene only
Major Cations are Na, K, Ca, Mg

NUMBER OF COOLERS SENT:

**Chain of Custody and Cooler Receipt Form for 1702734 Page 2 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blue Thermometer ID: 207<br>Temperature: (A) 1.0 °C / (C) 1.3 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr⁺⁶ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK 094 | | | | | | | | ABC | | |
| 40ml VOA VIAL 096 | A→F | ABC | ABC | ABC | ABC | A→F | A→F | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL ~~504~~ | | | | | | | GHI | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | | | | | | | | | | |
| 8oz / 16oz / 32oz JAR | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDC Date/Time: 2-1-17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 3 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ | Ice Chest ☒ None ☐ Box ☐ | YES ☐ NO ☐ |
| BC Lab Field Service ☒ Other ☐ (Specify)_____ | Other ☐ (Specify)_____ | W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.8 °C / (C) 0.9 °C Analyst Init 68

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | D,E | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F,J,I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | D | | D | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M,N | E,F | | E,F | | | | | | |
| 8oz / 16oz / 32oz JAR Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2.2.17 0920

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

| COC Received | | |
|---|---|---|
| ☒ YES ☐ NO | Emissivity: 0.97 Container: PE Blank Thermometer ID: 207<br>Temperature: (A) 0.1 °C / (C) 0.4 °C | Date/Time 1/31 22:14<br>Analyst Init GSP |

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | DE | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | F→I | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | V | | | | | | | | | |
| PT CYANIDE | K | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | EM | NL | | | | | | | | |
| 8oz / 16oz / 32oz ~~Amber~~ Ambed | AV | 21P | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 MZD Rev 21 05/23/2016

A = Actual / C = Corrected

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 5 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 7

Submission #: 17-02734

| SHIPPING INFORMATION | SHIPPING CONTAINER | FREE LIQUID |
|---|---|---|
| Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐<br>BC Lab Field Service ☒ Other ☐ (Specify)_____ | Ice Chest ☒ None ☐ Box ☐<br>Other ☐ (Specify)_____ | YES ☐ NO ☐<br>W / S |

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Amber Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.1 °C / (C) 0.2 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | | Gilt | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz $Cr^{+6}$ | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | IDL | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | D | | M | | | | | | | |
| PT CYANIDE | | | N | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | IDL 2/1/17 | | | | | |
| 8oz / 16oz / 32oz AMBER | ETF | | OGT | OGT | | | | | | |
| 8oz / 16oz / ~~32oz VOA~~ Amber | | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:

Sample Numbering Completed By: JDL Date/Time: 2-1-17 0920 Rev 21 05/23/2016

A = Actual / C = Corrected (S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 6 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time 1/31 22:14

Temperature: (A) 0.3 °C / (C) 0.6 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 3 | 5 | 7 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | | D,E | J,K | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | | | | | | | | | |
| 2oz Cr* | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | F-J | D-J R | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | S | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | L,M | | Y | | | | | | | |
| 8oz / 16oz / 32oz AMBER Ambers | N | J | | | | | | | | |
| SOIL SLEEVE for metals preserved | | | "AA" | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JRL Date/Time: 2.1.17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

**Chain of Custody and Cooler Receipt Form for 1702734 Page 7 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 6 Of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

**COC Received**
☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207
Temperature: (A) 0.1 °C / (C) 0.4 °C
Date/Time 1/31 22:14
Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PE UNPRES | G,H | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | | L | | | | | | | | |
| 2oz 4oz unpres | | N | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | I-L | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | M | | | | | | | | | |
| PT CYANIDE | N | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PIA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | O-T | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | U | | | | | | | | | |
| SOIL SLEEVE | | | | | | | | | | |
| PCB VIAL | | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JML Date/Time: 2·1·17 0920
A = Actual / C = Corrected

Rev 21 05/23/2016
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**Chain of Custody and Cooler Receipt Form for 1702734 Page 8 of 8**

BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7

Submission #: 17-02734

**SHIPPING INFORMATION**
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

**SHIPPING CONTAINER**
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

**FREE LIQUID**
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: Ambey Thermometer ID: 207 Date/Time 1/31 22:14
Temperature: (A) 0.7 °C / (C) 0.8 °C Analyst Init GSP

| SAMPLE CONTAINERS | SAMPLE NUMBERS 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| QT PR UNPRES | | | | | | | | | | |
| 4oz / 8oz / 16oz PE UNPRES | M | | | | | | | | | |
| 2oz CN | | | | | | | | | | |
| QT INORGANIC CHEMICAL METALS | | | | | | | | | | |
| INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz | | | | | | | | | | |
| PT CYANIDE | | | | | | | | | | |
| PT NITROGEN FORMS | | | | | | | | | | |
| PT TOTAL SULFIDE | T | | | | | | | | | |
| 2oz. NITRATE / NITRITE | | | | | | | | | | |
| PT TOTAL ORGANIC CARBON | U | | | | | | | | | |
| PT CHEMICAL OXYGEN DEMAND | | | | | | | | | | |
| PtA PHENOLICS | | | | | | | | | | |
| 40ml VOA VIAL TRAVEL BLANK | | | | | | | | | | |
| 40ml VOA VIAL | | | | | | | | | | |
| QT EPA 1664 | | | | | | | | | | |
| PT ODOR | | | | | | | | | | |
| RADIOLOGICAL | | | | | | | | | | |
| BACTERIOLOGICAL | | | | | | | | | | |
| 40 ml VOA VIAL- 504 | | | | | | | | | | |
| QT EPA 508/608/8080 | | | | | | | | | | |
| QT EPA 515.1/8150 | | | | | | | | | | |
| QT EPA 525 | | | | | | | | | | |
| QT EPA 525 TRAVEL BLANK | | | | | | | | | | |
| 40ml EPA 547 | | | | | | | | | | |
| 40ml EPA 531.1 | | | | | | | | | | |
| 8oz EPA 548 | | | | | | | | | | |
| QT EPA 549 | | | | | | | | | | |
| QT EPA 8015M | | | | | | | | | | |
| QT EPA 8270 | | | | | | | | | | |
| 8oz / 16oz / 32oz AMBER | V → X | | | | | | | | | |
| 8oz / 16oz / 32oz JAR Ambers | Amb Z | | | | | | | | | |
| SOIL SLEEVE | Inc | | | | | | | | | |
| PCB VIAL | R117 | | | | | | | | | |
| PLASTIC BAG | | | | | | | | | | |
| TEDLAR BAG | | | | | | | | | | |
| FERROUS IRON | | | | | | | | | | |
| ENCORE | | | | | | | | | | |
| SMART KIT | | | | | | | | | | |
| SUMMA CANISTER | | | | | | | | | | |

Comments:
Sample Numbering Completed By: JDL Date/Time: 2-1-12 0920 Rev 21 05/23/2016
A = Actual / C = Corrected
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC.rev 20]

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:52:56PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

**BC Laboratories**
**4100 Atlas Court**
**Bakersfield, CA 93308**
**Phone: 661-327-4911**

| | |
|---|---|
| **SDG:** | **17-02734** |
| **Class:** | **VOA** |
| **Method:** | **EPA-8260B** |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSES DATA PACKAGE COVER PAGE

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Client Sample Id: | Lab Sample Id: |
|---|---|
| EB03_170131 | 1702734-01 |
| EB04_170131 | 1702734-02 |
| M002A-R_170131 | 1702734-03 |
| M003E-R_170131 | 1702734-04 |
| M026A-R_170131 | 1702734-05 |
| M028A-R_170131 | 1702734-06 |
| M034A-R_170131 | 1702734-07 |
| M034A-R_170131 | 1702734-07RE1 |
| M034A-R_170131 | 1702734-07RE2 |
| TB02_170131 | 1702734-08 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 03-06-2017
Title: QA/QC Manager

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8260B

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MS-V5

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Benzene | 0.083 | 0.16 | 0.50 | ug/L |
| Bromobenzene | 0.13 | 0.16 | 0.50 | ug/L |
| Bromochloromethane | 0.24 | 0.30 | 1.0 | ug/L |
| Bromodichloromethane | 0.14 | 0.30 | 0.50 | ug/L |
| Bromoform | 0.27 | 0.30 | 0.60 | ug/L |
| Bromomethane | 0.25 | 0.25 | 0.60 | ug/L |
| n-Butylbenzene | 0.11 | 0.16 | 0.50 | ug/L |
| sec-Butylbenzene | 0.15 | 0.16 | 0.50 | ug/L |
| tert-Butylbenzene | 0.13 | 0.16 | 0.50 | ug/L |
| Carbon tetrachloride | 0.18 | 0.20 | 0.50 | ug/L |
| Chlorobenzene | 0.093 | 0.16 | 0.50 | ug/L |
| Chloroethane | 0.14 | 0.16 | 0.50 | ug/L |
| Chloroform | 0.12 | 0.16 | 0.50 | ug/L |
| Chloromethane | 0.14 | 0.16 | 0.50 | ug/L |
| 2-Chlorotoluene | 0.20 | 0.20 | 0.50 | ug/L |
| 4-Chlorotoluene | 0.15 | 0.16 | 0.50 | ug/L |
| Dibromochloromethane | 0.13 | 0.16 | 0.50 | ug/L |
| 1,2-Dibromo-3-chloropropane | 0.44 | 0.50 | 1.0 | ug/L |
| 1,2-Dibromoethane | 0.16 | 0.16 | 0.50 | ug/L |
| Dibromomethane | 0.24 | 0.30 | 1.0 | ug/L |
| 1,2-Dichlorobenzene | 0.072 | 0.16 | 0.50 | ug/L |
| 1,3-Dichlorobenzene | 0.15 | 0.16 | 0.50 | ug/L |
| 1,4-Dichlorobenzene | 0.062 | 0.16 | 0.50 | ug/L |
| Dichlorodifluoromethane | 0.099 | 0.16 | 0.50 | ug/L |
| 1,1-Dichloroethane | 0.11 | 0.16 | 0.50 | ug/L |
| 1,2-Dichloroethane | 0.17 | 0.20 | 0.50 | ug/L |
| 1,1-Dichloroethene | 0.18 | 0.20 | 0.50 | ug/L |
| cis-1,2-Dichloroethene | 0.085 | 0.16 | 0.50 | ug/L |
| trans-1,2-Dichloroethene | 0.15 | 0.16 | 0.50 | ug/L |
| 1,2-Dichloropropane | 0.13 | 0.16 | 0.50 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8260B

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MS-V5

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| 1,3-Dichloropropane | 0.086 | 0.16 | 0.50 | ug/L |
| 2,2-Dichloropropane | 0.13 | 0.16 | 0.50 | ug/L |
| 1,1-Dichloropropene | 0.085 | 0.16 | 0.50 | ug/L |
| cis-1,3-Dichloropropene | 0.14 | 0.16 | 0.50 | ug/L |
| trans-1,3-Dichloropropene | 0.079 | 0.16 | 0.50 | ug/L |
| Ethylbenzene | 0.098 | 0.16 | 0.50 | ug/L |
| Hexachlorobutadiene | 0.17 | 0.20 | 0.50 | ug/L |
| Isopropylbenzene | 0.14 | 0.16 | 0.50 | ug/L |
| p-Isopropyltoluene | 0.12 | 0.16 | 0.50 | ug/L |
| Methylene chloride | 0.48 | 0.50 | 1.0 | ug/L |
| Methyl t-butyl ether | 0.11 | 0.16 | 0.50 | ug/L |
| Naphthalene | 0.36 | 0.40 | 0.50 | ug/L |
| n-Propylbenzene | 0.11 | 0.16 | 0.50 | ug/L |
| Styrene | 0.068 | 0.16 | 0.50 | ug/L |
| 1,1,1,2-Tetrachloroethane | 0.18 | 0.20 | 0.50 | ug/L |
| 1,1,2,2-Tetrachloroethane | 0.17 | 0.20 | 0.50 | ug/L |
| Tetrachloroethene | 0.13 | 0.16 | 0.50 | ug/L |
| Toluene | 0.093 | 0.16 | 0.50 | ug/L |
| 1,2,3-Trichlorobenzene | 0.16 | 0.16 | 0.50 | ug/L |
| 1,2,4-Trichlorobenzene | 0.19 | 0.20 | 0.50 | ug/L |
| 1,1,1-Trichloroethane | 0.11 | 0.16 | 0.50 | ug/L |
| 1,1,2-Trichloroethane | 0.16 | 0.16 | 0.50 | ug/L |
| Trichloroethene | 0.085 | 0.16 | 0.50 | ug/L |
| Trichlorofluoromethane | 0.13 | 0.16 | 0.50 | ug/L |
| 1,2,3-Trichloropropane | 0.24 | 0.33 | 0.50 | ug/L |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.15 | 0.16 | 0.50 | ug/L |
| 1,2,4-Trimethylbenzene | 0.12 | 0.16 | 0.50 | ug/L |
| 1,3,5-Trimethylbenzene | 0.12 | 0.16 | 0.50 | ug/L |
| Vinyl chloride | 0.12 | 0.16 | 0.50 | ug/L |
| Total Xylenes | 0.36 | 0.46 | 1.0 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD DETECTION AND REPORTING LIMITS

## EPA-8260B

**Laboratory:** BC Laboratories
**SDG:** 17-02734
**Client:** AMEC Environmental & Infrastructure $AMCN
**Project:** Alameda
**Matrix:** Water
**Instrument:** MS-V5

| Analyte | DL | LOD | LOQ | Units |
|---|---|---|---|---|
| Acetone | 4.6 | 5.0 | 10 | ug/L |
| Acetonitrile | 5.5 | 6.0 | 10 | ug/L |
| Allyl chloride | 0.80 | 1.0 | 5.0 | ug/L |
| t-Amyl Methyl ether | 0.25 | 0.30 | 0.50 | ug/L |
| Benzyl chloride | 0.60 | 0.60 | 1.0 | ug/L |
| t-Butyl alcohol | 9.4 | 10 | 12 | ug/L |
| Carbon disulfide | 0.38 | 0.40 | 1.0 | ug/L |
| Chloroprene | 0.37 | 1.0 | 5.0 | ug/L |
| Diisopropyl ether | 0.23 | 0.30 | 0.50 | ug/L |
| Ethyl t-butyl ether | 0.18 | 0.20 | 0.50 | ug/L |
| 2-Hexanone | 3.4 | 4.0 | 10 | ug/L |
| Methyl ethyl ketone | 2.5 | 3.0 | 10 | ug/L |
| Methyl isobutyl ketone | 2.1 | 3.0 | 10 | ug/L |
| Vinyl acetate | 1.8 | 6.0 | 20 | ug/L |
| p- & m-Xylenes | 0.28 | 0.30 | 0.50 | ug/L |
| o-Xylene | 0.082 | 0.16 | 0.50 | ug/L |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: 02FEB50.D
Sampled: 01/31/17 14:00
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 01:27
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**EB03_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-01
File ID: 02FEB50.D
Sampled: 01/31/17 14:00
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 01:27
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**EB03_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-01 | | File ID: | 02FEB50.D | |
| Sampled: | 01/31/17 14:00 | Prepared: | 02/02/17 08:00 | | Analyzed: | 02/03/17 01:27 | |
| Solids: | | Preparation: | EPA 5030 Water MS | | Initial/Final: | 25 ml / 25 ml | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.360 | 104 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.6800 | 96.8 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.8100 | 98.1 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 219375 | 6.59 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 74853 | 9.62 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 297382 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: 02FEB51.D
Sampled: 01/31/17 14:15
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 01:50
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**EB04_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-02
File ID: 02FEB51.D
Sampled: 01/31/17 14:15
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 01:50
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**EB04_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-02 | | File ID: | 02FEB51.D | |
| Sampled: | 01/31/17 14:15 | Prepared: | 02/02/17 08:00 | | Analyzed: | 02/03/17 01:50 | |
| Solids: | | Preparation: | EPA 5030 Water MS | | Initial/Final: | 25 ml / 25 ml | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 11.330 | 113 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.5200 | 95.2 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 10.190 | 102 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 218359 | 6.58 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 74361 | 9.62 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 306111 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: 02FEB52.D
Sampled: 01/31/17 08:35
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 02:14
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 1.4 | 0.085 | 0.16 | 0.50 | |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.40 | 0.15 | 0.16 | 0.50 | J |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M002A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-03
File ID: 02FEB52.D
Sampled: 01/31/17 08:35
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 02:14
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.18 | 0.14 | 0.16 | 0.50 | J |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.52 | 0.085 | 0.16 | 0.50 | |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.53 | 0.12 | 0.16 | 0.50 | |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M002A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-03 | File ID: | 02FEB52.D | | |
| Sampled: | 01/31/17 08:35 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 02:14 | | |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.860 | 109 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.6600 | 96.6 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 10.270 | 103 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 215862 | 6.59 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 68286 | 9.63 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 297840 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: 02FEB53.D
Sampled: 01/31/17 13:25
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 02:37
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M003E-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-04
File ID: 02FEB53.D
Sampled: 01/31/17 13:25
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 02:37
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M003E-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-04 | File ID: | 02FEB53.D | | |
| Sampled: | 01/31/17 13:25 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 02:37 | | |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.870 | 109 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.5700 | 95.7 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.8000 | 98.0 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 217658 | 6.58 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 71738 | 9.63 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 296917 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M026A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-05
File ID: 02FEB54.D
Sampled: 01/31/17 10:05
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 03:00
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M026A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-05
File ID: 02FEB54.D
Sampled: 01/31/17 10:05
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 03:00
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M026A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-05 | File ID: | 02FEB54.D | | |
| Sampled: | 01/31/17 10:05 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 03:00 | | |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.930 | 109 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.7000 | 97.0 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.9700 | 99.7 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 209828 | 6.58 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 69483 | 9.62 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 288084 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: 02FEB55.D
Sampled: 01/31/17 08:34
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 03:24
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 2.3 | 0.083 | 0.16 | 0.50 | |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.47 | 0.13 | 0.16 | 0.50 | J |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 18 | 0.093 | 0.16 | 0.50 | |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 11 | 0.072 | 0.16 | 0.50 | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.38 | 0.15 | 0.16 | 0.50 | J |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 4.9 | 0.062 | 0.16 | 0.50 | |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M028A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-06
File ID: 02FEB55.D
Sampled: 01/31/17 08:34
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 03:24
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.23 | 0.093 | 0.16 | 0.50 | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M028A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-06 | File ID: | 02FEB55.D | | |
| Sampled: | 01/31/17 08:34 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 03:24 | | |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.660 | 107 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.6800 | 96.8 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 10.290 | 103 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 206732 | 6.58 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 65082 | 9.62 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 280047 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M034A-R_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-07
File ID: 02FEB56.D
Sampled: 01/31/17 10:04
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 03:47
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701847
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 55 | 0.083 | 0.16 | 0.50 | |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 1.9 | 0.11 | 0.16 | 0.50 | |
| 135-98-8 | sec-Butylbenzene | 1 | 1.8 | 0.15 | 0.16 | 0.50 | |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 1.8 | 0.093 | 0.16 | 0.50 | |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 55 | 0.072 | 0.16 | 0.50 | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 5.4 | 0.062 | 0.16 | 0.50 | |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 9.0 | 0.11 | 0.16 | 0.50 | |
| 107-06-2 | 1,2-Dichloroethane | 1 | 1.2 | 0.17 | 0.20 | 0.50 | |
| 78-87-5 | 1,2-Dichloropropane | 1 | 4.3 | 0.13 | 0.16 | 0.50 | |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 51 | 0.098 | 0.16 | 0.50 | |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07 | File ID: | 02FEB56.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 03:47 |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 |
| Instrument: | MS-V5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | 1 | 3.7 | 0.14 | 0.16 | 0.50 | |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 74 | 0.36 | 0.40 | 0.50 | |
| 103-65-1 | n-Propylbenzene | 1 | 4.7 | 0.11 | 0.16 | 0.50 | |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 6.8 | 0.17 | 0.20 | 0.50 | |
| 127-18-4 | Tetrachloroethene | 1 | 0.17 | 0.13 | 0.16 | 0.50 | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.37 | 0.19 | 0.20 | 0.50 | J |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 6.9 | 0.16 | 0.16 | 0.50 | |
| 79-01-6 | Trichloroethene | 1 | 66 | 0.085 | 0.16 | 0.50 | |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 40 | 0.12 | 0.16 | 0.50 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 7.1 | 0.12 | 0.16 | 0.50 | |
| 67-64-1 | Acetone | 1 | 67 | 4.6 | 5.0 | 10 | |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 62 | 0.28 | 0.30 | 0.50 | |
| 95-47-6 | o-Xylene | 1 | 65 | 0.082 | 0.16 | 0.50 | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 9.0900 | 90.9 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.4900 | 94.9 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.5600 | 95.6 | 85 - 114 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M034A-R_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-07 | | File ID: | 02FEB56.D | |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 08:00 | | Analyzed: | 02/03/17 03:47 | |
| Solids: | | Preparation: | EPA 5030 Water MS | | Initial/Final: | 25 ml / 25 ml | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 | Instrument: | MS-V5 |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 203109 | 6.59 | 215031 | 6.59 | |
| Chlorobenzene-d5 (IS) | 63690 | 9.62 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 270454 | 7.39 | 294255 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07RE1 | File ID: | 03FEB05.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 07:19 |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Batch: | B[B0138 | Sequence: | 1701900 | Calibration: | 1701019 |
| Instrument: | MS-V5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | 25 | 140 | 4.5 | 5.0 | 12 | D |
| 156-60-5 | trans-1,2-Dichloroethene | 25 | 25 | 3.8 | 4.0 | 12 | D |
| 99-87-6 | p-Isopropyltoluene | 25 | 94 | 3.0 | 4.0 | 12 | D |
| 108-88-3 | Toluene | 25 | 680 | 2.3 | 4.0 | 12 | D |
| 75-01-4 | Vinyl chloride | 25 | 1400 | 3.0 | 4.0 | 12 | D |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.240 | 102 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 10.000 | 100 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 10.390 | 104 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 222572 | 6.59 | 220747 | 6.58 | |
| Chlorobenzene-d5 (IS) | 72787 | 9.63 | 77878 | 9.62 | |
| 1,4-Difluorobenzene (IS) | 302469 | 7.39 | 309535 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**M034A-R_170131**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | 1702734-07RE2 | File ID: | 03FEB07.D |
| Sampled: | 01/31/17 10:04 | Prepared: | 02/02/17 08:00 | Analyzed: | 02/03/17 08:06 |
| Solids: | | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Batch: | B[B0138 | Sequence: | 1701900 | Calibration: | 1701019 |
| Instrument: | MS-V5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 156-59-2 | cis-1,2-Dichloroethene | 250 | 23000 | 21 | 40 | 120 | D |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.570 | 106 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.9600 | 99.6 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.9000 | 99.0 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 234171 | 6.59 | 220747 | 6.58 | |
| Chlorobenzene-d5 (IS) | 78634 | 9.62 | 77878 | 9.62 | |
| 1,4-Difluorobenzene (IS) | 317775 | 7.39 | 309535 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**TB02_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-08
File ID: 03FEB11.D
Sampled: 01/31/17 12:00
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 09:39
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701900
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1 | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1 | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 1 | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 1 | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 1 | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.16 | 0.099 | 0.16 | 0.50 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**TB02_170131**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Laboratory ID: 1702734-08
File ID: 03FEB11.D
Sampled: 01/31/17 12:00
Prepared: 02/02/17 08:00
Analyzed: 02/03/17 09:39
Solids:
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Batch: B[B0138
Sequence: 1701900
Calibration: 1701019
Instrument: MS-V5

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 1 | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 1 | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 1 | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 1 | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 1 | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 1 | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.20 | 0.19 | 0.20 | 0.50 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 1 | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 1 | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 1 | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 1 | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 1 | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 1 | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 1 | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 1 | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 1 | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 1 | 0.30 | 0.28 | 0.30 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ORGANIC ANALYSIS DATA SHEET
## EPA-8260B

**TB02_170131**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 | | |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda | | |
| Matrix: | Water | Laboratory ID: | 1702734-08 | | File ID: | 03FEB11.D | |
| Sampled: | 01/31/17 12:00 | Prepared: | 02/02/17 08:00 | | Analyzed: | 02/03/17 09:39 | |
| Solids: | | Preparation: | EPA 5030 Water MS | | Initial/Final: | 25 ml / 25 ml | |
| Batch: | B[B0138 | Sequence: | 1701900 | Calibration: | 1701019 | Instrument: | MS-V5 |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 11.160 | 112 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.6200 | 96.2 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.8900 | 98.9 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 225837 | 6.58 | 220747 | 6.58 | |
| Chlorobenzene-d5 (IS) | 77474 | 9.62 | 77878 | 9.62 | |
| 1,4-Difluorobenzene (IS) | 317317 | 7.39 | 309535 | 7.39 | |

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# PREPARATION BATCH SUMMARY

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Batch: B[B0138
Batch Matrix: Water
Preparation: EPA 5030 Water MS

| SAMPLE NAME | LAB SAMPLE ID | LAB FILE ID | DATE PREPARED | OBSERVATIONS |
|---|---|---|---|---|
| EB03_170131 | 1702734-01 | 02FEB50.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| EB04_170131 | 1702734-02 | 02FEB51.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| M002A-R_170131 | 1702734-03 | 02FEB52.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| M003E-R_170131 | 1702734-04 | 02FEB53.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| M026A-R_170131 | 1702734-05 | 02FEB54.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| M028A-R_170131 | 1702734-06 | 02FEB55.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| M034A-R_170131 | 1702734-07 | 02FEB56.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| M034A-R_170131 | 1702734-07RE1 | 03FEB05.D | 02/02/17 08:00 | Added 2/3/2017 by JMS |
| M034A-R_170131 | 1702734-07RE2 | 03FEB07.D | 02/02/17 08:00 | Added 2/3/2017 by JMS |
| TB02_170131 | 1702734-08 | 03FEB11.D | 02/02/17 08:00 | Benzene & Ethylbenzene |
| Blank | B[B0138-BLK1 | 02FEB35.D | 02/02/17 08:00 | |
| LCS | B[B0138-BS1 | 02FEB58.D | 02/02/17 08:00 | |
| Matrix Spike | B[B0138-MS1 | 02FEB59.D | 02/02/17 08:00 | |
| Matrix Spike Dup | B[B0138-MSD1 | 02FEB60.D | 02/02/17 08:00 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8260B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0138-BLK1 | File ID: | 02FEB35.D |
| Prepared: | 02/02/17 08:00 | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Analyzed: | 02/02/17 19:35 | Instrument: | MS-V5 | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.16 | 0.083 | 0.16 | 0.50 | U |
| 108-86-1 | Bromobenzene | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 74-97-5 | Bromochloromethane | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 0.30 | 0.14 | 0.30 | 0.50 | U |
| 75-25-2 | Bromoform | 0.30 | 0.27 | 0.30 | 0.60 | U |
| 74-83-9 | Bromomethane | 0.25 | 0.25 | 0.25 | 0.60 | U |
| 104-51-8 | n-Butylbenzene | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 135-98-8 | sec-Butylbenzene | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 98-06-6 | tert-Butylbenzene | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 56-23-5 | Carbon tetrachloride | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 108-90-7 | Chlorobenzene | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 75-00-3 | Chloroethane | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 67-66-3 | Chloroform | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 74-87-3 | Chloromethane | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 95-49-8 | 2-Chlorotoluene | 0.20 | 0.20 | 0.20 | 0.50 | U |
| 106-43-4 | 4-Chlorotoluene | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 124-48-1 | Dibromochloromethane | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.50 | 0.44 | 0.50 | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 74-95-3 | Dibromomethane | 0.30 | 0.24 | 0.30 | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.16 | 0.072 | 0.16 | 0.50 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.16 | 0.062 | 0.16 | 0.50 | U |
| 75-71-8 | Dichlorodifluoromethane | 0.16 | 0.099 | 0.16 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8260B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0138-BLK1 | File ID: | 02FEB35.D |
| Prepared: | 02/02/17 08:00 | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Analyzed: | 02/02/17 19:35 | Instrument: | MS-V5 | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 75-34-3 | 1,1-Dichloroethane | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.16 | 0.15 | 0.16 | 0.50 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 142-28-9 | 1,3-Dichloropropane | 0.16 | 0.086 | 0.16 | 0.50 | U |
| 594-20-7 | 2,2-Dichloropropane | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 563-58-6 | 1,1-Dichloropropene | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 100-41-4 | Ethylbenzene | 0.16 | 0.098 | 0.16 | 0.50 | U |
| 87-68-3 | Hexachlorobutadiene | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 98-82-8 | Isopropylbenzene | 0.16 | 0.14 | 0.16 | 0.50 | U |
| 99-87-6 | p-Isopropyltoluene | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-09-2 | Methylene chloride | 0.50 | 0.48 | 0.50 | 1.0 | U |
| 1634-04-4 | Methyl t-butyl ether | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 91-20-3 | Naphthalene | 0.40 | 0.36 | 0.40 | 0.50 | U |
| 103-65-1 | n-Propylbenzene | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 100-42-5 | Styrene | 0.16 | 0.068 | 0.16 | 0.50 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.20 | 0.17 | 0.20 | 0.50 | U |
| 127-18-4 | Tetrachloroethene | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 108-88-3 | Toluene | 0.16 | 0.093 | 0.16 | 0.50 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.20 | 0.19 | 0.20 | 0.50 | U |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8260B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0138-BLK1 | File ID: | 02FEB35.D |
| Prepared: | 02/02/17 08:00 | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Analyzed: | 02/02/17 19:35 | Instrument: | MS-V5 | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 |

| CAS NO. | COMPOUND | CONC. (ug/L) | DL | LOD | LOQ | Q |
|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 0.16 | 0.11 | 0.16 | 0.50 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.16 | 0.16 | 0.16 | 0.50 | U |
| 79-01-6 | Trichloroethene | 0.16 | 0.085 | 0.16 | 0.50 | U |
| 75-69-4 | Trichlorofluoromethane | 0.16 | 0.13 | 0.16 | 0.50 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 0.33 | 0.24 | 0.33 | 0.50 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 75-01-4 | Vinyl chloride | 0.16 | 0.12 | 0.16 | 0.50 | U |
| 67-64-1 | Acetone | 5.0 | 4.6 | 5.0 | 10 | U |
| 994-05-8 | t-Amyl Methyl ether | 0.30 | 0.25 | 0.30 | 0.50 | U |
| 75-65-0 | t-Butyl alcohol | 10 | 9.4 | 10 | 15 | U |
| 75-15-0 | Carbon disulfide | 0.40 | 0.38 | 0.40 | 1.0 | U |
| 108-20-3 | Diisopropyl ether | 0.30 | 0.23 | 0.30 | 0.50 | U |
| 637-92-3 | Ethyl t-butyl ether | 0.20 | 0.18 | 0.20 | 0.50 | U |
| 78-93-3 | Methyl ethyl ketone | 3.0 | 2.5 | 3.0 | 10 | U |
| 179601-23-1 | p- & m-Xylenes | 0.30 | 0.28 | 0.30 | 0.50 | U |
| 95-47-6 | o-Xylene | 0.16 | 0.082 | 0.16 | 0.50 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 10.680 | 107 | 81 - 118 | |
| Toluene-d8 (Surrogate) | 10.000 | 9.7500 | 97.5 | 89 - 112 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 9.3200 | 93.2 | 85 - 114 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Pentafluorobenzene (IS) | 222683 | 6.59 | 215031 | 6.59 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# METHOD BLANK DATA SHEET
## EPA-8260B

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | BC Laboratories | | | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | | | Project: | Alameda |
| Matrix: | Water | Laboratory ID: | B[B0138-BLK1 | File ID: | 02FEB35.D |
| Prepared: | 02/02/17 08:00 | Preparation: | EPA 5030 Water MS | Initial/Final: | 25 ml / 25 ml |
| Analyzed: | 02/02/17 19:35 | Instrument: | MS-V5 | | |
| Batch: | B[B0138 | Sequence: | 1701847 | Calibration: | 1701019 |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| Chlorobenzene-d5 (IS) | 77365 | 9.63 | 72334 | 9.63 | |
| 1,4-Difluorobenzene (IS) | 296419 | 7.39 | 294255 | 7.39 | |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8260B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-MS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Benzene | 25.000 | 4.1500 | 27.290 | 92.6 | 79 - 120 |
| Bromobenzene | 25.000 | ND | 23.180 | 92.7 | 80 - 120 |
| Bromochloromethane | 25.000 | ND | 23.360 | 93.4 | 78 - 123 |
| Bromodichloromethane | 25.000 | ND | 23.740 | 95.0 | 79 - 125 |
| Bromoform | 25.000 | ND | 22.550 | 90.2 | 66 - 130 |
| Bromomethane | 25.000 | ND | 18.940 | 75.8 | 53 - 141 |
| n-Butylbenzene | 25.000 | ND | 24.070 | 96.3 | 75 - 128 |
| sec-Butylbenzene | 25.000 | 0.22000 | 22.990 | 91.1 | 77 - 126 |
| tert-Butylbenzene | 25.000 | 0.23000 | 23.050 | 91.3 | 78 - 124 |
| Carbon tetrachloride | 25.000 | ND | 25.370 | 101 | 72 - 136 |
| Chlorobenzene | 25.000 | 23.110 | 41.720 | 74.4 * | 82 - 118 |
| Chloroethane | 25.000 | ND | 24.430 | 97.7 | 60 - 138 |
| Chloroform | 25.000 | ND | 23.940 | 95.8 | 79 - 124 |
| Chloromethane | 25.000 | ND | 22.610 | 90.4 | 50 - 139 |
| 2-Chlorotoluene | 25.000 | ND | 23.840 | 95.4 | 79 - 122 |
| 4-Chlorotoluene | 25.000 | ND | 23.330 | 93.3 | 78 - 122 |
| Dibromochloromethane | 25.000 | ND | 24.430 | 97.7 | 74 - 126 |
| 1,2-Dibromo-3-chloropropane | 25.000 | ND | 22.350 | 89.4 | 62 - 128 |
| 1,2-Dibromoethane | 25.000 | ND | 24.600 | 98.4 | 77 - 121 |
| Dibromomethane | 25.000 | ND | 22.140 | 88.6 | 79 - 123 |
| 1,2-Dichlorobenzene | 25.000 | 7.7100 | 28.090 | 81.5 | 80 - 119 |
| 1,3-Dichlorobenzene | 25.000 | 0.25000 | 21.020 | 83.1 | 80 - 119 |
| 1,4-Dichlorobenzene | 25.000 | 2.2200 | 24.320 | 88.4 | 79 - 118 |
| Dichlorodifluoromethane | 25.000 | ND | 24.070 | 96.3 | 32 - 152 |
| 1,1-Dichloroethane | 25.000 | 1.8600 | 24.360 | 90.0 | 77 - 125 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8260B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-MS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| 1,2-Dichloroethane | 25.000 | 3.3800 | 25.820 | 89.8 | 73 - 128 |
| 1,1-Dichloroethene | 25.000 | ND | 25.060 | 100 | 71 - 131 |
| cis-1,2-Dichloroethene | 25.000 | 4.8800 | 30.940 | 104 | 78 - 123 |
| trans-1,2-Dichloroethene | 25.000 | 2.3600 | 26.450 | 96.4 | 75 - 124 |
| 1,2-Dichloropropane | 25.000 | 0.40000 | 23.600 | 92.8 | 78 - 122 |
| 1,3-Dichloropropane | 25.000 | ND | 24.150 | 96.6 | 80 - 119 |
| 2,2-Dichloropropane | 25.000 | ND | 24.710 | 98.8 | 60 - 139 |
| 1,1-Dichloropropene | 25.000 | ND | 25.410 | 102 | 79 - 125 |
| cis-1,3-Dichloropropene | 25.000 | ND | 23.090 | 92.4 | 75 - 124 |
| trans-1,3-Dichloropropene | 25.000 | ND | 23.520 | 94.1 | 73 - 127 |
| Ethylbenzene | 25.000 | ND | 23.840 | 95.4 | 79 - 121 |
| Hexachlorobutadiene | 25.000 | ND | 24.320 | 97.3 | 66 - 134 |
| Isopropylbenzene | 25.000 | ND | 22.930 | 91.7 | 72 - 131 |
| p-Isopropyltoluene | 25.000 | ND | 23.120 | 92.5 | 77 - 127 |
| Methylene chloride | 25.000 | ND | 22.660 | 90.6 | 74 - 124 |
| Methyl t-butyl ether | 25.000 | ND | 23.910 | 95.6 | 71 - 124 |
| Naphthalene | 25.000 | ND | 28.890 | 116 | 61 - 128 |
| n-Propylbenzene | 25.000 | ND | 22.440 | 89.8 | 76 - 126 |
| Styrene | 25.000 | ND | 23.620 | 94.5 | 78 - 123 |
| 1,1,1,2-Tetrachloroethane | 25.000 | ND | 22.870 | 91.5 | 78 - 124 |
| 1,1,2,2-Tetrachloroethane | 25.000 | ND | 24.520 | 98.1 | 71 - 121 |
| Tetrachloroethene | 25.000 | ND | 25.090 | 100 | 74 - 129 |
| Toluene | 25.000 | 0.35000 | 24.370 | 96.1 | 80 - 121 |
| 1,2,3-Trichlorobenzene | 25.000 | ND | 26.240 | 105 | 69 - 129 |
| 1,2,4-Trichlorobenzene | 25.000 | ND | 26.240 | 105 | 69 - 130 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8260B

**Matrix Spike**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-MS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.000 | ND | 25.460 | 102 | 74 - 131 |
| 1,1,2-Trichloroethane | 25.000 | ND | 23.970 | 95.9 | 80 - 119 |
| Trichloroethene | 25.000 | ND | 24.560 | 98.2 | 79 - 123 |
| Trichlorofluoromethane | 25.000 | ND | 25.480 | 102 | 65 - 141 |
| 1,2,3-Trichloropropane | 25.000 | ND | 26.560 | 106 | 73 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.000 | ND | 23.980 | 95.9 | 70 - 136 |
| 1,2,4-Trimethylbenzene | 25.000 | ND | 23.280 | 93.1 | 76 - 124 |
| 1,3,5-Trimethylbenzene | 25.000 | ND | 22.560 | 90.2 | 75 - 124 |
| Vinyl chloride | 25.000 | 107.54 | 108.33 | 3.16 * | 58 - 137 |
| Total Xylenes | 75.000 | 0.38000 | 70.700 | 93.8 | 79 - 121 |
| Acetone | 320.00 | ND | 294.42 | 92.0 | 39 - 160 |
| Acetonitrile | 160.00 | ND | 139.01 | 86.9 | 50 - 142 |
| Allyl chloride | 32.000 | ND | 35.690 | 112 | 68 - 130 |
| t-Amyl Methyl ether | 16.000 | ND | 17.950 | 112 | 68 - 128 |
| Benzyl chloride | 32.000 | ND | 37.890 | 118 | 42 - 138 |
| t-Butyl alcohol | 800.00 | ND | 875.64 | 109 | 68 - 129 |
| Carbon disulfide | 32.000 | ND | 34.280 | 107 | 64 - 133 |
| Chloroprene | 32.000 | ND | 34.730 | 109 | 65 - 135 |
| Diisopropyl ether | 16.000 | ND | 17.670 | 110 | 67 - 128 |
| Ethyl t-butyl ether | 16.000 | ND | 17.690 | 111 | 70 - 127 |
| 2-Hexanone | 320.00 | ND | 301.78 | 94.3 | 57 - 139 |
| Methyl ethyl ketone | 160.00 | ND | 165.88 | 104 | 56 - 143 |
| Methyl isobutyl ketone | 160.00 | ND | 162.66 | 102 | 67 - 130 |
| Vinyl acetate | 160.00 | ND | 164.98 | 103 | 54 - 146 |

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9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8260B

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-MSD1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Benzene | 25.000 | 25.470 | 85.3 | 6.90 | 30 | 79 - 120 |
| Bromobenzene | 25.000 | 21.610 | 86.4 | 7.01 | 30 | 80 - 120 |
| Bromochloromethane | 25.000 | 21.380 | 85.5 | 8.85 | 30 | 78 - 123 |
| Bromodichloromethane | 25.000 | 21.980 | 87.9 | 7.70 | 30 | 79 - 125 |
| Bromoform | 25.000 | 20.940 | 83.8 | 7.40 | 30 | 66 - 130 |
| Bromomethane | 25.000 | 19.030 | 76.1 | 0.474 | 30 | 53 - 141 |
| n-Butylbenzene | 25.000 | 22.910 | 91.6 | 4.94 | 30 | 75 - 128 |
| sec-Butylbenzene | 25.000 | 20.910 | 82.8 | 9.48 | 30 | 77 - 126 |
| tert-Butylbenzene | 25.000 | 21.010 | 83.1 | 9.26 | 30 | 78 - 124 |
| Carbon tetrachloride | 25.000 | 23.080 | 92.3 | 9.45 | 30 | 72 - 136 |
| Chlorobenzene | 25.000 | 40.560 | 69.8 * | 2.82 | 30 | 82 - 118 |
| Chloroethane | 25.000 | 22.480 | 89.9 | 8.31 | 30 | 60 - 138 |
| Chloroform | 25.000 | 21.230 | 84.9 | 12.0 | 30 | 79 - 124 |
| Chloromethane | 25.000 | 26.130 | 105 | 14.4 | 30 | 50 - 139 |
| 2-Chlorotoluene | 25.000 | 21.270 | 85.1 | 11.4 | 30 | 79 - 122 |
| 4-Chlorotoluene | 25.000 | 21.350 | 85.4 | 8.86 | 30 | 78 - 122 |
| Dibromochloromethane | 25.000 | 21.770 | 87.1 | 11.5 | 30 | 74 - 126 |
| 1,2-Dibromo-3-chloropropane | 25.000 | 20.740 | 83.0 | 7.47 | 30 | 62 - 128 |
| 1,2-Dibromoethane | 25.000 | 23.840 | 95.4 | 3.14 | 30 | 77 - 121 |
| Dibromomethane | 25.000 | 21.920 | 87.7 | 0.999 | 30 | 79 - 123 |
| 1,2-Dichlorobenzene | 25.000 | 26.960 | 77.0 * | 4.11 | 30 | 80 - 119 |
| 1,3-Dichlorobenzene | 25.000 | 20.010 | 79.0 * | 4.92 | 30 | 80 - 119 |
| 1,4-Dichlorobenzene | 25.000 | 22.840 | 82.5 | 6.28 | 30 | 79 - 118 |
| Dichlorodifluoromethane | 25.000 | 21.770 | 87.1 | 10.0 | 30 | 32 - 152 |
| 1,1-Dichloroethane | 25.000 | 22.540 | 82.7 | 7.76 | 30 | 77 - 125 |
| 1,2-Dichloroethane | 25.000 | 23.500 | 80.5 | 9.41 | 30 | 73 - 128 |

AMEC Environmental & Infrastructure
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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8260B

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-MSD1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 25.000 | 22.920 | 91.7 | 8.92 | 30 | 71 - 131 |
| cis-1,2-Dichloroethene | 25.000 | 27.840 | 91.8 | 10.5 | 30 | 78 - 123 |
| trans-1,2-Dichloroethene | 25.000 | 23.900 | 86.2 | 10.1 | 30 | 75 - 124 |
| 1,2-Dichloropropane | 25.000 | 22.190 | 87.2 | 6.16 | 30 | 78 - 122 |
| 1,3-Dichloropropane | 25.000 | 21.850 | 87.4 | 10.0 | 30 | 80 - 119 |
| 2,2-Dichloropropane | 25.000 | 22.230 | 88.9 | 10.6 | 30 | 60 - 139 |
| 1,1-Dichloropropene | 25.000 | 23.360 | 93.4 | 8.41 | 30 | 79 - 125 |
| cis-1,3-Dichloropropene | 25.000 | 21.840 | 87.4 | 5.56 | 30 | 75 - 124 |
| trans-1,3-Dichloropropene | 25.000 | 22.930 | 91.7 | 2.54 | 30 | 73 - 127 |
| Ethylbenzene | 25.000 | 21.920 | 87.7 | 8.39 | 30 | 79 - 121 |
| Hexachlorobutadiene | 25.000 | 22.510 | 90.0 | 7.73 | 30 | 66 - 134 |
| Isopropylbenzene | 25.000 | 21.070 | 84.3 | 8.45 | 30 | 72 - 131 |
| p-Isopropyltoluene | 25.000 | 21.160 | 84.6 | 8.85 | 30 | 77 - 127 |
| Methylene chloride | 25.000 | 20.370 | 81.5 | 10.6 | 30 | 74 - 124 |
| Methyl t-butyl ether | 25.000 | 22.490 | 90.0 | 6.12 | 30 | 71 - 124 |
| Naphthalene | 25.000 | 26.210 | 105 | 9.73 | 30 | 61 - 128 |
| n-Propylbenzene | 25.000 | 20.850 | 83.4 | 7.35 | 30 | 76 - 126 |
| Styrene | 25.000 | 21.550 | 86.2 | 9.17 | 30 | 78 - 123 |
| 1,1,1,2-Tetrachloroethane | 25.000 | 19.930 | 79.7 | 13.7 | 30 | 78 - 124 |
| 1,1,2,2-Tetrachloroethane | 25.000 | 21.860 | 87.4 | 11.5 | 30 | 71 - 121 |
| Tetrachloroethene | 25.000 | 23.840 | 95.4 | 5.11 | 30 | 74 - 129 |
| Toluene | 25.000 | 23.250 | 91.6 | 4.70 | 30 | 80 - 121 |
| 1,2,3-Trichlorobenzene | 25.000 | 24.050 | 96.2 | 8.71 | 30 | 69 - 129 |
| 1,2,4-Trichlorobenzene | 25.000 | 24.050 | 96.2 | 8.71 | 30 | 69 - 130 |
| 1,1,1-Trichloroethane | 25.000 | 22.210 | 88.8 | 13.6 | 30 | 74 - 131 |
| 1,1,2-Trichloroethane | 25.000 | 23.450 | 93.8 | 2.19 | 30 | 80 - 119 |

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San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

## EPA-8260B

**Matrix Spike Dup**

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-MSD1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml
Source Sample Number: 1702613-07

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Trichloroethene | 25.000 | 23.330 | 93.3 | 5.14 | 30 | 79 - 123 |
| Trichlorofluoromethane | 25.000 | 23.470 | 93.9 | 8.21 | 30 | 65 - 141 |
| 1,2,3-Trichloropropane | 25.000 | 23.590 | 94.4 | 11.8 | 30 | 73 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.000 | 22.530 | 90.1 | 6.24 | 30 | 70 - 136 |
| 1,2,4-Trimethylbenzene | 25.000 | 20.950 | 83.8 | 10.5 | 30 | 76 - 124 |
| 1,3,5-Trimethylbenzene | 25.000 | 20.500 | 82.0 | 9.57 | 30 | 75 - 124 |
| Vinyl chloride | 25.000 | 124.44 | 67.6 | 13.8 | 30 | 58 - 137 |
| Total Xylenes | 75.000 | 64.880 | 86.0 | 8.59 | 30 | 79 - 121 |
| Acetone | 320.00 | 270.06 | 84.4 | 8.63 | 30 | 39 - 160 |
| Acetonitrile | 160.00 | 159.48 | 99.7 | 13.7 | 30 | 50 - 142 |
| Allyl chloride | 32.000 | 31.780 | 99.3 | 11.6 | 30 | 68 - 130 |
| t-Amyl Methyl ether | 16.000 | 14.500 | 90.6 | 21.3 | 30 | 68 - 128 |
| Benzyl chloride | 32.000 | 34.020 | 106 | 10.8 | 30 | 42 - 138 |
| t-Butyl alcohol | 800.00 | 845.83 | 106 | 3.46 | 30 | 68 - 129 |
| Carbon disulfide | 32.000 | 32.740 | 102 | 4.60 | 30 | 64 - 133 |
| Chloroprene | 32.000 | 31.190 | 97.5 | 10.7 | 30 | 65 - 135 |
| Diisopropyl ether | 16.000 | 15.110 | 94.4 | 15.6 | 30 | 67 - 128 |
| Ethyl t-butyl ether | 16.000 | 14.280 | 89.2 | 21.3 | 30 | 70 - 127 |
| 2-Hexanone | 320.00 | 270.02 | 84.4 | 11.1 | 30 | 57 - 139 |
| Methyl ethyl ketone | 160.00 | 146.11 | 91.3 | 12.7 | 30 | 56 - 143 |
| Methyl isobutyl ketone | 160.00 | 145.12 | 90.7 | 11.4 | 30 | 67 - 130 |
| Vinyl acetate | 160.00 | 138.58 | 86.6 | 17.4 | 30 | 54 - 146 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-BS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Benzene | 25.000 | 25.370 | 101 | 79 - 120 |
| Bromobenzene | 25.000 | 23.660 | 94.6 | 80 - 120 |
| Bromochloromethane | 25.000 | 23.450 | 93.8 | 78 - 123 |
| Bromodichloromethane | 25.000 | 23.420 | 93.7 | 79 - 125 |
| Bromoform | 25.000 | 22.480 | 89.9 | 66 - 130 |
| Bromomethane | 25.000 | 17.860 | 71.4 | 53 - 141 |
| n-Butylbenzene | 25.000 | 24.770 | 99.1 | 75 - 128 |
| sec-Butylbenzene | 25.000 | 23.280 | 93.1 | 77 - 126 |
| tert-Butylbenzene | 25.000 | 23.800 | 95.2 | 78 - 124 |
| Carbon tetrachloride | 25.000 | 27.210 | 109 | 72 - 136 |
| Chlorobenzene | 25.000 | 24.110 | 96.4 | 82 - 118 |
| Chloroethane | 25.000 | 27.020 | 108 | 60 - 138 |
| Chloroform | 25.000 | 24.850 | 99.4 | 79 - 124 |
| Chloromethane | 25.000 | 23.540 | 94.2 | 50 - 139 |
| 2-Chlorotoluene | 25.000 | 23.850 | 95.4 | 79 - 122 |
| 4-Chlorotoluene | 25.000 | 23.700 | 94.8 | 78 - 122 |
| Dibromochloromethane | 25.000 | 23.670 | 94.7 | 74 - 126 |
| 1,2-Dibromo-3-chloropropane | 25.000 | 22.550 | 90.2 | 62 - 128 |
| 1,2-Dibromoethane | 25.000 | 24.120 | 96.5 | 77 - 121 |
| Dibromomethane | 25.000 | 22.170 | 88.7 | 79 - 123 |
| 1,2-Dichlorobenzene | 25.000 | 21.820 | 87.3 | 80 - 119 |
| 1,3-Dichlorobenzene | 25.000 | 21.160 | 84.6 | 80 - 119 |
| 1,4-Dichlorobenzene | 25.000 | 22.990 | 92.0 | 79 - 118 |
| Dichlorodifluoromethane | 25.000 | 27.590 | 110 | 32 - 152 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-BS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| 1,1-Dichloroethane | 25.000 | 23.940 | 95.8 | 77 - 125 |
| 1,2-Dichloroethane | 25.000 | 23.440 | 93.8 | 73 - 128 |
| 1,1-Dichloroethene | 25.000 | 26.920 | 108 | 71 - 131 |
| cis-1,2-Dichloroethene | 25.000 | 31.470 | 126 * | 78 - 123 |
| trans-1,2-Dichloroethene | 25.000 | 25.900 | 104 | 75 - 124 |
| 1,2-Dichloropropane | 25.000 | 24.010 | 96.0 | 78 - 122 |
| 1,3-Dichloropropane | 25.000 | 23.290 | 93.2 | 80 - 119 |
| 2,2-Dichloropropane | 25.000 | 26.780 | 107 | 60 - 139 |
| 1,1-Dichloropropene | 25.000 | 26.970 | 108 | 79 - 125 |
| cis-1,3-Dichloropropene | 25.000 | 23.740 | 95.0 | 75 - 124 |
| trans-1,3-Dichloropropene | 25.000 | 23.330 | 93.3 | 73 - 127 |
| Ethylbenzene | 25.000 | 24.670 | 98.7 | 79 - 121 |
| Hexachlorobutadiene | 25.000 | 24.290 | 97.2 | 66 - 134 |
| Isopropylbenzene | 25.000 | 24.130 | 96.5 | 72 - 131 |
| p-Isopropyltoluene | 25.000 | 23.430 | 93.7 | 77 - 127 |
| Methylene chloride | 25.000 | 26.040 | 104 | 74 - 124 |
| Methyl t-butyl ether | 25.000 | 24.650 | 98.6 | 71 - 124 |
| Naphthalene | 25.000 | 26.200 | 105 | 61 - 128 |
| n-Propylbenzene | 25.000 | 23.360 | 93.4 | 76 - 126 |
| Styrene | 25.000 | 24.380 | 97.5 | 78 - 123 |
| 1,1,1,2-Tetrachloroethane | 25.000 | 22.740 | 91.0 | 78 - 124 |
| 1,1,2,2-Tetrachloroethane | 25.000 | 24.000 | 96.0 | 71 - 121 |
| Tetrachloroethene | 25.000 | 32.070 | 128 | 74 - 129 |
| Toluene | 25.000 | 25.190 | 101 | 80 - 121 |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-BS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 25.000 | 25.310 | 101 | 69 - 129 |
| 1,2,4-Trichlorobenzene | 25.000 | 25.310 | 101 | 69 - 130 |
| 1,1,1-Trichloroethane | 25.000 | 26.730 | 107 | 74 - 131 |
| 1,1,2-Trichloroethane | 25.000 | 23.550 | 94.2 | 80 - 119 |
| Trichloroethene | 25.000 | 25.450 | 102 | 79 - 123 |
| Trichlorofluoromethane | 25.000 | 27.280 | 109 | 65 - 141 |
| 1,2,3-Trichloropropane | 25.000 | 22.980 | 91.9 | 73 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.000 | 26.200 | 105 | 70 - 136 |
| 1,2,4-Trimethylbenzene | 25.000 | 23.510 | 94.0 | 76 - 124 |
| 1,3,5-Trimethylbenzene | 25.000 | 22.550 | 90.2 | 75 - 124 |
| Vinyl chloride | 25.000 | 24.970 | 99.9 | 58 - 137 |
| Total Xylenes | 75.000 | 72.650 | 96.9 | 79 - 121 |
| Acetone | 320.00 | 297.14 | 92.9 | 39 - 160 |
| Acetonitrile | 160.00 | 138.41 | 86.5 | 50 - 142 |
| Allyl chloride | 32.000 | 37.420 | 117 | 68 - 130 |
| t-Amyl Methyl ether | 16.000 | 18.140 | 113 | 68 - 128 |
| Benzyl chloride | 32.000 | 36.880 | 115 | 42 - 138 |
| t-Butyl alcohol | 800.00 | 776.12 | 97.0 | 68 - 129 |
| Carbon disulfide | 32.000 | 37.520 | 117 | 64 - 133 |
| Chloroprene | 32.000 | 37.500 | 117 | 65 - 135 |
| Diisopropyl ether | 16.000 | 18.230 | 114 | 67 - 128 |
| Ethyl t-butyl ether | 16.000 | 17.590 | 110 | 70 - 127 |
| 2-Hexanone | 320.00 | 287.26 | 89.8 | 57 - 139 |
| Methyl ethyl ketone | 160.00 | 162.71 | 102 | 56 - 143 |

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Project Number: 5023146096
Project Manager: Kelli Miller

# LCS RECOVERY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Matrix: Water
Batch: B[B0138
Laboratory ID: B[B0138-BS1
Preparation: EPA 5030 Water MS
Initial/Final: 25 ml / 25 ml

| COMPOUND | SPIKE ADDED (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| Methyl isobutyl ketone | 160.00 | 153.80 | 96.1 | 67 - 130 |
| Vinyl acetate | 160.00 | 161.12 | 101 | 54 - 146 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

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Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701474
Instrument: MS-V5
Matrix: Water
Calibration: 1701019

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| MS Tune | 1701474-TUN2 | 19JAN04.D | 01/19/17 10:40 |
| Cal Standard | 1701474-CAL7 | 19JAN18.D | 01/19/17 16:11 |
| Cal Standard | 1701474-CAL8 | 19JAN19.D | 01/19/17 16:34 |
| Cal Standard | 1701474-CAL9 | 19JAN20.D | 01/19/17 16:57 |
| Cal Standard | 1701474-CALA | 19JAN21.D | 01/19/17 17:21 |
| Cal Standard | 1701474-CALB | 19JAN22.D | 01/19/17 17:44 |
| Cal Standard | 1701474-CALC | 19JAN23.D | 01/19/17 18:07 |
| MS Tune | 1701474-TUN1 | 26JAN03.D | 01/26/17 12:01 |
| Cal Standard | 1701474-CAL1 | 26JAN06.D | 01/26/17 16:07 |
| Cal Standard | 1701474-CAL2 | 26JAN07.D | 01/26/17 16:30 |
| Cal Standard | 1701474-CAL3 | 26JAN08.D | 01/26/17 16:53 |
| Cal Standard | 1701474-CAL5 | 26JAN10.D | 01/26/17 17:39 |
| Cal Standard | 1701474-CAL6 | 26JAN11.D | 01/26/17 18:02 |
| Cal Standard | 1701474-CAL4 | 26JAN14.D | 01/26/17 19:12 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701847
Instrument: MS-V5
Matrix: Water
Calibration: 1701019

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701847-ICV2 | 19JAN26.D | 01/19/17 19:16 |
| Initial Cal Blank | 1701847-ICB2 | 19JAN28.D | 01/19/17 20:02 |
| Initial Cal Check | 1701847-ICV1 | 26JAN15.D | 01/26/17 19:35 |
| Initial Cal Blank | 1701847-ICB1 | 26JAN17.D | 01/26/17 20:23 |
| Calibration Check | 1701847-CCV1 | 01FEB56.D | 02/02/17 06:44 |
| MS Tune | 1701847-TUN2 | 02FEB31.D | 02/02/17 18:01 |
| Calibration Check | 1701847-CCV4 | 02FEB33.D | 02/02/17 18:48 |
| Calibration Blank | 1701847-CCB2 | 02FEB34.D | 02/02/17 19:12 |
| Blank | B[B0138-BLK1 | 02FEB35.D | 02/02/17 19:35 |
| EB03_170131 | 1702734-01 | 02FEB50.D | 02/03/17 01:27 |
| EB04_170131 | 1702734-02 | 02FEB51.D | 02/03/17 01:50 |
| M002A-R_170131 | 1702734-03 | 02FEB52.D | 02/03/17 02:14 |
| M003E-R_170131 | 1702734-04 | 02FEB53.D | 02/03/17 02:37 |
| M026A-R_170131 | 1702734-05 | 02FEB54.D | 02/03/17 03:00 |
| M028A-R_170131 | 1702734-06 | 02FEB55.D | 02/03/17 03:24 |
| M034A-R_170131 | 1702734-07 | 02FEB56.D | 02/03/17 03:47 |
| LCS | B[B0138-BS1 | 02FEB58.D | 02/03/17 04:34 |
| Matrix Spike | B[B0138-MS1 | 02FEB59.D | 02/03/17 04:58 |
| Matrix Spike Dup | B[B0138-MSD1 | 02FEB60.D | 02/03/17 05:21 |
| MS Tune | 1701847-TUN3 | 03FEB01.D | 02/03/17 05:45 |
| Calibration Check | 1701847-CCV5 | 03FEB02.D | 02/03/17 06:09 |
| Calibration Check | 1701847-CCV6 | 03FEB03.D | 02/03/17 06:32 |
| Calibration Blank | 1701847-CCB3 | 03FEB04.D | 02/03/17 06:56 |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# ANALYSIS BATCH (SEQUENCE) SUMMARY

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701900 | Instrument: | MS-V5 |
| Matrix: | Water | Calibration: | 1701019 |

| Sample Name | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|
| Initial Cal Check | 1701900-ICV2 | 19JAN26.D | 01/19/17 19:16 |
| Initial Cal Blank | 1701900-ICB2 | 19JAN28.D | 01/19/17 20:02 |
| Initial Cal Check | 1701900-ICV1 | 26JAN15.D | 01/26/17 19:35 |
| Initial Cal Blank | 1701900-ICB1 | 26JAN17.D | 01/26/17 20:23 |
| MS Tune | 1701900-TUN1 | 03FEB01.D | 02/03/17 05:45 |
| Calibration Check | 1701900-CCV1 | 03FEB02.D | 02/03/17 06:09 |
| Calibration Check | 1701900-CCV2 | 03FEB03.D | 02/03/17 06:32 |
| Calibration Blank | 1701900-CCB1 | 03FEB04.D | 02/03/17 06:56 |
| M034A-R_170131 | 1702734-07RE1 | 03FEB05.D | 02/03/17 07:19 |
| M034A-R_170131 | 1702734-07RE2 | 03FEB07.D | 02/03/17 08:06 |
| TB02_170131 | 1702734-08 | 03FEB11.D | 02/03/17 09:39 |
| MS Tune | 1701900-TUN2 | 03FEB22.D | 02/03/17 13:57 |
| Calibration Check | 1701900-CCV3 | 03FEB23.D | 02/03/17 14:20 |
| Calibration Check | 1701900-CCV4 | 03FEB24.D | 02/03/17 14:43 |
| Calibration Blank | 1701900-CCB2 | 03FEB25.D | 02/03/17 15:07 |

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Project: Alameda
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Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 26JAN03.D | Injection Date: | 01/26/17 |
| Instrument ID: | MS-V5 | Injection Time: | 12:01 |
| Sequence: | 1701474 | Lab Sample ID: | 1701474-TUN1 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 50 | 15 - 40% of Mass 95 | 32.2 | PASS |
| Mass 75 | 30 - 60% of Mass 95 | 50.9 | PASS |
| Mass 95 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 96 | 5 - 9% of Mass 95 | 6.86 | PASS |
| Mass 173 | Less than 2% of Mass 174 | 0 | PASS |
| Mass 174 | 50 - 100% of Mass 95 | 64.3 | PASS |
| Mass 175 | 5 - 9% of Mass 174 | 7.93 | PASS |
| Mass 176 | 95 - 101% of Mass 174 | 98.5 | PASS |
| Mass 177 | 5 - 9% of Mass 176 | 5.13 | PASS |

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Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 19JAN04.D | Injection Date: | 01/19/17 |
| Instrument ID: | MS-V5 | Injection Time: | 10:40 |
| Sequence: | 1701474 | Lab Sample ID: | 1701474-TUN2 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 50 | 15 - 40% of Mass 95 | 23.4 | PASS |
| Mass 75 | 30 - 60% of Mass 95 | 52.1 | PASS |
| Mass 95 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 96 | 5 - 9% of Mass 95 | 5.43 | PASS |
| Mass 173 | Less than 2% of Mass 174 | 0 | PASS |
| Mass 174 | 50 - 100% of Mass 95 | 93 | PASS |
| Mass 175 | 5 - 9% of Mass 174 | 5.07 | PASS |
| Mass 176 | 95 - 101% of Mass 174 | 100 | PASS |
| Mass 177 | 5 - 9% of Mass 176 | 6.98 | PASS |

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Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 02FEB31.D | Injection Date: | 02/02/17 |
| Instrument ID: | MS-V5 | Injection Time: | 18:01 |
| Sequence: | 1701847 | Lab Sample ID: | 1701847-TUN2 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 50 | 15 - 40% of Mass 95 | 25.5 | PASS |
| Mass 75 | 30 - 60% of Mass 95 | 45.9 | PASS |
| Mass 95 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 96 | 5 - 9% of Mass 95 | 5.01 | PASS |
| Mass 173 | Less than 2% of Mass 174 | 0.711 | PASS |
| Mass 174 | 50 - 100% of Mass 95 | 93.2 | PASS |
| Mass 175 | 5 - 9% of Mass 174 | 7.11 | PASS |
| Mass 176 | 95 - 101% of Mass 174 | 98.5 | PASS |
| Mass 177 | 5 - 9% of Mass 176 | 5.64 | PASS |

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Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 03FEB01.D | Injection Date: | 02/03/17 |
| Instrument ID: | MS-V5 | Injection Time: | 05:45 |
| Sequence: | 1701847 | Lab Sample ID: | 1701847-TUN3 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 50 | 15 - 40% of Mass 95 | 30.9 | PASS |
| Mass 75 | 30 - 60% of Mass 95 | 44.7 | PASS |
| Mass 95 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 96 | 5 - 9% of Mass 95 | 8.25 | PASS |
| Mass 173 | Less than 2% of Mass 174 | 0 | PASS |
| Mass 174 | 50 - 100% of Mass 95 | 68 | PASS |
| Mass 175 | 5 - 9% of Mass 174 | 8.6 | PASS |
| Mass 176 | 95 - 101% of Mass 174 | 99.3 | PASS |
| Mass 177 | 5 - 9% of Mass 176 | 7.2 | PASS |

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Project Manager: Kelli Miller

# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 03FEB01.D | Injection Date: | 02/03/17 |
| Instrument ID: | MS-V5 | Injection Time: | 05:45 |
| Sequence: | 1701900 | Lab Sample ID: | 1701900-TUN1 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 50 | 15 - 40% of Mass 95 | 30.9 | PASS |
| Mass 75 | 30 - 60% of Mass 95 | 44.7 | PASS |
| Mass 95 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 96 | 5 - 9% of Mass 95 | 8.25 | PASS |
| Mass 173 | Less than 2% of Mass 174 | 0 | PASS |
| Mass 174 | 50 - 100% of Mass 95 | 68 | PASS |
| Mass 175 | 5 - 9% of Mass 174 | 8.6 | PASS |
| Mass 176 | 95 - 101% of Mass 174 | 99.3 | PASS |
| Mass 177 | 5 - 9% of Mass 176 | 7.2 | PASS |

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# MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Lab File ID: | 03FEB22.D | Injection Date: | 02/03/17 |
| Instrument ID: | MS-V5 | Injection Time: | 13:57 |
| Sequence: | 1701900 | Lab Sample ID: | 1701900-TUN2 |

| m/z | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| Mass 50 | 15 - 40% of Mass 95 | 25.3 | PASS |
| Mass 75 | 30 - 60% of Mass 95 | 42.3 | PASS |
| Mass 95 | Base peak, 100% relative abundance | 100 | PASS |
| Mass 96 | 5 - 9% of Mass 95 | 8.67 | PASS |
| Mass 173 | Less than 2% of Mass 174 | 1.35 | PASS |
| Mass 174 | 50 - 100% of Mass 95 | 76.6 | PASS |
| Mass 175 | 5 - 9% of Mass 174 | 7.36 | PASS |
| Mass 176 | 95 - 101% of Mass 174 | 101 | PASS |
| Mass 177 | 5 - 9% of Mass 176 | 5.73 | PASS |

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 19JAN26.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 01/19/17 |
| Lab Sample ID: | 1701847-ICV2 | Injection Time: | 19:16 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Acetone | A | 320.00 | 297.41 | 4.776275E-02 | 4.439164E-02 | | -7.1 | 20 |
| Acetonitrile | A | 160.00 | 158.06 | 2.219025E-02 | 2.192053E-02 | | -1.2 | 20 |
| Allyl chloride | A | 32.000 | 30.990 | 1.085338 | 1.051117 | | -3.2 | 20 |
| t-Amyl Methyl ether | A | 16.000 | 15.930 | 0.6661409 | 0.6631077 | | -0.5 | 20 |
| Benzyl chloride | A | 32.000 | 30.540 | 0.7610056 | 0.7262976 | | -4.6 | 20 |
| t-Butyl alcohol | A | 800.00 | 687.62 | 1.234081E-02 | 0.0106073 | | -14.0 | 20 |
| Carbon disulfide | A | 32.000 | 31.480 | 1.33473 | 1.313213 | | -1.6 | 20 |
| Chloroprene | A | 32.000 | 30.720 | 0.985225 | 0.9456778 | | -4.0 | 20 |
| Diisopropyl ether | A | 16.000 | 15.280 | 0.3201537 | 0.3057137 | | -4.5 | 20 |
| Ethyl t-butyl ether | A | 16.000 | 15.830 | 1.21959 | 1.206707 | | -1.1 | 20 |
| 2-Hexanone | A | 320.00 | 305.81 | 9.609546E-02 | 9.183385E-02 | | -4.4 | 20 |
| Methyl ethyl ketone | A | 160.00 | 157.35 | 8.196912E-02 | 8.061153E-02 | | -1.7 | 20 |
| Methyl isobutyl ketone | A | 160.00 | 157.41 | 0.1395136 | 0.1372552 | | -1.6 | 20 |
| Vinyl acetate | A | 160.00 | 147.00 | 0.6012656 | 0.5524088 | | -8.1 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 26JAN15.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 01/26/17 |
| Lab Sample ID: | 1701847-ICV1 | Injection Time: | 19:35 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Benzene | A | 25.000 | 24.520 | 1.889378 | 1.853263 | | -1.9 | 20 |
| Bromobenzene | A | 25.000 | 26.750 | 1.179324 | 1.261962 | | 7.0 | 20 |
| Bromochloromethane | A | 25.000 | 27.870 | 0.1547174 | 0.1724858 | | 11.5 | 20 |
| Bromodichloromethane | A | 25.000 | 26.330 | 0.3291756 | 0.3466539 | | 5.3 | 20 |
| Bromoform | A | 25.000 | 29.540 | 0.3506939 | 0.4143899 | 0.1 | 18.2 | 20 |
| Bromomethane | A | 25.000 | 25.400 | 0.3180084 | 0.323081 | | 1.6 | 20 |
| n-Butylbenzene | A | 25.000 | 24.450 | 3.493597 | 3.416282 | | -2.2 | 20 |
| sec-Butylbenzene | A | 25.000 | 22.320 | 5.379312 | 4.803427 | | -10.7 | 20 |
| tert-Butylbenzene | A | 25.000 | 24.540 | 3.852201 | 3.780801 | | -1.9 | 20 |
| Carbon tetrachloride | A | 25.000 | 24.550 | 0.4688551 | 0.4604308 | | -1.8 | 20 |
| Chlorobenzene | A | 25.000 | 25.550 | 2.978054 | 3.04388 | 0.3 | 2.2 | 20 |
| Chloroethane | A | 25.000 | 25.010 | 0.3902835 | 0.3904325 | | 0.04 | 20 |
| Chloroform | A | 25.000 | 25.080 | 0.7548469 | 0.7572197 | | 0.3 | 20 |
| Chloromethane | L | 25.000 | 21.450 | 0.6989857 | 0.5449247 | 0.1 | -14.2 | 20 |
| 2-Chlorotoluene | A | 25.000 | 25.230 | 3.666018 | 3.699401 | | 0.9 | 20 |
| 4-Chlorotoluene | A | 25.000 | 25.250 | 3.285453 | 3.318671 | | 1.0 | 20 |
| Dibromochloromethane | A | 25.000 | 28.210 | 0.1708407 | 0.1927603 | | 12.8 | 20 |
| 1,2-Dibromo-3-chloropropane | L | 25.000 | 26.780 | 0.0666406 | 0.0808198 | | 7.1 | 20 |
| 1,2-Dibromoethane | A | 25.000 | 28.160 | 0.1390115 | 0.1565905 | | 12.6 | 20 |
| Dibromomethane | A | 25.000 | 25.600 | 0.1132441 | 0.1159592 | | 2.4 | 20 |
| 1,2-Dichlorobenzene | A | 25.000 | 25.120 | 1.693334 | 1.701651 | | 0.5 | 20 |
| 1,3-Dichlorobenzene | A | 25.000 | 23.440 | 2.068389 | 1.939285 | | -6.2 | 20 |
| 1,4-Dichlorobenzene | A | 25.000 | 25.950 | 1.916207 | 1.989058 | | 3.8 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 26JAN15.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 01/26/17 |
| Lab Sample ID: | 1701847-ICV1 | Injection Time: | 19:35 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | A | 25.000 | 23.190 | 0.4765408 | 0.4420548 | | -7.2 | 20 |
| 1,1-Dichloroethane | A | 25.000 | 25.000 | 1.030991 | 1.031141 | 0.1 | 0.01 | 20 |
| 1,2-Dichloroethane | A | 25.000 | 26.060 | 0.438219 | 0.4568204 | | 4.2 | 20 |
| 1,1-Dichloroethene | A | 25.000 | 24.850 | 0.7766588 | 0.7719666 | | -0.6 | 20 |
| cis-1,2-Dichloroethene | A | 25.000 | 25.450 | 0.4666061 | 0.474977 | | 1.8 | 20 |
| trans-1,2-Dichloroethene | A | 25.000 | 23.910 | 0.4502706 | 0.4305847 | | -4.4 | 20 |
| 1,2-Dichloropropane | A | 25.000 | 25.240 | 0.3723271 | 0.3758662 | | 1.0 | 20 |
| 1,3-Dichloropropane | A | 25.000 | 27.900 | 0.2667047 | 0.2976682 | | 11.6 | 20 |
| 2,2-Dichloropropane | A | 25.000 | 23.050 | 0.6461501 | 0.595668 | | -7.8 | 20 |
| 1,1-Dichloropropene | A | 25.000 | 24.340 | 0.61317 | 0.5969539 | | -2.6 | 20 |
| cis-1,3-Dichloropropene | A | 25.000 | 25.890 | 0.436368 | 0.4519754 | | 3.6 | 20 |
| trans-1,3-Dichloropropene | A | 25.000 | 27.510 | 0.3001727 | 0.3303126 | | 10.0 | 20 |
| Ethylbenzene | A | 25.000 | 24.810 | 1.699115 | 1.686003 | | -0.8 | 20 |
| Hexachlorobutadiene | A | 25.000 | 22.520 | 0.8012975 | 0.7218586 | | -9.9 | 20 |
| Isopropylbenzene | A | 25.000 | 23.670 | 5.188549 | 4.913541 | | -5.3 | 20 |
| p-Isopropyltoluene | A | 25.000 | 22.960 | 4.064913 | 3.733001 | | -8.2 | 20 |
| Methylene chloride | L | 25.000 | 27.090 | 0.601454 | 0.4144394 | | 8.4 | 20 |
| Methyl t-butyl ether | A | 25.000 | 29.040 | 0.6285989 | 0.7300879 | | 16.1 | 20 |
| Naphthalene | A | 25.000 | 28.850 | 1.162765 | 1.341925 | | 15.4 | 20 |
| n-Propylbenzene | A | 25.000 | 23.210 | 5.959786 | 5.533521 | | -7.2 | 20 |
| Styrene | A | 25.000 | 26.030 | 2.90027 | 3.020175 | | 4.1 | 20 |
| 1,1,1,2-Tetrachloroethane | A | 25.000 | 25.800 | 0.9261768 | 0.9556971 | | 3.2 | 20 |
| 1,1,2,2-Tetrachloroethane | A | 25.000 | 28.950 | 0.555952 | 0.6436956 | 0.3 | 15.8 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 26JAN15.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 01/26/17 |
| Lab Sample ID: | 1701847-ICV1 | Injection Time: | 19:35 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | A | 25.000 | 23.430 | 0.3412463 | 0.3197576 | | -6.3 | 20 |
| Toluene | A | 25.000 | 24.190 | 0.7797766 | 0.7546079 | | -3.2 | 20 |
| 1,2,3-Trichlorobenzene | A | 25.000 | 26.280 | 1.194842 | 1.256226 | | 5.1 | 20 |
| 1,2,4-Trichlorobenzene | A | 25.000 | 26.280 | 1.194842 | 1.256226 | | 5.1 | 20 |
| 1,1,1-Trichloroethane | A | 25.000 | 24.320 | 0.6398072 | 0.6223499 | | -2.7 | 20 |
| 1,1,2-Trichloroethane | A | 25.000 | 28.140 | 0.1533095 | 0.1725615 | | 12.6 | 20 |
| Trichloroethene | A | 25.000 | 25.380 | 0.3255704 | 0.3305227 | | 1.5 | 20 |
| Trichlorofluoromethane | A | 25.000 | 23.360 | 0.5867905 | 0.5482351 | | -6.6 | 20 |
| 1,2,3-Trichloropropane | L | 25.000 | 29.760 | 0.105337 | 0.1291837 | | 19.0 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | 25.000 | 22.390 | 0.4183029 | 0.3745928 | | -10.4 | 20 |
| 1,2,4-Trimethylbenzene | A | 25.000 | 24.970 | 3.597754 | 3.593467 | | -0.1 | 20 |
| 1,3,5-Trimethylbenzene | A | 25.000 | 23.180 | 3.970515 | 3.680896 | | -7.3 | 20 |
| Vinyl chloride | A | 25.000 | 20.170 | 0.5958562 | 0.4807637 | | -19.3 | 20 |
| Total Xylenes | A | 75.000 | 74.270 | 1.988127 | 1.96886 | | -1.0 | 20 |
| p- & m-Xylenes | A | 50.000 | 49.530 | 2.011739 | 1.992895 | | -0.9 | 20 |
| o-Xylene | A | 25.000 | 24.740 | 1.940902 | 1.920791 | | -1.0 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 01FEB56.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701847-CCV1 | Injection Time: | 06:44 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | A | 25.000 | 23.870 | 1.889378 | 1.804072 | | -4.5 | 20 | |
| Bromobenzene | A | 25.000 | 25.030 | 1.179324 | 1.180579 | | 0.1 | 20 | |
| Bromochloromethane | A | 25.000 | 26.770 | 0.1547174 | 0.1656976 | | 7.1 | 20 | |
| Bromodichloromethane | A | 25.000 | 25.570 | 0.3291756 | 0.3366383 | | 2.3 | 20 | |
| Bromoform | A | 25.000 | 25.050 | 0.3506939 | 0.3514487 | 0.1 | 0.2 | 20 | |
| Bromomethane | A | 25.000 | 17.630 | 0.3180084 | 0.2242022 | | -29.5 | 20 | * |
| n-Butylbenzene | A | 25.000 | 23.060 | 3.493597 | 3.221885 | | -7.8 | 20 | |
| sec-Butylbenzene | A | 25.000 | 21.350 | 5.379312 | 4.594563 | | -14.6 | 20 | |
| tert-Butylbenzene | A | 25.000 | 24.310 | 3.852201 | 3.745711 | | -2.8 | 20 | |
| Carbon tetrachloride | A | 25.000 | 25.050 | 0.4688551 | 0.4698342 | | 0.2 | 20 | |
| Chlorobenzene | A | 25.000 | 23.690 | 2.978054 | 2.821794 | 0.3 | -5.2 | 20 | |
| Chloroethane | A | 25.000 | 21.060 | 0.3902835 | 0.3288046 | | -15.8 | 20 | |
| Chloroform | A | 25.000 | 24.790 | 0.7548469 | 0.7484454 | | -0.8 | 20 | |
| Chloromethane | L | 25.000 | 21.610 | 0.6989857 | 0.5489231 | 0.1 | -13.6 | 20 | |
| 2-Chlorotoluene | A | 25.000 | 24.180 | 3.666018 | 3.545276 | | -3.3 | 20 | |
| 4-Chlorotoluene | A | 25.000 | 23.700 | 3.285453 | 3.114964 | | -5.2 | 20 | |
| Dibromochloromethane | A | 25.000 | 27.340 | 0.1708407 | 0.1868065 | | 9.3 | 20 | |
| 1,2-Dibromo-3-chloropropane | L | 25.000 | 24.310 | 0.0666406 | 7.338908E-02 | | -2.8 | 20 | |
| 1,2-Dibromoethane | A | 25.000 | 26.570 | 0.1390115 | 0.1477678 | | 6.3 | 20 | |
| Dibromomethane | A | 25.000 | 25.740 | 0.1132441 | 0.1165763 | | 2.9 | 20 | |
| 1,2-Dichlorobenzene | A | 25.000 | 24.140 | 1.693334 | 1.634752 | | -3.5 | 20 | |
| 1,3-Dichlorobenzene | A | 25.000 | 22.310 | 2.068389 | 1.845726 | | -10.8 | 20 | |
| 1,4-Dichlorobenzene | A | 25.000 | 23.820 | 1.916207 | 1.826096 | | -4.7 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 01FEB56.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701847-CCV1 | Injection Time: | 06:44 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Dichlorodifluoromethane | A | 25.000 | 22.380 | 0.4765408 | 0.4265409 | | -10.5 | 20 |
| 1,1-Dichloroethane | A | 25.000 | 23.620 | 1.030991 | 0.9741287 | 0.1 | -5.5 | 20 |
| 1,2-Dichloroethane | A | 25.000 | 27.080 | 0.438219 | 0.4747054 | | 8.3 | 20 |
| 1,1-Dichloroethene | A | 25.000 | 23.700 | 0.7766588 | 0.7361384 | | -5.2 | 20 |
| cis-1,2-Dichloroethene | A | 25.000 | 24.690 | 0.4666061 | 0.4609093 | | -1.2 | 20 |
| trans-1,2-Dichloroethene | A | 25.000 | 22.880 | 0.4502706 | 0.4121571 | | -8.5 | 20 |
| 1,2-Dichloropropane | A | 25.000 | 24.190 | 0.3723271 | 0.3602014 | | -3.3 | 20 |
| 1,3-Dichloropropane | A | 25.000 | 26.320 | 0.2667047 | 0.2807595 | | 5.3 | 20 |
| 2,2-Dichloropropane | A | 25.000 | 25.460 | 0.6461501 | 0.6580349 | | 1.8 | 20 |
| 1,1-Dichloropropene | A | 25.000 | 23.890 | 0.61317 | 0.58594 | | -4.4 | 20 |
| cis-1,3-Dichloropropene | A | 25.000 | 25.200 | 0.436368 | 0.4397727 | | 0.8 | 20 |
| trans-1,3-Dichloropropene | A | 25.000 | 26.790 | 0.3001727 | 0.3216967 | | 7.2 | 20 |
| Ethylbenzene | A | 25.000 | 23.320 | 1.699115 | 1.5851 | | -6.7 | 20 |
| Hexachlorobutadiene | A | 25.000 | 23.830 | 0.8012975 | 0.7636916 | | -4.7 | 20 |
| Isopropylbenzene | A | 25.000 | 21.640 | 5.188549 | 4.491975 | | -13.4 | 20 |
| p-Isopropyltoluene | A | 25.000 | 22.440 | 4.064913 | 3.648017 | | -10.3 | 20 |
| Methylene chloride | L | 25.000 | 24.680 | 0.601454 | 0.3808809 | | -1.3 | 20 |
| Methyl t-butyl ether | A | 25.000 | 26.470 | 0.6285989 | 0.6655127 | | 5.9 | 20 |
| Naphthalene | A | 25.000 | 28.990 | 1.162765 | 1.348414 | | 16.0 | 20 |
| n-Propylbenzene | A | 25.000 | 21.970 | 5.959786 | 5.236678 | | -12.1 | 20 |
| Styrene | A | 25.000 | 23.920 | 2.90027 | 2.775236 | | -4.3 | 20 |
| 1,1,1,2-Tetrachloroethane | A | 25.000 | 24.670 | 0.9261768 | 0.914121 | | -1.3 | 20 |
| 1,1,2,2-Tetrachloroethane | A | 25.000 | 27.060 | 0.555952 | 0.6018256 | 0.3 | 8.3 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 01FEB56.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701847-CCV1 | Injection Time: | 06:44 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Tetrachloroethene | A | 25.000 | 24.570 | 0.3412463 | 0.3353112 | | -1.7 | 20 |
| Toluene | A | 25.000 | 23.290 | 0.7797766 | 0.7262982 | | -6.9 | 20 |
| 1,2,3-Trichlorobenzene | A | 25.000 | 27.850 | 1.194842 | 1.330969 | | 11.4 | 20 |
| 1,2,4-Trichlorobenzene | A | 25.000 | 27.850 | 1.194842 | 1.330969 | | 11.4 | 20 |
| 1,1,1-Trichloroethane | A | 25.000 | 24.840 | 0.6398072 | 0.6357236 | | -0.6 | 20 |
| 1,1,2-Trichloroethane | A | 25.000 | 26.620 | 0.1533095 | 0.1632203 | | 6.5 | 20 |
| Trichloroethene | A | 25.000 | 24.280 | 0.3255704 | 0.3161884 | | -2.9 | 20 |
| Trichlorofluoromethane | A | 25.000 | 24.400 | 0.5867905 | 0.5727056 | | -2.4 | 20 |
| 1,2,3-Trichloropropane | L | 25.000 | 28.020 | 0.105337 | 0.122071 | | 12.1 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | 25.000 | 22.710 | 0.4183029 | 0.3800354 | | -9.1 | 20 |
| 1,2,4-Trimethylbenzene | A | 25.000 | 23.640 | 3.597754 | 3.401945 | | -5.4 | 20 |
| 1,3,5-Trimethylbenzene | A | 25.000 | 22.540 | 3.970515 | 3.579773 | | -9.8 | 20 |
| Vinyl chloride | A | 25.000 | 20.700 | 0.5958562 | 0.4933628 | | -17.2 | 20 |
| Total Xylenes | A | 75.000 | 69.870 | 1.988127 | 1.852304 | | -6.8 | 20 |
| p- & m-Xylenes | A | 50.000 | 46.700 | 2.011739 | 1.87894 | | -6.6 | 20 |
| o-Xylene | A | 25.000 | 23.170 | 1.940902 | 1.799032 | | -7.3 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 02FEB33.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/02/17 |
| Lab Sample ID: | 1701847-CCV4 | Injection Time: | 18:48 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Acetone | A | 320.00 | 324.07 | 4.776275E-02 | 4.837006E-02 | | 1.3 | 20 |
| Acetonitrile | A | 160.00 | 167.12 | 2.219025E-02 | 2.317718E-02 | | 4.4 | 20 |
| Allyl chloride | A | 32.000 | 30.600 | 1.085338 | 1.037696 | | -4.4 | 20 |
| t-Amyl Methyl ether | A | 16.000 | 16.680 | 0.6661409 | 0.6943098 | | 4.2 | 20 |
| Benzyl chloride | A | 32.000 | 30.900 | 0.7610056 | 0.7348075 | | -3.4 | 20 |
| t-Butyl alcohol | A | 800.00 | 927.19 | 1.234081E-02 | 1.430282E-02 | | 15.9 | 20 |
| Carbon disulfide | A | 32.000 | 29.700 | 1.33473 | 1.238861 | | -7.2 | 20 |
| Chloroprene | A | 32.000 | 29.550 | 0.985225 | 0.9097133 | | -7.7 | 20 |
| Diisopropyl ether | A | 16.000 | 16.030 | 0.3201537 | 0.32082 | | 0.2 | 20 |
| Ethyl t-butyl ether | A | 16.000 | 16.350 | 1.21959 | 1.24639 | | 2.2 | 20 |
| 2-Hexanone | A | 320.00 | 295.78 | 9.609546E-02 | 8.882304E-02 | | -7.6 | 20 |
| Methyl ethyl ketone | A | 160.00 | 179.30 | 8.196912E-02 | 9.185478E-02 | | 12.1 | 20 |
| Methyl isobutyl ketone | A | 160.00 | 156.45 | 0.1395136 | 0.1364157 | | -2.2 | 20 |
| Vinyl acetate | A | 160.00 | 141.04 | 0.6012656 | 0.5300265 | | -11.8 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB02.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701847-CCV5 | Injection Time: | 06:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | A | 25.000 | 26.820 | 1.889378 | 2.026868 | | 7.3 | 20 | |
| Bromobenzene | A | 25.000 | 27.560 | 1.179324 | 1.299883 | | 10.2 | 20 | |
| Bromochloromethane | A | 25.000 | 27.730 | 0.1547174 | 0.1716204 | | 10.9 | 20 | |
| Bromodichloromethane | A | 25.000 | 26.120 | 0.3291756 | 0.343956 | | 4.5 | 20 | |
| Bromoform | A | 25.000 | 26.550 | 0.3506939 | 0.3724411 | 0.1 | 6.2 | 20 | |
| Bromomethane | A | 25.000 | 18.230 | 0.3180084 | 0.231908 | | -27.1 | 20 | * |
| n-Butylbenzene | A | 25.000 | 26.630 | 3.493597 | 3.720686 | | 6.5 | 20 | |
| sec-Butylbenzene | A | 25.000 | 24.410 | 5.379312 | 5.253114 | | -2.3 | 20 | |
| tert-Butylbenzene | A | 25.000 | 24.640 | 3.852201 | 3.796164 | | -1.5 | 20 | |
| Carbon tetrachloride | A | 25.000 | 26.310 | 0.4688551 | 0.4933798 | | 5.2 | 20 | |
| Chlorobenzene | A | 25.000 | 26.540 | 2.978054 | 3.161462 | 0.3 | 6.2 | 20 | |
| Chloroethane | A | 25.000 | 26.560 | 0.3902835 | 0.4147062 | | 6.3 | 20 | |
| Chloroform | A | 25.000 | 27.260 | 0.7548469 | 0.8231533 | | 9.0 | 20 | |
| Chloromethane | L | 25.000 | 29.260 | 0.6989857 | 0.7364905 | 0.1 | 17.0 | 20 | |
| 2-Chlorotoluene | A | 25.000 | 26.700 | 3.666018 | 3.915239 | | 6.8 | 20 | |
| 4-Chlorotoluene | A | 25.000 | 26.690 | 3.285453 | 3.507537 | | 6.8 | 20 | |
| Dibromochloromethane | A | 25.000 | 27.260 | 0.1708407 | 0.1863124 | | 9.1 | 20 | |
| 1,2-Dibromo-3-chloropropane | L | 25.000 | 29.370 | 0.0666406 | 0.0885904 | | 17.5 | 20 | |
| 1,2-Dibromoethane | A | 25.000 | 28.130 | 0.1390115 | 0.1563968 | | 12.5 | 20 | |
| Dibromomethane | A | 25.000 | 26.200 | 0.1132441 | 0.1186685 | | 4.8 | 20 | |
| 1,2-Dichlorobenzene | A | 25.000 | 25.600 | 1.693334 | 1.733731 | | 2.4 | 20 | |
| 1,3-Dichlorobenzene | A | 25.000 | 24.170 | 2.068389 | 2.000074 | | -3.3 | 20 | |
| 1,4-Dichlorobenzene | A | 25.000 | 25.550 | 1.916207 | 1.958062 | | 2.2 | 20 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB02.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701847-CCV5 | Injection Time: | 06:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | A | 25.000 | 25.250 | 0.4765408 | 0.4812406 | | 1.0 | 20 |
| 1,1-Dichloroethane | A | 25.000 | 26.590 | 1.030991 | 1.096708 | 0.1 | 6.4 | 20 |
| 1,2-Dichloroethane | A | 25.000 | 26.530 | 0.438219 | 0.4650592 | | 6.1 | 20 |
| 1,1-Dichloroethene | A | 25.000 | 26.170 | 0.7766588 | 0.8131378 | | 4.7 | 20 |
| cis-1,2-Dichloroethene | A | 25.000 | 28.710 | 0.4666061 | 0.5358742 | | 14.8 | 20 |
| trans-1,2-Dichloroethene | A | 25.000 | 26.570 | 0.4502706 | 0.47857 | | 6.3 | 20 |
| 1,2-Dichloropropane | A | 25.000 | 26.800 | 0.3723271 | 0.3991285 | | 7.2 | 20 |
| 1,3-Dichloropropane | A | 25.000 | 27.010 | 0.2667047 | 0.2881448 | | 8.0 | 20 |
| 2,2-Dichloropropane | A | 25.000 | 26.420 | 0.6461501 | 0.6827293 | | 5.7 | 20 |
| 1,1-Dichloropropene | A | 25.000 | 26.950 | 0.61317 | 0.6610947 | | 7.8 | 20 |
| cis-1,3-Dichloropropene | A | 25.000 | 26.390 | 0.436368 | 0.4606793 | | 5.6 | 20 |
| trans-1,3-Dichloropropene | A | 25.000 | 26.460 | 0.3001727 | 0.3176821 | | 5.8 | 20 |
| Ethylbenzene | A | 25.000 | 26.570 | 1.699115 | 1.805926 | | 6.3 | 20 |
| Hexachlorobutadiene | A | 25.000 | 24.920 | 0.8012975 | 0.7985738 | | -0.3 | 20 |
| Isopropylbenzene | A | 25.000 | 25.150 | 5.188549 | 5.218676 | | 0.6 | 20 |
| p-Isopropyltoluene | A | 25.000 | 25.000 | 4.064913 | 4.065243 | | 0.008 | 20 |
| Methylene chloride | L | 25.000 | 27.490 | 0.601454 | 0.420002 | | 10.0 | 20 |
| Methyl t-butyl ether | A | 25.000 | 28.330 | 0.6285989 | 0.7122806 | | 13.3 | 20 |
| Naphthalene | A | 25.000 | 29.970 | 1.162765 | 1.394105 | | 19.9 | 20 |
| n-Propylbenzene | A | 25.000 | 24.770 | 5.959786 | 5.90576 | | -0.9 | 20 |
| Styrene | A | 25.000 | 27.380 | 2.90027 | 3.176929 | | 9.5 | 20 |
| 1,1,1,2-Tetrachloroethane | A | 25.000 | 26.630 | 0.9261768 | 0.9865003 | | 6.5 | 20 |
| 1,1,2,2-Tetrachloroethane | A | 25.000 | 29.250 | 0.555952 | 0.650501 | 0.3 | 17.0 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB02.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701847-CCV5 | Injection Time: | 06:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | A | 25.000 | 26.800 | 0.3412463 | 0.3658653 | | 7.2 | 20 | |
| Toluene | A | 25.000 | 26.520 | 0.7797766 | 0.8273404 | | 6.1 | 20 | |
| 1,2,3-Trichlorobenzene | A | 25.000 | 29.230 | 1.194842 | 1.396803 | | 16.9 | 20 | |
| 1,2,4-Trichlorobenzene | A | 25.000 | 29.230 | 1.194842 | 1.396803 | | 16.9 | 20 | |
| 1,1,1-Trichloroethane | A | 25.000 | 26.440 | 0.6398072 | 0.6767208 | | 5.8 | 20 | |
| 1,1,2-Trichloroethane | A | 25.000 | 27.050 | 0.1533095 | 0.16589 | | 8.2 | 20 | |
| Trichloroethene | A | 25.000 | 27.130 | 0.3255704 | 0.3533357 | | 8.5 | 20 | |
| Trichlorofluoromethane | A | 25.000 | 26.060 | 0.5867905 | 0.6116098 | | 4.2 | 20 | |
| 1,2,3-Trichloropropane | L | 25.000 | 32.960 | 0.105337 | 0.1422881 | | 31.8 | 20 | * |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | 25.000 | 25.250 | 0.4183029 | 0.4224426 | | 1.0 | 20 | |
| 1,2,4-Trimethylbenzene | A | 25.000 | 26.040 | 3.597754 | 3.747034 | | 4.1 | 20 | |
| 1,3,5-Trimethylbenzene | A | 25.000 | 25.350 | 3.970515 | 4.026354 | | 1.4 | 20 | |
| Vinyl chloride | A | 25.000 | 26.330 | 0.5958562 | 0.6275447 | | 5.3 | 20 | |
| Total Xylenes | A | 75.000 | 79.410 | 1.988127 | 2.10508 | | 5.9 | 20 | |
| p- & m-Xylenes | A | 50.000 | 53.070 | 2.011739 | 2.135059 | | 6.1 | 20 | |
| o-Xylene | A | 25.000 | 26.340 | 1.940902 | 2.045122 | | 5.4 | 20 | |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB03.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701847 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701847-CCV6 | Injection Time: | 06:32 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Acetone | A | 320.00 | 367.60 | 4.776275E-02 | 0.0548681 | | 14.9 | 20 |
| Acetonitrile | A | 160.00 | 192.66 | 2.219025E-02 | 2.671922E-02 | | 20.4 | 20 * |
| Allyl chloride | A | 32.000 | 31.100 | 1.085338 | 1.054777 | | -2.8 | 20 |
| t-Amyl Methyl ether | A | 16.000 | 19.750 | 0.6661409 | 0.8222535 | | 23.4 | 20 * |
| Benzyl chloride | A | 32.000 | 35.660 | 0.7610056 | 0.8481575 | | 11.5 | 20 |
| t-Butyl alcohol | A | 800.00 | 1100.5 | 1.234081E-02 | 0.016976 | | 37.6 | 20 * |
| Carbon disulfide | A | 32.000 | 30.130 | 1.33473 | 1.256932 | | -5.8 | 20 |
| Chloroprene | A | 32.000 | 29.040 | 0.985225 | 0.8941897 | | -9.2 | 20 |
| Diisopropyl ether | A | 16.000 | 16.790 | 0.3201537 | 0.3358964 | | 4.9 | 20 |
| Ethyl t-butyl ether | A | 16.000 | 18.850 | 1.21959 | 1.43673 | | 17.8 | 20 |
| 2-Hexanone | A | 320.00 | 333.33 | 9.609546E-02 | 0.1000982 | | 4.2 | 20 |
| Methyl ethyl ketone | A | 160.00 | 203.75 | 8.196912E-02 | 0.1043817 | | 27.3 | 20 * |
| Methyl isobutyl ketone | A | 160.00 | 175.65 | 0.1395136 | 0.1531608 | | 9.8 | 20 |
| Vinyl acetate | A | 160.00 | 166.34 | 0.6012656 | 0.6250872 | | 4.0 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 19JAN26.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 01/19/17 |
| Lab Sample ID: | 1701900-ICV2 | Injection Time: | 19:16 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Acetone | A | 320.00 | 297.41 | 4.776275E-02 | 4.439164E-02 | | -7.1 | 20 |
| Acetonitrile | A | 160.00 | 158.06 | 2.219025E-02 | 2.192053E-02 | | -1.2 | 20 |
| Acrolein | A | 200.00 | 195.68 | 2.197253E-02 | 0.0214981 | | -2.2 | 20 |
| Acrylonitrile | A | 80.000 | 75.810 | 6.582196E-02 | 6.237495E-02 | | -5.2 | 20 |
| Allyl chloride | A | 32.000 | 30.990 | 1.085338 | 1.051117 | | -3.2 | 20 |
| t-Amyl Methyl ether | A | 16.000 | 15.930 | 0.6661409 | 0.6631077 | | -0.5 | 20 |
| Benzyl chloride | A | 32.000 | 30.540 | 0.7610056 | 0.7262976 | | -4.6 | 20 |
| t-Butyl alcohol | A | 800.00 | 687.62 | 1.234081E-02 | 0.0106073 | | -14.0 | 20 |
| Carbon disulfide | A | 32.000 | 31.480 | 1.33473 | 1.313213 | | -1.6 | 20 |
| Chloroprene | A | 32.000 | 30.720 | 0.985225 | 0.9456778 | | -4.0 | 20 |
| trans-1,4-Dichloro-2-butene | A | 80.000 | 87.060 | 0.1459885 | 0.1588632 | | 8.8 | 20 |
| Diisopropyl ether | A | 16.000 | 15.280 | 0.3201537 | 0.3057137 | | -4.5 | 20 |
| Ethyl t-butyl ether | A | 16.000 | 15.830 | 1.21959 | 1.206707 | | -1.1 | 20 |
| 2-Hexanone | A | 320.00 | 305.81 | 9.609546E-02 | 9.183385E-02 | | -4.4 | 20 |
| Isobutanol | A | 400.00 | 344.78 | 7.081674E-03 | 6.104129E-03 | | -13.8 | 20 |
| Methacrylonitrile | A | 160.00 | 160.55 | 5.873163E-02 | 5.893511E-02 | | 0.3 | 20 |
| Methyl ethyl ketone | A | 160.00 | 157.35 | 8.196912E-02 | 8.061153E-02 | | -1.7 | 20 |
| Methyl iodide | A | 32.000 | 35.320 | 0.324613 | 0.3582746 | | 10.4 | 20 |
| Methyl isobutyl ketone | A | 160.00 | 157.41 | 0.1395136 | 0.1372552 | | -1.6 | 20 |
| Methyl methacrylate | A | 80.000 | 79.860 | 7.948396E-02 | 0.0793416 | | -0.2 | 20 |
| Vinyl acetate | A | 160.00 | 147.00 | 0.6012656 | 0.5524088 | | -8.1 | 20 |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:52:56PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 26JAN15.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 01/26/17 |
| Lab Sample ID: | 1701900-ICV1 | Injection Time: | 19:35 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Benzene | A | 25.000 | 24.520 | 1.889378 | 1.853263 | | -1.9 | 20 |
| Bromobenzene | A | 25.000 | 26.750 | 1.179324 | 1.261962 | | 7.0 | 20 |
| Bromochloromethane | A | 25.000 | 27.870 | 0.1547174 | 0.1724858 | | 11.5 | 20 |
| Bromodichloromethane | A | 25.000 | 26.330 | 0.3291756 | 0.3466539 | | 5.3 | 20 |
| Bromoform | A | 25.000 | 29.540 | 0.3506939 | 0.4143899 | 0.1 | 18.2 | 20 |
| Bromomethane | A | 25.000 | 25.400 | 0.3180084 | 0.323081 | | 1.6 | 20 |
| n-Butylbenzene | A | 25.000 | 24.450 | 3.493597 | 3.416282 | | -2.2 | 20 |
| sec-Butylbenzene | A | 25.000 | 22.320 | 5.379312 | 4.803427 | | -10.7 | 20 |
| tert-Butylbenzene | A | 25.000 | 24.540 | 3.852201 | 3.780801 | | -1.9 | 20 |
| Carbon tetrachloride | A | 25.000 | 24.550 | 0.4688551 | 0.4604308 | | -1.8 | 20 |
| Chlorobenzene | A | 25.000 | 25.550 | 2.978054 | 3.04388 | 0.3 | 2.2 | 20 |
| Chloroethane | A | 25.000 | 25.010 | 0.3902835 | 0.3904325 | | 0.04 | 20 |
| Chloroform | A | 25.000 | 25.080 | 0.7548469 | 0.7572197 | | 0.3 | 20 |
| Chloromethane | L | 25.000 | 21.450 | 0.6989857 | 0.5449247 | 0.1 | -14.2 | 20 |
| 2-Chlorotoluene | A | 25.000 | 25.230 | 3.666018 | 3.699401 | | 0.9 | 20 |
| 4-Chlorotoluene | A | 25.000 | 25.250 | 3.285453 | 3.318671 | | 1.0 | 20 |
| Dibromochloromethane | A | 25.000 | 28.210 | 0.1708407 | 0.1927603 | | 12.8 | 20 |
| 1,2-Dibromo-3-chloropropane | L | 25.000 | 26.780 | 0.0666406 | 0.0808198 | | 7.1 | 20 |
| 1,2-Dibromoethane | A | 25.000 | 28.160 | 0.1390115 | 0.1565905 | | 12.6 | 20 |
| Dibromomethane | A | 25.000 | 25.600 | 0.1132441 | 0.1159592 | | 2.4 | 20 |
| 1,2-Dichlorobenzene | A | 25.000 | 25.120 | 1.693334 | 1.701651 | | 0.5 | 20 |
| 1,3-Dichlorobenzene | A | 25.000 | 23.440 | 2.068389 | 1.939285 | | -6.2 | 20 |
| 1,4-Dichlorobenzene | A | 25.000 | 25.950 | 1.916207 | 1.989058 | | 3.8 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 26JAN15.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 01/26/17 |
| Lab Sample ID: | 1701900-ICV1 | Injection Time: | 19:35 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | A | 25.000 | 23.190 | 0.4765408 | 0.4420548 | | -7.2 | 20 |
| 1,1-Dichloroethane | A | 25.000 | 25.000 | 1.030991 | 1.031141 | 0.1 | 0.01 | 20 |
| 1,2-Dichloroethane | A | 25.000 | 26.060 | 0.438219 | 0.4568204 | | 4.2 | 20 |
| 1,1-Dichloroethene | A | 25.000 | 24.850 | 0.7766588 | 0.7719666 | | -0.6 | 20 |
| cis-1,2-Dichloroethene | A | 25.000 | 25.450 | 0.4666061 | 0.474977 | | 1.8 | 20 |
| trans-1,2-Dichloroethene | A | 25.000 | 23.910 | 0.4502706 | 0.4305847 | | -4.4 | 20 |
| 1,2-Dichloropropane | A | 25.000 | 25.240 | 0.3723271 | 0.3758662 | | 1.0 | 20 |
| 1,3-Dichloropropane | A | 25.000 | 27.900 | 0.2667047 | 0.2976682 | | 11.6 | 20 |
| 2,2-Dichloropropane | A | 25.000 | 23.050 | 0.6461501 | 0.595668 | | -7.8 | 20 |
| 1,1-Dichloropropene | A | 25.000 | 24.340 | 0.61317 | 0.5969539 | | -2.6 | 20 |
| cis-1,3-Dichloropropene | A | 25.000 | 25.890 | 0.436368 | 0.4519754 | | 3.6 | 20 |
| trans-1,3-Dichloropropene | A | 25.000 | 27.510 | 0.3001727 | 0.3303126 | | 10.0 | 20 |
| Ethylbenzene | A | 25.000 | 24.810 | 1.699115 | 1.686003 | | -0.8 | 20 |
| Hexachlorobutadiene | A | 25.000 | 22.520 | 0.8012975 | 0.7218586 | | -9.9 | 20 |
| Isopropylbenzene | A | 25.000 | 23.670 | 5.188549 | 4.913541 | | -5.3 | 20 |
| p-Isopropyltoluene | A | 25.000 | 22.960 | 4.064913 | 3.733001 | | -8.2 | 20 |
| Methylene chloride | L | 25.000 | 27.090 | 0.601454 | 0.4144394 | | 8.4 | 20 |
| Methyl t-butyl ether | A | 25.000 | 29.040 | 0.6285989 | 0.7300879 | | 16.1 | 20 |
| Naphthalene | A | 25.000 | 28.850 | 1.162765 | 1.341925 | | 15.4 | 20 |
| n-Propylbenzene | A | 25.000 | 23.210 | 5.959786 | 5.533521 | | -7.2 | 20 |
| Styrene | A | 25.000 | 26.030 | 2.90027 | 3.020175 | | 4.1 | 20 |
| 1,1,1,2-Tetrachloroethane | A | 25.000 | 25.800 | 0.9261768 | 0.9556971 | | 3.2 | 20 |
| 1,1,2,2-Tetrachloroethane | A | 25.000 | 28.950 | 0.555952 | 0.6436956 | 0.3 | 15.8 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 26JAN15.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 01/26/17 |
| Lab Sample ID: | 1701900-ICV1 | Injection Time: | 19:35 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | A | 25.000 | 23.430 | 0.3412463 | 0.3197576 | | -6.3 | 20 |
| Toluene | A | 25.000 | 24.190 | 0.7797766 | 0.7546079 | | -3.2 | 20 |
| 1,2,3-Trichlorobenzene | A | 25.000 | 26.280 | 1.194842 | 1.256226 | | 5.1 | 20 |
| 1,2,4-Trichlorobenzene | A | 25.000 | 26.280 | 1.194842 | 1.256226 | | 5.1 | 20 |
| 1,1,1-Trichloroethane | A | 25.000 | 24.320 | 0.6398072 | 0.6223499 | | -2.7 | 20 |
| 1,1,2-Trichloroethane | A | 25.000 | 28.140 | 0.1533095 | 0.1725615 | | 12.6 | 20 |
| Trichloroethene | A | 25.000 | 25.380 | 0.3255704 | 0.3305227 | | 1.5 | 20 |
| Trichlorofluoromethane | A | 25.000 | 23.360 | 0.5867905 | 0.5482351 | | -6.6 | 20 |
| 1,2,3-Trichloropropane | L | 25.000 | 29.760 | 0.105337 | 0.1291837 | | 19.0 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | 25.000 | 22.390 | 0.4183029 | 0.3745928 | | -10.4 | 20 |
| 1,2,4-Trimethylbenzene | A | 25.000 | 24.970 | 3.597754 | 3.593467 | | -0.1 | 20 |
| 1,3,5-Trimethylbenzene | A | 25.000 | 23.180 | 3.970515 | 3.680896 | | -7.3 | 20 |
| Vinyl chloride | A | 25.000 | 20.170 | 0.5958562 | 0.4807637 | | -19.3 | 20 |
| Total Xylenes | A | 75.000 | 74.270 | 1.988127 | 1.96886 | | -1.0 | 20 |
| p- & m-Xylenes | A | 50.000 | 49.530 | 2.011739 | 1.992895 | | -0.9 | 20 |
| o-Xylene | A | 25.000 | 24.740 | 1.940902 | 1.920791 | | -1.0 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB02.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV1 | Injection Time: | 06:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | A | 25.000 | 26.820 | 1.889378 | 2.026868 | | 7.3 | 20 | |
| Bromobenzene | A | 25.000 | 27.560 | 1.179324 | 1.299883 | | 10.2 | 20 | |
| Bromochloromethane | A | 25.000 | 27.730 | 0.1547174 | 0.1716204 | | 10.9 | 20 | |
| Bromodichloromethane | A | 25.000 | 26.120 | 0.3291756 | 0.343956 | | 4.5 | 20 | |
| Bromoform | A | 25.000 | 26.550 | 0.3506939 | 0.3724411 | 0.1 | 6.2 | 20 | |
| Bromomethane | A | 25.000 | 18.230 | 0.3180084 | 0.231908 | | -27.1 | 20 | * |
| n-Butylbenzene | A | 25.000 | 26.630 | 3.493597 | 3.720686 | | 6.5 | 20 | |
| sec-Butylbenzene | A | 25.000 | 24.410 | 5.379312 | 5.253114 | | -2.3 | 20 | |
| tert-Butylbenzene | A | 25.000 | 24.640 | 3.852201 | 3.796164 | | -1.5 | 20 | |
| Carbon tetrachloride | A | 25.000 | 26.310 | 0.4688551 | 0.4933798 | | 5.2 | 20 | |
| Chlorobenzene | A | 25.000 | 26.540 | 2.978054 | 3.161462 | 0.3 | 6.2 | 20 | |
| Chloroethane | A | 25.000 | 26.560 | 0.3902835 | 0.4147062 | | 6.3 | 20 | |
| Chloroform | A | 25.000 | 27.260 | 0.7548469 | 0.8231533 | | 9.0 | 20 | |
| Chloromethane | L | 25.000 | 29.260 | 0.6989857 | 0.7364905 | 0.1 | 17.0 | 20 | |
| 2-Chlorotoluene | A | 25.000 | 26.700 | 3.666018 | 3.915239 | | 6.8 | 20 | |
| 4-Chlorotoluene | A | 25.000 | 26.690 | 3.285453 | 3.507537 | | 6.8 | 20 | |
| Dibromochloromethane | A | 25.000 | 27.260 | 0.1708407 | 0.1863124 | | 9.1 | 20 | |
| 1,2-Dibromo-3-chloropropane | L | 25.000 | 29.370 | 0.0666406 | 0.0885904 | | 17.5 | 20 | |
| 1,2-Dibromoethane | A | 25.000 | 28.130 | 0.1390115 | 0.1563968 | | 12.5 | 20 | |
| Dibromomethane | A | 25.000 | 26.200 | 0.1132441 | 0.1186685 | | 4.8 | 20 | |
| 1,2-Dichlorobenzene | A | 25.000 | 25.600 | 1.693334 | 1.733731 | | 2.4 | 20 | |
| 1,3-Dichlorobenzene | A | 25.000 | 24.170 | 2.068389 | 2.000074 | | -3.3 | 20 | |
| 1,4-Dichlorobenzene | A | 25.000 | 25.550 | 1.916207 | 1.958062 | | 2.2 | 20 | |

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# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB02.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV1 | Injection Time: | 06:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | A | 25.000 | 25.250 | 0.4765408 | 0.4812406 | | 1.0 | 20 |
| 1,1-Dichloroethane | A | 25.000 | 26.590 | 1.030991 | 1.096708 | 0.1 | 6.4 | 20 |
| 1,2-Dichloroethane | A | 25.000 | 26.530 | 0.438219 | 0.4650592 | | 6.1 | 20 |
| 1,1-Dichloroethene | A | 25.000 | 26.170 | 0.7766588 | 0.8131378 | | 4.7 | 20 |
| cis-1,2-Dichloroethene | A | 25.000 | 28.710 | 0.4666061 | 0.5358742 | | 14.8 | 20 |
| trans-1,2-Dichloroethene | A | 25.000 | 26.570 | 0.4502706 | 0.47857 | | 6.3 | 20 |
| 1,2-Dichloropropane | A | 25.000 | 26.800 | 0.3723271 | 0.3991285 | | 7.2 | 20 |
| 1,3-Dichloropropane | A | 25.000 | 27.010 | 0.2667047 | 0.2881448 | | 8.0 | 20 |
| 2,2-Dichloropropane | A | 25.000 | 26.420 | 0.6461501 | 0.6827293 | | 5.7 | 20 |
| 1,1-Dichloropropene | A | 25.000 | 26.950 | 0.61317 | 0.6610947 | | 7.8 | 20 |
| cis-1,3-Dichloropropene | A | 25.000 | 26.390 | 0.436368 | 0.4606793 | | 5.6 | 20 |
| trans-1,3-Dichloropropene | A | 25.000 | 26.460 | 0.3001727 | 0.3176821 | | 5.8 | 20 |
| Ethylbenzene | A | 25.000 | 26.570 | 1.699115 | 1.805926 | | 6.3 | 20 |
| Hexachlorobutadiene | A | 25.000 | 24.920 | 0.8012975 | 0.7985738 | | -0.3 | 20 |
| Isopropylbenzene | A | 25.000 | 25.150 | 5.188549 | 5.218676 | | 0.6 | 20 |
| p-Isopropyltoluene | A | 25.000 | 25.000 | 4.064913 | 4.065243 | | 0.008 | 20 |
| Methylene chloride | L | 25.000 | 27.490 | 0.601454 | 0.420002 | | 10.0 | 20 |
| Methyl t-butyl ether | A | 25.000 | 28.330 | 0.6285989 | 0.7122806 | | 13.3 | 20 |
| Naphthalene | A | 25.000 | 29.970 | 1.162765 | 1.394105 | | 19.9 | 20 |
| n-Propylbenzene | A | 25.000 | 24.770 | 5.959786 | 5.90576 | | -0.9 | 20 |
| Styrene | A | 25.000 | 27.380 | 2.90027 | 3.176929 | | 9.5 | 20 |
| 1,1,1,2-Tetrachloroethane | A | 25.000 | 26.630 | 0.9261768 | 0.9865003 | | 6.5 | 20 |
| 1,1,2,2-Tetrachloroethane | A | 25.000 | 29.250 | 0.555952 | 0.650501 | 0.3 | 17.0 | 20 |

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# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB02.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV1 | Injection Time: | 06:09 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | A | 25.000 | 26.800 | 0.3412463 | 0.3658653 | | 7.2 | 20 | |
| Toluene | A | 25.000 | 26.520 | 0.7797766 | 0.8273404 | | 6.1 | 20 | |
| 1,2,3-Trichlorobenzene | A | 25.000 | 29.230 | 1.194842 | 1.396803 | | 16.9 | 20 | |
| 1,2,4-Trichlorobenzene | A | 25.000 | 29.230 | 1.194842 | 1.396803 | | 16.9 | 20 | |
| 1,1,1-Trichloroethane | A | 25.000 | 26.440 | 0.6398072 | 0.6767208 | | 5.8 | 20 | |
| 1,1,2-Trichloroethane | A | 25.000 | 27.050 | 0.1533095 | 0.16589 | | 8.2 | 20 | |
| Trichloroethene | A | 25.000 | 27.130 | 0.3255704 | 0.3533357 | | 8.5 | 20 | |
| Trichlorofluoromethane | A | 25.000 | 26.060 | 0.5867905 | 0.6116098 | | 4.2 | 20 | |
| 1,2,3-Trichloropropane | L | 25.000 | 32.960 | 0.105337 | 0.1422881 | | 31.8 | 20 | * |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | 25.000 | 25.250 | 0.4183029 | 0.4224426 | | 1.0 | 20 | |
| 1,2,4-Trimethylbenzene | A | 25.000 | 26.040 | 3.597754 | 3.747034 | | 4.1 | 20 | |
| 1,3,5-Trimethylbenzene | A | 25.000 | 25.350 | 3.970515 | 4.026354 | | 1.4 | 20 | |
| Vinyl chloride | A | 25.000 | 26.330 | 0.5958562 | 0.6275447 | | 5.3 | 20 | |
| Total Xylenes | A | 75.000 | 79.410 | 1.988127 | 2.10508 | | 5.9 | 20 | |
| p- & m-Xylenes | A | 50.000 | 53.070 | 2.011739 | 2.135059 | | 6.1 | 20 | |
| o-Xylene | A | 25.000 | 26.340 | 1.940902 | 2.045122 | | 5.4 | 20 | |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB03.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV2 | Injection Time: | 06:32 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | A | 320.00 | 367.60 | 4.776275E-02 | 0.0548681 | | 14.9 | 20 | |
| Acetonitrile | A | 160.00 | 192.66 | 2.219025E-02 | 2.671922E-02 | | 20.4 | 20 | * |
| Acrolein | A | 200.00 | 152.32 | 2.197253E-02 | 1.673386E-02 | | -23.8 | 20 | * |
| Acrylonitrile | A | 80.000 | 96.710 | 6.582196E-02 | 0.0795679 | | 20.9 | 20 | * |
| Allyl chloride | A | 32.000 | 31.100 | 1.085338 | 1.054777 | | -2.8 | 20 | |
| t-Amyl Methyl ether | A | 16.000 | 19.750 | 0.6661409 | 0.8222535 | | 23.4 | 20 | * |
| Benzyl chloride | A | 32.000 | 35.660 | 0.7610056 | 0.8481575 | | 11.5 | 20 | |
| t-Butyl alcohol | A | 800.00 | 1100.5 | 1.234081E-02 | 0.016976 | | 37.6 | 20 | * |
| Carbon disulfide | A | 32.000 | 30.130 | 1.33473 | 1.256932 | | -5.8 | 20 | |
| Chloroprene | A | 32.000 | 29.040 | 0.985225 | 0.8941897 | | -9.2 | 20 | |
| trans-1,4-Dichloro-2-butene | A | 80.000 | 70.820 | 0.1459885 | 0.1292342 | | -11.5 | 20 | |
| Diisopropyl ether | A | 16.000 | 16.790 | 0.3201537 | 0.3358964 | | 4.9 | 20 | |
| Ethyl t-butyl ether | A | 16.000 | 18.850 | 1.21959 | 1.43673 | | 17.8 | 20 | |
| 2-Hexanone | A | 320.00 | 333.33 | 9.609546E-02 | 0.1000982 | | 4.2 | 20 | |
| Isobutanol | A | 400.00 | 517.29 | 7.081674E-03 | 9.158222E-03 | | 29.3 | 20 | * |
| Methacrylonitrile | A | 160.00 | 194.22 | 5.873163E-02 | 7.129202E-02 | | 21.4 | 20 | * |
| Methyl ethyl ketone | A | 160.00 | 203.75 | 8.196912E-02 | 0.1043817 | | 27.3 | 20 | * |
| Methyl iodide | A | 32.000 | 22.970 | 0.324613 | 0.2329689 | | -28.2 | 20 | * |
| Methyl isobutyl ketone | A | 160.00 | 175.65 | 0.1395136 | 0.1531608 | | 9.8 | 20 | |
| Methyl methacrylate | A | 80.000 | 100.08 | 7.948396E-02 | 9.943221E-02 | | 25.1 | 20 | * |
| Vinyl acetate | A | 160.00 | 166.34 | 0.6012656 | 0.6250872 | | 4.0 | 20 | |

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|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:52:56PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
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Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB23.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV3 | Injection Time: | 14:20 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | A | 25.000 | 23.800 | 1.889378 | 1.79876 | | -4.8 | 20 | |
| Bromobenzene | A | 25.000 | 24.820 | 1.179324 | 1.170608 | | -0.7 | 20 | |
| Bromochloromethane | A | 25.000 | 26.190 | 0.1547174 | 0.1620846 | | 4.8 | 20 | |
| Bromodichloromethane | A | 25.000 | 25.210 | 0.3291756 | 0.3319952 | | 0.9 | 20 | |
| Bromoform | A | 25.000 | 25.820 | 0.3506939 | 0.3621699 | 0.1 | 3.3 | 20 | |
| Bromomethane | A | 25.000 | 19.310 | 0.3180084 | 0.2456189 | | -22.8 | 20 | * |
| n-Butylbenzene | A | 25.000 | 23.430 | 3.493597 | 3.274731 | | -6.3 | 20 | |
| sec-Butylbenzene | A | 25.000 | 22.470 | 5.379312 | 4.834856 | | -10.1 | 20 | |
| tert-Butylbenzene | A | 25.000 | 24.200 | 3.852201 | 3.728556 | | -3.2 | 20 | |
| Carbon tetrachloride | A | 25.000 | 24.540 | 0.4688551 | 0.4601417 | | -1.9 | 20 | |
| Chlorobenzene | A | 25.000 | 24.600 | 2.978054 | 2.9301 | 0.3 | -1.6 | 20 | |
| Chloroethane | A | 25.000 | 23.700 | 0.3902835 | 0.3700198 | | -5.2 | 20 | |
| Chloroform | A | 25.000 | 25.080 | 0.7548469 | 0.7571141 | | 0.3 | 20 | |
| Chloromethane | L | 25.000 | 26.430 | 0.6989857 | 0.6670014 | 0.1 | 5.7 | 20 | |
| 2-Chlorotoluene | A | 25.000 | 24.330 | 3.666018 | 3.567248 | | -2.7 | 20 | |
| 4-Chlorotoluene | A | 25.000 | 23.560 | 3.285453 | 3.096649 | | -5.7 | 20 | |
| Dibromochloromethane | A | 25.000 | 25.840 | 0.1708407 | 0.1765508 | | 3.3 | 20 | |
| 1,2-Dibromo-3-chloropropane | L | 25.000 | 23.240 | 0.0666406 | 0.0701907 | | -7.0 | 20 | |
| 1,2-Dibromoethane | A | 25.000 | 25.940 | 0.1390115 | 0.1442605 | | 3.8 | 20 | |
| Dibromomethane | A | 25.000 | 24.740 | 0.1132441 | 0.1120733 | | -1.0 | 20 | |
| 1,2-Dichlorobenzene | A | 25.000 | 23.840 | 1.693334 | 1.614962 | | -4.6 | 20 | |
| 1,3-Dichlorobenzene | A | 25.000 | 22.580 | 2.068389 | 1.868334 | | -9.7 | 20 | |
| 1,4-Dichlorobenzene | A | 25.000 | 24.150 | 1.916207 | 1.851191 | | -3.4 | 20 | |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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Project: Alameda
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Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB23.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV3 | Injection Time: | 14:20 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | A | 25.000 | 23.130 | 0.4765408 | 0.4408244 | | -7.5 | 20 |
| 1,1-Dichloroethane | A | 25.000 | 24.110 | 1.030991 | 0.9942618 | 0.1 | -3.6 | 20 |
| 1,2-Dichloroethane | A | 25.000 | 24.680 | 0.438219 | 0.4326921 | | -1.3 | 20 |
| 1,1-Dichloroethene | A | 25.000 | 23.130 | 0.7766588 | 0.7185399 | | -7.5 | 20 |
| cis-1,2-Dichloroethene | A | 25.000 | 25.010 | 0.4666061 | 0.4667952 | | 0.04 | 20 |
| trans-1,2-Dichloroethene | A | 25.000 | 24.100 | 0.4502706 | 0.4339822 | | -3.6 | 20 |
| 1,2-Dichloropropane | A | 25.000 | 23.660 | 0.3723271 | 0.3523428 | | -5.4 | 20 |
| 1,3-Dichloropropane | A | 25.000 | 24.490 | 0.2667047 | 0.2612871 | | -2.0 | 20 |
| 2,2-Dichloropropane | A | 25.000 | 24.820 | 0.6461501 | 0.6416041 | | -0.7 | 20 |
| 1,1-Dichloropropene | A | 25.000 | 24.340 | 0.61317 | 0.5969316 | | -2.6 | 20 |
| cis-1,3-Dichloropropene | A | 25.000 | 24.610 | 0.436368 | 0.4296289 | | -1.5 | 20 |
| trans-1,3-Dichloropropene | A | 25.000 | 25.180 | 0.3001727 | 0.3023219 | | 0.7 | 20 |
| Ethylbenzene | A | 25.000 | 23.880 | 1.699115 | 1.623248 | | -4.5 | 20 |
| Hexachlorobutadiene | A | 25.000 | 23.650 | 0.8012975 | 0.7581031 | | -5.4 | 20 |
| Isopropylbenzene | A | 25.000 | 22.800 | 5.188549 | 4.730989 | | -8.8 | 20 |
| p-Isopropyltoluene | A | 25.000 | 22.700 | 4.064913 | 3.691259 | | -9.2 | 20 |
| Methylene chloride | L | 25.000 | 25.410 | 0.601454 | 0.391001 | | 1.6 | 20 |
| Methyl t-butyl ether | A | 25.000 | 26.760 | 0.6285989 | 0.6728706 | | 7.0 | 20 |
| Naphthalene | A | 25.000 | 27.600 | 1.162765 | 1.283778 | | 10.4 | 20 |
| n-Propylbenzene | A | 25.000 | 22.310 | 5.959786 | 5.318895 | | -10.8 | 20 |
| Styrene | A | 25.000 | 25.210 | 2.90027 | 2.924054 | | 0.8 | 20 |
| 1,1,1,2-Tetrachloroethane | A | 25.000 | 24.800 | 0.9261768 | 0.9186718 | | -0.8 | 20 |
| 1,1,2,2-Tetrachloroethane | A | 25.000 | 26.480 | 0.555952 | 0.5888244 | 0.3 | 5.9 | 20 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB23.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV3 | Injection Time: | 14:20 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) | | RESPONSE FACTOR | | | % DIFF / DRIFT (2) | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| Tetrachloroethene | A | 25.000 | 24.080 | 0.3412463 | 0.328635 | | -3.7 | 20 |
| Toluene | A | 25.000 | 23.580 | 0.7797766 | 0.7356231 | | -5.7 | 20 |
| 1,2,3-Trichlorobenzene | A | 25.000 | 27.150 | 1.194842 | 1.297495 | | 8.6 | 20 |
| 1,2,4-Trichlorobenzene | A | 25.000 | 27.150 | 1.194842 | 1.297495 | | 8.6 | 20 |
| 1,1,1-Trichloroethane | A | 25.000 | 24.870 | 0.6398072 | 0.6365979 | | -0.5 | 20 |
| 1,1,2-Trichloroethane | A | 25.000 | 25.000 | 0.1533095 | 0.1533144 | | 0.003 | 20 |
| Trichloroethene | A | 25.000 | 24.110 | 0.3255704 | 0.3140348 | | -3.5 | 20 |
| Trichlorofluoromethane | A | 25.000 | 24.350 | 0.5867905 | 0.5714922 | | -2.6 | 20 |
| 1,2,3-Trichloropropane | L | 25.000 | 25.790 | 0.105337 | 0.1129304 | | 3.2 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | 25.000 | 22.630 | 0.4183029 | 0.378601 | | -9.5 | 20 |
| 1,2,4-Trimethylbenzene | A | 25.000 | 23.540 | 3.597754 | 3.386976 | | -5.9 | 20 |
| 1,3,5-Trimethylbenzene | A | 25.000 | 22.800 | 3.970515 | 3.621666 | | -8.8 | 20 |
| Vinyl chloride | A | 25.000 | 24.090 | 0.5958562 | 0.5742591 | | -3.6 | 20 |
| Total Xylenes | A | 75.000 | 71.790 | 1.988127 | 1.902764 | | -4.3 | 20 |
| p- & m-Xylenes | A | 50.000 | 47.430 | 2.011739 | 1.908374 | | -5.1 | 20 |
| o-Xylene | A | 25.000 | 24.360 | 1.940902 | 1.891544 | | -2.5 | 20 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# CONTINUING CALIBRATION CHECK

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Instrument ID: | MS-V5 | Calibration: | 1701019 |
| Lab File ID: | 03FEB24.D | Calibration Date: | 01/19/17 17:21 |
| Sequence: | 1701900 | Injection Date: | 02/03/17 |
| Lab Sample ID: | 1701900-CCV4 | Injection Time: | 14:43 |

| COMPOUND | (1) CAL TYPE | CONC. (ug/L) STD | CONC. (ug/L) CCV | RESPONSE FACTOR ICAL | RESPONSE FACTOR CCV | RESPONSE FACTOR MIN (#) | % DIFF / DRIFT (2) CCV | % DIFF / DRIFT (2) LIMIT (#) | |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | A | 320.00 | 342.77 | 4.776275E-02 | 5.116198E-02 | | 7.1 | 20 | |
| Acetonitrile | A | 160.00 | 172.54 | 2.219025E-02 | 2.392966E-02 | | 7.8 | 20 | |
| Acrolein | A | 200.00 | 154.28 | 2.197253E-02 | 1.694973E-02 | | -22.9 | 20 | * |
| Acrylonitrile | A | 80.000 | 89.560 | 6.582196E-02 | 7.368728E-02 | | 11.9 | 20 | |
| Allyl chloride | A | 32.000 | 31.790 | 1.085338 | 1.07814 | | -0.7 | 20 | |
| t-Amyl Methyl ether | A | 16.000 | 18.340 | 0.6661409 | 0.7636097 | | 14.6 | 20 | |
| Benzyl chloride | A | 32.000 | 39.100 | 0.7610056 | 0.9298608 | | 22.2 | 20 | * |
| t-Butyl alcohol | A | 800.00 | 945.76 | 1.234081E-02 | 1.458928E-02 | | 18.2 | 20 | |
| Carbon disulfide | A | 32.000 | 31.660 | 1.33473 | 1.320655 | | -1.1 | 20 | |
| Chloroprene | A | 32.000 | 29.390 | 0.985225 | 0.9048032 | | -8.2 | 20 | |
| trans-1,4-Dichloro-2-butene | A | 80.000 | 76.870 | 0.1459885 | 0.1402718 | | -3.9 | 20 | |
| Diisopropyl ether | A | 16.000 | 17.220 | 0.3201537 | 0.3446086 | | 7.6 | 20 | |
| Ethyl t-butyl ether | A | 16.000 | 17.560 | 1.21959 | 1.338288 | | 9.7 | 20 | |
| 2-Hexanone | A | 320.00 | 320.91 | 9.609546E-02 | 9.637008E-02 | | 0.3 | 20 | |
| Isobutanol | A | 400.00 | 472.83 | 7.081674E-03 | 8.371057E-03 | | 18.2 | 20 | |
| Methacrylonitrile | A | 160.00 | 182.81 | 5.873163E-02 | 6.710481E-02 | | 14.3 | 20 | |
| Methyl ethyl ketone | A | 160.00 | 186.61 | 8.196912E-02 | 0.0956016 | | 16.6 | 20 | |
| Methyl iodide | A | 32.000 | 19.000 | 0.324613 | 0.1927803 | | -40.6 | 20 | * |
| Methyl isobutyl ketone | A | 160.00 | 168.27 | 0.1395136 | 0.1467288 | | 5.2 | 20 | |
| Methyl methacrylate | A | 80.000 | 85.850 | 7.948396E-02 | 8.529845E-02 | | 7.3 | 20 | |
| Vinyl acetate | A | 160.00 | 167.86 | 0.6012656 | 0.630815 | | 4.9 | 20 | |

| | |
|---|---|
| AMEC Environmental & Infrastructure<br>9210 Sky Park Court #200<br>San Diego, CA 92123 | Reported: 3/6/2017 4:52:56PM<br>Project: Alameda<br>Project Number: 5023146096<br>Project Manager: Kelli Miller |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits for beginning CCVs. For ending CCVs, limit is 50.

(1): Cal Type (Calibration Type): A = Average; L = Linear Regression; Q = Quadratic Regression

(2): % Diff (of Response Factors) reported when Cal Type = A; %Drift (of Conc) reported when Cal Type = L or Q

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701474
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration: 1701019

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1701474-CAL1 )** | | | Lab File ID: 26JAN06.D | | Analyzed: 01/26/17 16:07 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 98.6 | | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 95.5 | | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 88.4 | | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Cal Standard (1701474-CAL2 )** | | | Lab File ID: 26JAN07.D | | Analyzed: 01/26/17 16:30 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 99.3 | | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 97.1 | | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 90.4 | | 10.36 | 10.355 | 0.0050 | +/-1.0 | |
| **Cal Standard (1701474-CAL3 )** | | | Lab File ID: 26JAN08.D | | Analyzed: 01/26/17 16:53 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 103 | | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 94.8 | | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 96.0 | | 10.36 | 10.355 | 0.0050 | +/-1.0 | |
| **Cal Standard (1701474-CAL5 )** | | | Lab File ID: 26JAN10.D | | Analyzed: 01/26/17 17:39 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 97.1 | | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 97.2 | | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 93.3 | | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Cal Standard (1701474-CAL6 )** | | | Lab File ID: 26JAN11.D | | Analyzed: 01/26/17 18:02 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 86.6 | | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 93.4 | | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 89.5 | | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Cal Standard (1701474-CAL4 )** | | | Lab File ID: 26JAN14.D | | Analyzed: 01/26/17 19:12 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 104 | | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 97.6 | | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 93.4 | | 10.36 | 10.355 | 0.0050 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701847
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration: 1701019

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Initial Cal Check (1701847-ICV1 )** | | | Lab File ID: 26JAN15.D | | Analyzed: 01/26/17 19:35 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 104 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 98.1 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 108 | 85 - 114 | 10.36 | 10.355 | 0.0050 | +/-1.0 | |
| **Initial Cal Blank (1701847-ICB1 )** | | | Lab File ID: 26JAN17.D | | Analyzed: 01/26/17 20:23 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 113 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 99.3 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 103 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Check (1701847-CCV1 )** | | | Lab File ID: 01FEB56.D | | Analyzed: 02/02/17 06:44 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 113 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 100 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 101 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Blank (1701847-CCB2 )** | | | Lab File ID: 02FEB34.D | | Analyzed: 02/02/17 19:12 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 105 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 94.0 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 96.4 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Blank (B[B0138-BLK1 )** | | | Lab File ID: 02FEB35.D | | Analyzed: 02/02/17 19:35 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 107 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 97.5 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 93.2 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **EB03_170131 (1702734-01 )** | | | Lab File ID: 02FEB50.D | | Analyzed: 02/03/17 01:27 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 104 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 96.8 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 98.1 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **EB04_170131 (1702734-02 )** | | | Lab File ID: 02FEB51.D | | Analyzed: 02/03/17 01:50 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 113 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 95.2 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 102 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701847 | Instrument: | MS-V5 |
| Matrix: | Water | Calibration: | 1701019 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **M002A-R_170131 (1702734-03 )** | | | Lab File ID: 02FEB52.D | | Analyzed: 02/03/17 02:14 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 109 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 96.6 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 103 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **M003E-R_170131 (1702734-04 )** | | | Lab File ID: 02FEB53.D | | Analyzed: 02/03/17 02:37 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 109 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 95.7 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 98.0 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **M026A-R_170131 (1702734-05 )** | | | Lab File ID: 02FEB54.D | | Analyzed: 02/03/17 03:00 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 109 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 97.0 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 99.7 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 02FEB55.D | | Analyzed: 02/03/17 03:24 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 107 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 96.8 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 103 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **M034A-R_170131 (1702734-07 )** | | | Lab File ID: 02FEB56.D | | Analyzed: 02/03/17 03:47 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 90.9 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 94.9 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 95.6 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **LCS (B[B0138-BS1 )** | | | Lab File ID: 02FEB58.D | | Analyzed: 02/03/17 04:34 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 102 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 98.8 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 98.5 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Matrix Spike (B[B0138-MS1 )** | | | Lab File ID: 02FEB59.D | | Analyzed: 02/03/17 04:58 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 106 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 98.2 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 100 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701847 | Instrument: | MS-V5 |
| Matrix: | Water | Calibration: | 1701019 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Matrix Spike Dup (B[B0138-MSD1 )** | | | Lab File ID: 02FEB60.D | | Analyzed: 02/03/17 05:21 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 101 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 101 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 97.9 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Check (1701847-CCV5 )** | | | Lab File ID: 03FEB02.D | | Analyzed: 02/03/17 06:09 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 101 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 100 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 103 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Blank (1701847-CCB3 )** | | | Lab File ID: 03FEB04.D | | Analyzed: 02/03/17 06:56 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 104 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 100 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 101 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701900
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration: 1701019

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Initial Cal Check (1701900-ICV1 )** | | | Lab File ID: 26JAN15.D | | Analyzed: 01/26/17 19:35 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 104 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 98.1 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 108 | 85 - 114 | 10.36 | 10.355 | 0.0050 | +/-1.0 | |
| **Initial Cal Blank (1701900-ICB1 )** | | | Lab File ID: 26JAN17.D | | Analyzed: 01/26/17 20:23 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 113 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 99.3 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 103 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Check (1701900-CCV1 )** | | | Lab File ID: 03FEB02.D | | Analyzed: 02/03/17 06:09 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 101 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 100 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 103 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Blank (1701900-CCB1 )** | | | Lab File ID: 03FEB04.D | | Analyzed: 02/03/17 06:56 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 104 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 100 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 101 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **M034A-R_170131 (1702734-07RE1 )** | | | Lab File ID: 03FEB05.D | | Analyzed: 02/03/17 07:19 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 102 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 100 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 104 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **M034A-R_170131 (1702734-07RE2 )** | | | Lab File ID: 03FEB07.D | | Analyzed: 02/03/17 08:06 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 106 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 99.6 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 99.0 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **TB02_170131 (1702734-08 )** | | | Lab File ID: 03FEB11.D | | Analyzed: 02/03/17 09:39 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 112 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 96.2 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 98.9 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# SURROGATE STANDARD RECOVERY AND RT SUMMARY

## EPA-8260B

| | | | |
|---|---|---|---|
| Laboratory: | BC Laboratories | SDG: | 17-02734 |
| Client: | AMEC Environmental & Infrastructure $AMCN | Project: | Alameda |
| Sequence: | 1701900 | Instrument: | MS-V5 |
| Matrix: | Water | Calibration: | 1701019 |

| Surrogate Compound | Spike Level ug/L | % Recovery | Recovery Limits | RT | Calibration Mean RT | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|
| **Calibration Check (1701900-CCV3 )** | | | Lab File ID: 03FEB23.D | | Analyzed: 02/03/17 14:20 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 101 | 81 - 118 | 6.92 | 6.921667 | -0.0017 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 98.3 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 97.7 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |
| **Calibration Blank (1701900-CCB2 )** | | | Lab File ID: 03FEB25.D | | Analyzed: 02/03/17 15:07 | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10.000 | 106 | 81 - 118 | 6.93 | 6.921667 | 0.0083 | +/-1.0 | |
| Toluene-d8 (Surrogate) | 10.000 | 98.2 | 89 - 112 | 8.61 | 8.61 | 0.0000 | +/-1.0 | |
| 4-Bromofluorobenzene (Surrogate) | 10.000 | 98.1 | 85 - 114 | 10.35 | 10.355 | -0.0050 | +/-1.0 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701474
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1701474-CAL7 )** | | | Lab File ID: 19JAN18.D | | | Analyzed: 01/19/17 16:11 | | | |
| Pentafluorobenzene (IS) | 175453 | 6.7 | 210237 | 6.59 | 83 | 50 - 200 | 0.1100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 60053 | 9.71 | 76990 | 9.62 | 78 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 235065 | 7.49 | 296345 | 7.39 | 79 | 50 - 200 | 0.1000 | +/-0.50 | |
| **Cal Standard (1701474-CAL8 )** | | | Lab File ID: 19JAN19.D | | | Analyzed: 01/19/17 16:34 | | | |
| Pentafluorobenzene (IS) | 177670 | 6.7 | 210237 | 6.59 | 85 | 50 - 200 | 0.1100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 59933 | 9.71 | 76990 | 9.62 | 78 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 227559 | 7.49 | 296345 | 7.39 | 77 | 50 - 200 | 0.1000 | +/-0.50 | |
| **Cal Standard (1701474-CAL9 )** | | | Lab File ID: 19JAN20.D | | | Analyzed: 01/19/17 16:57 | | | |
| Pentafluorobenzene (IS) | 169644 | 6.7 | 210237 | 6.59 | 81 | 50 - 200 | 0.1100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 58457 | 9.71 | 76990 | 9.62 | 76 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 229460 | 7.5 | 296345 | 7.39 | 77 | 50 - 200 | 0.1100 | +/-0.50 | |
| **Cal Standard (1701474-CALA )** | | | Lab File ID: 19JAN21.D | | | Analyzed: 01/19/17 17:21 | | | |
| Pentafluorobenzene (IS) | 175784 | 6.7 | 210237 | 6.59 | 84 | 50 - 200 | 0.1100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 62441 | 9.71 | 76990 | 9.62 | 81 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 235136 | 7.5 | 296345 | 7.39 | 79 | 50 - 200 | 0.1100 | +/-0.50 | |
| **Cal Standard (1701474-CALB )** | | | Lab File ID: 19JAN22.D | | | Analyzed: 01/19/17 17:44 | | | |
| Pentafluorobenzene (IS) | 174743 | 6.7 | 210237 | 6.59 | 83 | 50 - 200 | 0.1100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 60963 | 9.72 | 76990 | 9.62 | 79 | 50 - 200 | 0.1000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 237830 | 7.49 | 296345 | 7.39 | 80 | 50 - 200 | 0.1000 | +/-0.50 | |
| **Cal Standard (1701474-CALC )** | | | Lab File ID: 19JAN23.D | | | Analyzed: 01/19/17 18:07 | | | |
| Pentafluorobenzene (IS) | 175108 | 6.71 | 210237 | 6.59 | 83 | 50 - 200 | 0.1200 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 61597 | 9.71 | 76990 | 9.62 | 80 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 235631 | 7.49 | 296345 | 7.39 | 80 | 50 - 200 | 0.1000 | +/-0.50 | |
| **Cal Standard (1701474-CAL1 )** | | | Lab File ID: 26JAN06.D | | | Analyzed: 01/26/17 16:07 | | | |
| Pentafluorobenzene (IS) | 220247 | 6.58 | 210237 | 6.59 | 105 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 74437 | 9.62 | 76990 | 9.62 | 97 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 307137 | 7.39 | 296345 | 7.39 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701474
Instrument: MS-V5
Matrix: Water
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Cal Standard (1701474-CAL2 )** | | | Lab File ID: 26JAN07.D | | | Analyzed: 01/26/17 16:30 | | | |
| Pentafluorobenzene (IS) | 220154 | 6.58 | 210237 | 6.59 | 105 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 72326 | 9.62 | 76990 | 9.62 | 94 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 293817 | 7.39 | 296345 | 7.39 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1701474-CAL3 )** | | | Lab File ID: 26JAN08.D | | | Analyzed: 01/26/17 16:53 | | | |
| Pentafluorobenzene (IS) | 205618 | 6.58 | 210237 | 6.59 | 98 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 69095 | 9.62 | 76990 | 9.62 | 90 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 296048 | 7.39 | 296345 | 7.39 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1701474-CAL5 )** | | | Lab File ID: 26JAN10.D | | | Analyzed: 01/26/17 17:39 | | | |
| Pentafluorobenzene (IS) | 205022 | 6.58 | 210237 | 6.59 | 98 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 71070 | 9.63 | 76990 | 9.62 | 92 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 294320 | 7.39 | 296345 | 7.39 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1701474-CAL6 )** | | | Lab File ID: 26JAN11.D | | | Analyzed: 01/26/17 18:02 | | | |
| Pentafluorobenzene (IS) | 209417 | 6.58 | 210237 | 6.59 | 100 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 67636 | 9.63 | 76990 | 9.62 | 88 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 306655 | 7.39 | 296345 | 7.39 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Cal Standard (1701474-CAL4 )** | | | Lab File ID: 26JAN14.D | | | Analyzed: 01/26/17 19:12 | | | |
| Pentafluorobenzene (IS) | 210237 | 6.59 | 210237 | 6.59 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 76990 | 9.62 | 76990 | 9.62 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 296345 | 7.39 | 296345 | 7.39 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701847
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Initial Cal Check (1701847-ICV2 )** | | | Lab File ID: 19JAN26.D | | | Analyzed: 01/19/17 19:16 | | | |
| Pentafluorobenzene (IS) | 177425 | 6.71 | 210237 | 6.59 | 84 | 50 - 200 | 0.1200 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 60379 | 9.71 | 76990 | 9.62 | 78 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 236134 | 7.49 | 296345 | 7.39 | 80 | 50 - 200 | 0.1000 | +/-0.50 | |
| **Initial Cal Blank (1701847-ICB2 )** | | | Lab File ID: 19JAN28.D | | | Analyzed: 01/19/17 20:02 | | | |
| Pentafluorobenzene (IS) | 180185 | 6.71 | 177425 | 6.71 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 60470 | 9.71 | 60379 | 9.71 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 236331 | 7.49 | 236134 | 7.49 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Initial Cal Check (1701847-ICV1 )** | | | Lab File ID: 26JAN15.D | | | Analyzed: 01/26/17 19:35 | | | |
| Pentafluorobenzene (IS) | 213388 | 6.58 | 210237 | 6.59 | 101 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 73774 | 9.62 | 76990 | 9.62 | 96 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 304652 | 7.39 | 296345 | 7.39 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Initial Cal Blank (1701847-ICB1 )** | | | Lab File ID: 26JAN17.D | | | Analyzed: 01/26/17 20:23 | | | |
| Pentafluorobenzene (IS) | 218750 | 6.59 | 213388 | 6.58 | 103 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 72255 | 9.62 | 73774 | 9.62 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 295229 | 7.39 | 304652 | 7.39 | 97 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701847-CCV1 )** | | | Lab File ID: 01FEB56.D | | | Analyzed: 02/02/17 06:44 | | | |
| Pentafluorobenzene (IS) | 200114 | 6.58 | 210237 | 6.59 | 95 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 70441 | 9.63 | 76990 | 9.62 | 91 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 277909 | 7.39 | 296345 | 7.39 | 94 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701847-CCV4 )** | | | Lab File ID: 02FEB33.D | | | Analyzed: 02/02/17 18:48 | | | |
| Pentafluorobenzene (IS) | 215031 | 6.59 | 210237 | 6.59 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 72334 | 9.63 | 76990 | 9.62 | 94 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 294255 | 7.39 | 296345 | 7.39 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1701847-CCB2 )** | | | Lab File ID: 02FEB34.D | | | Analyzed: 02/02/17 19:12 | | | |
| Pentafluorobenzene (IS) | 222652 | 6.58 | 215031 | 6.59 | 104 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 72670 | 9.62 | 72334 | 9.63 | 100 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 311202 | 7.39 | 294255 | 7.39 | 106 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701847
Instrument: MS-V5
Matrix: Water
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Blank (B[B0138-BLK1 )** | | | Lab File ID: 02FEB35.D | | | Analyzed: 02/02/17 19:35 | | | |
| Pentafluorobenzene (IS) | 222683 | 6.59 | 215031 | 6.59 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 77365 | 9.63 | 72334 | 9.63 | 107 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 296419 | 7.39 | 294255 | 7.39 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| **EB03_170131 (1702734-01 )** | | | Lab File ID: 02FEB50.D | | | Analyzed: 02/03/17 01:27 | | | |
| Pentafluorobenzene (IS) | 219375 | 6.59 | 215031 | 6.59 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 74853 | 9.62 | 72334 | 9.63 | 103 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 297382 | 7.39 | 294255 | 7.39 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| **EB04_170131 (1702734-02 )** | | | Lab File ID: 02FEB51.D | | | Analyzed: 02/03/17 01:50 | | | |
| Pentafluorobenzene (IS) | 218359 | 6.58 | 215031 | 6.59 | 102 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 74361 | 9.62 | 72334 | 9.63 | 103 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 306111 | 7.39 | 294255 | 7.39 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |
| **M002A-R_170131 (1702734-03 )** | | | Lab File ID: 02FEB52.D | | | Analyzed: 02/03/17 02:14 | | | |
| Pentafluorobenzene (IS) | 215862 | 6.59 | 215031 | 6.59 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 68286 | 9.63 | 72334 | 9.63 | 94 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 297840 | 7.39 | 294255 | 7.39 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| **M003E-R_170131 (1702734-04 )** | | | Lab File ID: 02FEB53.D | | | Analyzed: 02/03/17 02:37 | | | |
| Pentafluorobenzene (IS) | 217658 | 6.58 | 215031 | 6.59 | 101 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 71738 | 9.63 | 72334 | 9.63 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 296917 | 7.39 | 294255 | 7.39 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| **M026A-R_170131 (1702734-05 )** | | | Lab File ID: 02FEB54.D | | | Analyzed: 02/03/17 03:00 | | | |
| Pentafluorobenzene (IS) | 209828 | 6.58 | 215031 | 6.59 | 98 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 69483 | 9.62 | 72334 | 9.63 | 96 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 288084 | 7.39 | 294255 | 7.39 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| **M028A-R_170131 (1702734-06 )** | | | Lab File ID: 02FEB55.D | | | Analyzed: 02/03/17 03:24 | | | |
| Pentafluorobenzene (IS) | 206732 | 6.58 | 215031 | 6.59 | 96 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 65082 | 9.62 | 72334 | 9.63 | 90 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 280047 | 7.39 | 294255 | 7.39 | 95 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701847
Instrument: MS-V5
Matrix: Water
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **M034A-R_170131 (1702734-07 )** | | | Lab File ID: 02FEB56.D | | | Analyzed: 02/03/17 03:47 | | | |
| Pentafluorobenzene (IS) | 203109 | 6.59 | 215031 | 6.59 | 94 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 63690 | 9.62 | 72334 | 9.63 | 88 | 50 - 200 | -0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 270454 | 7.39 | 294255 | 7.39 | 92 | 50 - 200 | 0.0000 | +/-0.50 | |
| **LCS (B[B0138-BS1 )** | | | Lab File ID: 02FEB58.D | | | Analyzed: 02/03/17 04:34 | | | |
| Pentafluorobenzene (IS) | 211025 | 6.58 | 215031 | 6.59 | 98 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 74488 | 9.63 | 72334 | 9.63 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 304610 | 7.39 | 294255 | 7.39 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Matrix Spike (B[B0138-MS1 )** | | | Lab File ID: 02FEB59.D | | | Analyzed: 02/03/17 04:58 | | | |
| Pentafluorobenzene (IS) | 212293 | 6.59 | 215031 | 6.59 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 73706 | 9.63 | 72334 | 9.63 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 299203 | 7.39 | 294255 | 7.39 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Matrix Spike Dup (B[B0138-MSD1 )** | | | Lab File ID: 02FEB60.D | | | Analyzed: 02/03/17 05:21 | | | |
| Pentafluorobenzene (IS) | 213101 | 6.58 | 215031 | 6.59 | 99 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 75523 | 9.63 | 72334 | 9.63 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 289504 | 7.39 | 294255 | 7.39 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701847-CCV5 )** | | | Lab File ID: 03FEB02.D | | | Analyzed: 02/03/17 06:09 | | | |
| Pentafluorobenzene (IS) | 193061 | 6.58 | 210237 | 6.59 | 92 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 65068 | 9.62 | 76990 | 9.62 | 85 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 274934 | 7.39 | 296345 | 7.39 | 93 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701847-CCV6 )** | | | Lab File ID: 03FEB03.D | | | Analyzed: 02/03/17 06:32 | | | |
| Pentafluorobenzene (IS) | 220747 | 6.58 | 210237 | 6.59 | 105 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 77878 | 9.62 | 76990 | 9.62 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 309535 | 7.39 | 296345 | 7.39 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1701847-CCB3 )** | | | Lab File ID: 03FEB04.D | | | Analyzed: 02/03/17 06:56 | | | |
| Pentafluorobenzene (IS) | 232513 | 6.58 | 220747 | 6.58 | 105 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 77813 | 9.63 | 77878 | 9.62 | 100 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 309343 | 7.39 | 309535 | 7.39 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701900
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **Initial Cal Check (1701900-ICV2 )** | | | Lab File ID: 19JAN26.D | | | Analyzed: 01/19/17 19:16 | | | |
| Pentafluorobenzene (IS) | 177425 | 6.71 | 210237 | 6.59 | 84 | 50 - 200 | 0.1200 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 60379 | 9.71 | 76990 | 9.62 | 78 | 50 - 200 | 0.0900 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 236134 | 7.49 | 296345 | 7.39 | 80 | 50 - 200 | 0.1000 | +/-0.50 | |
| **Initial Cal Blank (1701900-ICB2 )** | | | Lab File ID: 19JAN28.D | | | Analyzed: 01/19/17 20:02 | | | |
| Pentafluorobenzene (IS) | 180185 | 6.71 | 177425 | 6.71 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 60470 | 9.71 | 60379 | 9.71 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 236331 | 7.49 | 236134 | 7.49 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Initial Cal Check (1701900-ICV1 )** | | | Lab File ID: 26JAN15.D | | | Analyzed: 01/26/17 19:35 | | | |
| Pentafluorobenzene (IS) | 213388 | 6.58 | 210237 | 6.59 | 101 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 73774 | 9.62 | 76990 | 9.62 | 96 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 304652 | 7.39 | 296345 | 7.39 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Initial Cal Blank (1701900-ICB1 )** | | | Lab File ID: 26JAN17.D | | | Analyzed: 01/26/17 20:23 | | | |
| Pentafluorobenzene (IS) | 218750 | 6.59 | 213388 | 6.58 | 103 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 72255 | 9.62 | 73774 | 9.62 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 295229 | 7.39 | 304652 | 7.39 | 97 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701900-CCV1 )** | | | Lab File ID: 03FEB02.D | | | Analyzed: 02/03/17 06:09 | | | |
| Pentafluorobenzene (IS) | 193061 | 6.58 | 210237 | 6.59 | 92 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 65068 | 9.62 | 76990 | 9.62 | 85 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 274934 | 7.39 | 296345 | 7.39 | 93 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701900-CCV2 )** | | | Lab File ID: 03FEB03.D | | | Analyzed: 02/03/17 06:32 | | | |
| Pentafluorobenzene (IS) | 220747 | 6.58 | 210237 | 6.59 | 105 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 77878 | 9.62 | 76990 | 9.62 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 309535 | 7.39 | 296345 | 7.39 | 104 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1701900-CCB1 )** | | | Lab File ID: 03FEB04.D | | | Analyzed: 02/03/17 06:56 | | | |
| Pentafluorobenzene (IS) | 232513 | 6.58 | 220747 | 6.58 | 105 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 77813 | 9.63 | 77878 | 9.62 | 100 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 309343 | 7.39 | 309535 | 7.39 | 100 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INTERNAL STANDARD AREA AND RT SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Sequence: 1701900
Instrument: MS-V5
Matrix: Water
Calibration: 1701019

| Internal Standard | Response | RT | Reference Response | Reference RT | Area % | Area % Limits | RT Diff | RT Diff Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| **M034A-R_170131 (1702734-07RE1 )** | | | Lab File ID: 03FEB05.D | | | Analyzed: 02/03/17 07:19 | | | |
| Pentafluorobenzene (IS) | 222572 | 6.59 | 220747 | 6.58 | 101 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 72787 | 9.63 | 77878 | 9.62 | 93 | 50 - 200 | 0.0100 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 302469 | 7.39 | 309535 | 7.39 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| **M034A-R_170131 (1702734-07RE2 )** | | | Lab File ID: 03FEB07.D | | | Analyzed: 02/03/17 08:06 | | | |
| Pentafluorobenzene (IS) | 234171 | 6.59 | 220747 | 6.58 | 106 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 78634 | 9.62 | 77878 | 9.62 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 317775 | 7.39 | 309535 | 7.39 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| **TB02_170131 (1702734-08 )** | | | Lab File ID: 03FEB11.D | | | Analyzed: 02/03/17 09:39 | | | |
| Pentafluorobenzene (IS) | 225837 | 6.58 | 220747 | 6.58 | 102 | 50 - 200 | 0.0000 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 77474 | 9.62 | 77878 | 9.62 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 317317 | 7.39 | 309535 | 7.39 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701900-CCV3 )** | | | Lab File ID: 03FEB23.D | | | Analyzed: 02/03/17 14:20 | | | |
| Pentafluorobenzene (IS) | 218291 | 6.58 | 210237 | 6.59 | 104 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 73571 | 9.62 | 76990 | 9.62 | 96 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 306296 | 7.39 | 296345 | 7.39 | 103 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Check (1701900-CCV4 )** | | | Lab File ID: 03FEB24.D | | | Analyzed: 02/03/17 14:43 | | | |
| Pentafluorobenzene (IS) | 218915 | 6.58 | 210237 | 6.59 | 104 | 50 - 200 | -0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 76129 | 9.62 | 76990 | 9.62 | 99 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 300385 | 7.39 | 296345 | 7.39 | 101 | 50 - 200 | 0.0000 | +/-0.50 | |
| **Calibration Blank (1701900-CCB2 )** | | | Lab File ID: 03FEB25.D | | | Analyzed: 02/03/17 15:07 | | | |
| Pentafluorobenzene (IS) | 224242 | 6.59 | 218915 | 6.58 | 102 | 50 - 200 | 0.0100 | +/-0.50 | |
| Chlorobenzene-d5 (IS) | 74911 | 9.62 | 76129 | 9.62 | 98 | 50 - 200 | 0.0000 | +/-0.50 | |
| 1,4-Difluorobenzene (IS) | 318211 | 7.39 | 300385 | 7.39 | 106 | 50 - 200 | 0.0000 | +/-0.50 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION STANDARDS

## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Sequence: 1701474
Calibration: 1701019

SDG: 17-02734
Project: Alameda
Instrument: MS-V5

| Standard ID | Description | Lab Sample ID | Lab File ID | Analysis Date/Time |
|---|---|---|---|---|
| 7A05057 | 8260 V5 BFB 25NG | 1701474-TUN2 | 19JAN04.D | 01/19/17 10:40 |
| 7A20016 | 8260 V5 1701007 XIC1 | 1701474-CAL7 | 19JAN18.D | 01/19/17 16:11 |
| 7A20017 | 8260 V5 1701007 XIC2 | 1701474-CAL8 | 19JAN19.D | 01/19/17 16:34 |
| 7A20018 | 8260 V5 1701007 XIC3 | 1701474-CAL9 | 19JAN20.D | 01/19/17 16:57 |
| 7A20019 | 8260 V5 1701007 XIC4 | 1701474-CALA | 19JAN21.D | 01/19/17 17:21 |
| 7A20020 | 8260 V5 1701007 XIC5 | 1701474-CALB | 19JAN22.D | 01/19/17 17:44 |
| 7A20021 | 8260 V5 1701007 XIC6 | 1701474-CALC | 19JAN23.D | 01/19/17 18:07 |
| 7A05057 | 8260 V5 BFB 25NG | 1701474-TUN1 | 26JAN03.D | 01/26/17 12:01 |
| 7A26048 | 8260 V5 1701474 IC1 | 1701474-CAL1 | 26JAN06.D | 01/26/17 16:07 |
| 7A26049 | 8260 V5 1701474 IC2 | 1701474-CAL2 | 26JAN07.D | 01/26/17 16:30 |
| 7A26050 | 8260 V5 1701474 IC3 | 1701474-CAL3 | 26JAN08.D | 01/26/17 16:53 |
| 7A26052 | 8260 V5 1701474 IC5 | 1701474-CAL5 | 26JAN10.D | 01/26/17 17:39 |
| 7A26053 | 8260 V5 1701474 IC6 | 1701474-CAL6 | 26JAN11.D | 01/26/17 18:02 |
| 7A26051 | 8260 V5 1701474 IC4 | 1701474-CAL4 | 26JAN14.D | 01/26/17 19:12 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Benzene | 0.5 | 2.001299 | 1 | 2.095124 | 10 | 1.998001 | 25 | 1.813917 | 50 | 1.805429 | 100 | 1.622498 |
| Bromobenzene | 0.5 | 1.235138 | 1 | 1.233305 | 10 | 1.314683 | 25 | 1.165975 | 50 | 1.096814 | 100 | 1.03003 |
| Bromochloromethane | 0.5 | 0.1425672 | 1 | 0.1325436 | 10 | 0.1711621 | 25 | 0.1646656 | 50 | 0.1627728 | 100 | 0.154593 |
| Bromodichloromethane | 0.5 | 0.3039686 | 1 | 0.3564123 | 10 | 0.3451298 | 25 | 0.3562253 | 50 | 0.3208134 | 100 | 0.2925043 |
| Bromoform | 0.5 | 0.2880288 | 1 | 0.2935321 | 10 | 0.3894204 | 25 | 0.3803455 | 50 | 0.3835852 | 100 | 0.3692516 |
| Bromomethane | 0.5 | 0.3263609 | 1 | 0.2894338 | 10 | 0.3174722 | 25 | 0.3148428 | 50 | 0.3352665 | 100 | 0.3246742 |
| n-Butylbenzene | 0.5 | 3.799186 | 1 | 3.935929 | 10 | 3.945626 | 25 | 3.241273 | 50 | 3.207154 | 100 | 2.832412 |
| sec-Butylbenzene | 0.5 | 6.128404 | 1 | 5.946271 | 10 | 5.702019 | 25 | 4.595516 | 50 | 4.524348 | 100 | ~~3.86744~~ |
| tert-Butylbenzene | 0.5 | 4.422263 | 1 | 4.154523 | 10 | 4.063275 | 25 | 3.618345 | 50 | 3.62728 | 100 | 3.227521 |
| Carbon tetrachloride | 0.5 | 0.5077027 | 1 | 0.4617677 | 10 | 0.4844907 | 25 | 0.4578262 | 50 | 0.4643785 | 100 | 0.4369645 |
| Chlorobenzene | 0.5 | 3.403415 | 1 | 3.032519 | 10 | 3.204125 | 25 | 2.822689 | 50 | 2.805949 | 100 | 2.599626 |
| Chloroethane | 0.5 | 0.3998238 | 1 | 0.4016734 | 10 | 0.4094729 | 25 | 0.3785956 | 50 | 0.3854055 | 100 | 0.3667295 |
| Chloroform | 0.5 | 0.7843921 | 1 | 0.7785005 | 10 | 0.807726 | 25 | 0.7485419 | 50 | 0.7363083 | 100 | 0.6736125 |
| Chloromethane | 0.5 | 0.8379683 | 1 | 0.7822706 | 10 | 0.7263955 | 25 | 0.5612485 | 50 | 0.6787272 | 100 | 0.6073041 |
| 2-Chlorotoluene | 0.5 | 3.913108 | 1 | 4.135581 | 10 | 4.180331 | 25 | 3.40969 | 50 | 3.352137 | 100 | 3.005263 |
| 4-Chlorotoluene | 0.5 | 3.679622 | 1 | 3.680004 | 10 | 3.650988 | 25 | 3.096584 | 50 | 3.016066 | 100 | 2.589454 |
| Dibromochloromethane | 0.5 | 0.1342072 | 1 | 0.1716034 | 10 | 0.182467 | 25 | 0.1914998 | 50 | 0.1804288 | 100 | 0.1648377 |
| 1,2-Dibromo-3-chloropropane | 0.5 | 3.895912E-02 | 1 | 5.295468E-02 | 10 | 8.012157E-02 | 25 | 0.0787323 | 50 | 7.379204E-02 | 100 | 7.528387E-02 |
| 1,2-Dibromoethane | 0.5 | 0.1336863 | 1 | 0.1367178 | 10 | 0.1480571 | 25 | 0.1507689 | 50 | 0.1407957 | 100 | 0.1240433 |
| Dibromomethane | 0.5 | 0.1271745 | 1 | 0.1174541 | 10 | 0.1114515 | 25 | 0.1179693 | 50 | 0.1072479 | 100 | 9.816732E-02 |
| 1,2-Dichlorobenzene | 0.5 | 2.013515 | 1 | 1.889639 | 10 | 1.776988 | 25 | 1.627884 | 50 | 1.504987 | 100 | 1.346993 |
| 1,3-Dichlorobenzene | 0.5 | 2.385104 | 1 | 2.233775 | 10 | 2.130371 | 25 | 1.857124 | 50 | 1.735571 | 100 | ~~1.491212~~ |
| 1,4-Dichlorobenzene | 0.5 | 1.946344 | 1 | 2.30263 | 10 | 2.087517 | 25 | 1.848552 | 50 | 1.760416 | 100 | 1.551786 |
| Dichlorodifluoromethane | 0.5 | 0.5168742 | 1 | 0.5226796 | 10 | 0.485405 | 25 | 0.4207518 | 50 | 0.4655754 | 100 | 0.4479589 |
| 1,1-Dichloroethane | 0.5 | 1.107756 | 1 | 1.088874 | 10 | 1.102973 | 25 | 0.9868425 | 50 | 0.9803533 | 100 | 0.9191498 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| 1,2-Dichloroethane | 0.5 | 0.4109931 | 1 | 0.4806181 | 10 | 0.4661897 | 25 | 0.4574951 | 50 | 0.4285013 | 100 | 0.3855169 |
| 1,1-Dichloroethene | 0.5 | 0.822077 | 1 | 0.8447269 | 10 | 0.830404 | 25 | 0.7319283 | 50 | 0.7397421 | 100 | 0.6910743 |
| cis-1,2-Dichloroethene | 0.5 | 0.4787352 | 1 | 0.465674 | 10 | 0.49377 | 25 | 0.4734238 | 50 | 0.4573558 | 100 | 0.430678 |
| trans-1,2-Dichloroethene | 0.5 | 0.5134236 | 1 | 0.4547271 | 10 | 0.4717729 | 25 | 0.4184687 | 50 | 0.4370799 | 100 | 0.4061514 |
| Total 1,2-Dichloroethene | 1 | 0.4960794 | 2 | 0.4602006 | 20 | 0.4827714 | 50 | 0.4459462 | 100 | 0.4472179 | 200 | 0.4184147 |
| 1,2-Dichloropropane | 0.5 | 0.3695419 | 1 | 0.4161093 | 10 | 0.3856841 | 25 | 0.3855709 | 50 | 0.3571677 | 100 | 0.3198885 |
| 1,3-Dichloropropane | 0.5 | 0.2666562 | 1 | 0.2813996 | 10 | 0.2688449 | 25 | 0.2920285 | 50 | 0.2572662 | 100 | 0.234033 |
| 2,2-Dichloropropane | 0.5 | 0.6856847 | 1 | 0.694105 | 10 | 0.685368 | 25 | 0.5956744 | 50 | 0.6303353 | 100 | 0.5857332 |
| 1,1-Dichloropropene | 0.5 | 0.6661612 | 1 | 0.6603559 | 10 | 0.6514751 | 25 | 0.5887013 | 50 | 0.577937 | 100 | 0.5343898 |
| cis-1,3-Dichloropropene | 0.5 | 0.4324455 | 1 | 0.4859147 | 10 | 0.4515889 | 25 | 0.4616187 | 50 | 0.417184 | 100 | 0.3694562 |
| trans-1,3-Dichloropropene | 0.5 | 0.2934847 | 1 | 0.3018546 | 10 | 0.3177998 | 25 | 0.3282147 | 50 | 0.2922465 | 100 | 0.267436 |
| Total 1,3-Dichloropropene | 1 | 0.3629651 | 2 | 0.3938846 | 20 | 0.3846944 | 50 | 0.3949167 | 100 | 0.3547153 | 200 | 0.3184461 |
| Ethylbenzene | 0.5 | 1.998469 | 1 | 1.919642 | 10 | 1.822346 | 25 | 1.555085 | 50 | 1.559384 | 100 | 1.339764 |
| Hexachlorobutadiene | 0.5 | 0.8608622 | 1 | 0.9649365 | 10 | 0.8274984 | 25 | 0.6743993 | 50 | 0.7067595 | 100 | 0.7733293 |
| Isopropylbenzene | 0.5 | 5.541599 | 1 | 5.735282 | 10 | 5.562761 | 25 | 4.617893 | 50 | 4.485209 | 100 | ~~3.88485~~ |
| p-Isopropyltoluene | 0.5 | 4.370139 | 1 | 4.541797 | 10 | 4.403227 | 25 | 3.50592 | 50 | 3.503481 | 100 | ~~2.972745~~ |
| Methylene chloride | 0.5 | 1.380813 | 1 | 0.6020785 | 10 | 0.4907061 | 25 | 0.4037044 | 50 | 0.3786286 | 100 | 0.3527932 |
| Methyl t-butyl ether | 0.5 | 0.620576 | 1 | 0.5944021 | 10 | 0.6643339 | 25 | 0.6932177 | 50 | 0.6343534 | 100 | 0.5647101 |
| Naphthalene | 0.5 | 0.995204 | 1 | 0.996737 | 10 | 1.150575 | 25 | 1.26631 | 50 | 1.223878 | 100 | 1.343888 |
| n-Propylbenzene | 0.5 | 6.643739 | 1 | 6.607306 | 10 | 6.34069 | 25 | 5.187874 | 50 | 5.019322 | 100 | ~~4.296814~~ |
| Styrene | 0.5 | 2.962237 | 1 | 3.059481 | 10 | 3.303756 | 25 | 2.912087 | 50 | 2.761897 | 100 | 2.402163 |
| 1,1,1,2-Tetrachloroethane | 0.5 | 1.045717 | 1 | 0.9335509 | 10 | 1.031739 | 25 | 0.8899909 | 50 | 0.8747263 | 100 | 0.7813369 |
| 1,1,2,2-Tetrachloroethane | 0.5 | 0.4779881 | 1 | 0.5739292 | 10 | 0.6053115 | 25 | 0.5986648 | 50 | 0.5656142 | 100 | 0.514204 |
| Tetrachloroethene | 0.5 | 0.406138 | 1 | 0.3933741 | 10 | 0.3359388 | 25 | 0.3169185 | 50 | 0.3112157 | 100 | 0.283893 |
| Toluene | 0.5 | 0.8762214 | 1 | 0.8889887 | 10 | 0.7874331 | 25 | 0.7579031 | 50 | 0.7340921 | 100 | 0.6340213 |
| 1,2,3-Trichlorobenzene | 0.5 | 1.113693 | 1 | 1.202472 | 10 | 1.312367 | 25 | 1.172028 | 50 | 1.14853 | 100 | 1.219963 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| 1,2,4-Trichlorobenzene | 0.5 | 1.113693 | 1 | 1.202472 | 10 | 1.312367 | 25 | 1.172028 | 50 | 1.14853 | 100 | 1.219963 |
| 1,1,1-Trichloroethane | 0.5 | 0.6923136 | 1 | 0.6673965 | 10 | 0.6767841 | 25 | 0.6122081 | 50 | 0.6120982 | 100 | 0.5780424 |
| 1,1,2-Trichloroethane | 0.5 | 0.1807662 | 1 | 0.141823 | 10 | 0.1556943 | 25 | 0.1617588 | 50 | 0.1464725 | 100 | 0.1333424 |
| Trichloroethene | 0.5 | 0.3552161 | 1 | 0.3431728 | 10 | 0.3314023 | 25 | 0.325283 | 50 | 0.3122907 | 100 | 0.2860576 |
| Trichlorofluoromethane | 0.5 | 0.6536298 | 1 | 0.6396432 | 10 | 0.5947437 | 25 | 0.5430728 | 50 | 0.5589381 | 100 | 0.5307153 |
| 1,2,3-Trichloropropane | 0.5 | 6.824563E-02 | 1 | 9.885795E-02 | 10 | 0.1319488 | 25 | 0.1216781 | 50 | 0.1086731 | 100 | 0.1026184 |
| 1,1,2-Trichloro-1,2,2-trifluoroethan | 0.5 | 0.4622083 | 1 | 0.4936999 | 10 | 0.4101976 | 25 | 0.3755476 | 50 | 0.3851518 | 100 | 0.3830124 |
| 1,2,4-Trimethylbenzene | 0.5 | 4.004191 | 1 | 3.987501 | 10 | 4.061929 | 25 | 3.387905 | 50 | 3.272467 | 100 | 2.872534 |
| 1,3,5-Trimethylbenzene | 0.5 | 4.453162 | 1 | 4.32265 | 10 | 4.183573 | 25 | 3.511978 | 50 | 3.38121 | 100 | ~~2.864052~~ |
| Vinyl chloride | 0.5 | 0.6796914 | 1 | 0.6803874 | 10 | 0.6002247 | 25 | 0.500264 | 50 | 0.5785057 | 100 | 0.5360639 |
| Total Xylenes | 1.5 | 2.24521 | 3 | 2.17529 | 30 | 2.169568 | 75 | 1.863115 | 150 | 1.843755 | 300 | 1.631824 |
| Total Trihalomethanes | 2 | 8219.5 | 4 | 8694 | 40 | 8729.6 | 100 | 8724.24 | 200 | 8143.66 | 400 | 7657.17 |
| Acetone | | | | | | | | | | | | |
| Acetonitrile | | | | | | | | | | | | |
| Acrolein | | | | | | | | | | | | |
| Acrylonitrile | | | | | | | | | | | | |
| Allyl chloride | | | | | | | | | | | | |
| t-Amyl Alcohol | | | | | | | | | | | | |
| t-Amyl Methyl ether | | | | | | | | | | | | |
| Benzyl chloride | | | | | | | | | | | | |
| t-Butyl alcohol | | | | | | | | | | | | |
| Carbon disulfide | | | | | | | | | | | | |
| 2-Chloroethyl vinyl ether | 2 | 9.966237E-02 | 4 | 0.1032701 | 40 | 0.1104221 | 100 | 0.1195954 | 200 | 0.1023104 | 400 | 9.026862E-02 |
| Chloroprene | | | | | | | | | | | | |
| Chlorotrifluoroethene | | | | | | | | | | | | |
| Cyclohexane | | | | | | | | | | | | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Cyclohexanone | | | | | | | | | | | | |
| trans-1,4-Dichloro-2-butene | | | | | | | | | | | | |
| 1,2-Dichlorotrifluoroethane | | | | | | | | | | | | |
| 2,2-Dichloro-1,1,1-trifluoroethane | | | | | | | | | | | | |
| Diethyl ether | | | | | | | | | | | | |
| Diisopropyl ether | | | | | | | | | | | | |
| 1,4-Dioxane | | | | | | | | | | | | |
| Ethanol | | | | | | | | | | | | |
| Ethyl Amyl Ketone | | | | | | | | | | | | |
| Ethyl methacrylate | | | | | | | | | | | | |
| Ethyl t-butyl ether | | | | | | | | | | | | |
| Hexachloroethane | 0.5 | 0.6636485 | 1 | 0.674308 | 10 | 0.8036327 | 25 | 0.7136875 | 50 | 0.7169495 | 100 | 0.6525504 |
| Hexane | | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | | |
| Isobutanol | | | | | | | | | | | | |
| Isopropyl alcohol | | | | | | | | | | | | |
| Methacrylonitrile | | | | | | | | | | | | |
| Methyl acetate | | | | | | | | | | | | |
| Methylcyclohexane | | | | | | | | | | | | |
| Methyl ethyl ketone | | | | | | | | | | | | |
| 5-Methyl-3-heptanone | | | | | | | | | | | | |
| Methyl iodide | | | | | | | | | | | | |
| Methyl isobutyl ketone | | | | | | | | | | | | |
| Methyl methacrylate | | | | | | | | | | | | |
| Pentachloroethane | | | | | | | | | | | | |
| Propionitrile | | | | | | | | | | | | |

AMEC Environmental & Infrastructure
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San Diego, CA 92123

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# INITIAL CALIBRATION DATA
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Tetrahydrofuran | | | | | | | | | | | | |
| Vinyl acetate | | | | | | | | | | | | |
| p- & m-Xylenes | 1 | 2.334995 | 2 | 2.206122 | 20 | 2.207287 | 50 | 1.86021 | 100 | 1.846253 | 200 | 1.615567 |
| o-Xylene | 0.5 | 2.065639 | 1 | 2.113624 | 10 | 2.094131 | 25 | 1.868923 | 50 | 1.838759 | 100 | 1.664337 |
| 1,2-Dichloroethane-d4 (Surrogate) | 10 | 0.2973525 | 10 | 0.2996357 | 10 | 0.3100069 | 10 | 0.3141835 | 10 | 0.2929637 | 10 | 0.2610772 |
| Toluene-d8 (Surrogate) | 10 | 1.132547 | 10 | 1.15171 | 10 | 1.124811 | 10 | 1.157786 | 10 | 1.153517 | 10 | 1.108464 |
| 4-Bromofluorobenzene (Surrogate) | 10 | 1.327082 | 10 | 1.358059 | 10 | 1.440958 | 10 | 1.403026 | 10 | 1.400549 | 10 | 1.344476 |

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San Diego, CA 92123

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Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Benzene | | | | | | | | | | | | |
| Bromobenzene | | | | | | | | | | | | |
| Bromochloromethane | | | | | | | | | | | | |
| Bromodichloromethane | | | | | | | | | | | | |
| Bromoform | | | | | | | | | | | | |
| Bromomethane | | | | | | | | | | | | |
| n-Butylbenzene | | | | | | | | | | | | |
| sec-Butylbenzene | | | | | | | | | | | | |
| tert-Butylbenzene | | | | | | | | | | | | |
| Carbon tetrachloride | | | | | | | | | | | | |
| Chlorobenzene | | | | | | | | | | | | |
| Chloroethane | | | | | | | | | | | | |
| Chloroform | | | | | | | | | | | | |
| Chloromethane | | | | | | | | | | | | |
| 2-Chlorotoluene | | | | | | | | | | | | |
| 4-Chlorotoluene | | | | | | | | | | | | |
| Dibromochloromethane | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | | | | | | | | | | | | |
| 1,2-Dibromoethane | | | | | | | | | | | | |
| Dibromomethane | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | | |
| Dichlorodifluoromethane | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | | | |

AMEC Environmental & Infrastructure
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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
Client: AMEC Environmental & Infrastructure $AMCN
Calibration: 1701019
Matrix: Water

SDG: 17-02734
Project: Alameda
Instrument: MS-V5
Calibration Date: 01/19/17 17:21

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| 1,2-Dichloroethane | | | | | | | | | | | | |
| 1,1-Dichloroethene | | | | | | | | | | | | |
| cis-1,2-Dichloroethene | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | | | | | | | | | | | | |
| Total 1,2-Dichloroethene | | | | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | | | |
| 1,3-Dichloropropane | | | | | | | | | | | | |
| 2,2-Dichloropropane | | | | | | | | | | | | |
| 1,1-Dichloropropene | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | | |
| Total 1,3-Dichloropropene | | | | | | | | | | | | |
| Ethylbenzene | | | | | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | | | | | |
| Isopropylbenzene | | | | | | | | | | | | |
| p-Isopropyltoluene | | | | | | | | | | | | |
| Methylene chloride | | | | | | | | | | | | |
| Methyl t-butyl ether | | | | | | | | | | | | |
| Naphthalene | | | | | | | | | | | | |
| n-Propylbenzene | | | | | | | | | | | | |
| Styrene | | | | | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | | | |
| Tetrachloroethene | | | | | | | | | | | | |
| Toluene | | | | | | | | | | | | |

AMEC Environmental & Infrastructure
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# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| 1,2,3-Trichlorobenzene | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | | | | |
| Trichloroethene | | | | | | | | | | | | |
| Trichlorofluoromethane | | | | | | | | | | | | |
| 1,2,3-Trichloropropane | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethan | | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | | | | | | | | | | | | |
| 1,3,5-Trimethylbenzene | | | | | | | | | | | | |
| Vinyl chloride | | | | | | | | | | | | |
| Total Xylenes | | | | | | | | | | | | |
| Total Trihalomethanes | | | | | | | | | | | | |
| Acetone | 16 | 4.880581E-02 | 64 | 5.230026E-02 | 160 | 4.642811E-02 | 320 | 4.676976E-02 | 480 | 4.621728E-02 | 800 | 4.605529E-02 |
| Acetonitrile | 8 | 2.093153E-02 | 32 | 2.338254E-02 | 80 | 2.359279E-02 | 160 | 0.0216018 | 240 | 2.217423E-02 | 400 | 2.145861E-02 |
| Acrolein | 10 | 2.009085E-02 | 40 | 2.151883E-02 | 100 | 2.408986E-02 | 200 | 2.131906E-02 | 320 | 2.264844E-02 | 500 | 2.216815E-02 |
| Acrylonitrile | 4 | 5.565593E-02 | 16 | 6.775905E-02 | 40 | 7.245467E-02 | 80 | 6.451028E-02 | 128 | 6.619543E-02 | 200 | 6.835639E-02 |
| Allyl chloride | 1.6 | 0.9780041 | 6.4 | 1.246728 | 16 | 1.157405 | 32 | 1.068444 | 48 | 1.025926 | 80 | 1.035523 |
| t-Amyl Alcohol | 50 | 1.071968E-02 | 800 | 9.521726E-03 | 1250 | 9.908231E-03 | 2500 | 1.027384E-02 | 5000 | 0.0102983 | 10000 | 9.877481E-03 |
| t-Amyl Methyl ether | 0.8 | 0.5838458 | 3.2 | 0.7221956 | 8 | 0.6673092 | 16 | 0.6696357 | 24 | 0.6793596 | 40 | 0.6744995 |
| Benzyl chloride | 1.6 | 0.6120635 | 6.4 | 0.7079781 | 16 | 0.7861975 | 32 | 0.7899657 | 48 | 0.8113699 | 80 | 0.858459 |
| t-Butyl alcohol | 40 | 1.215283E-02 | 160 | 1.235401E-02 | 400 | 1.203859E-02 | 800 | 1.233069E-02 | 1200 | 1.249897E-02 | 2000 | 1.266978E-02 |
| Carbon disulfide | 1.6 | 1.263871 | 6.4 | 1.460459 | 16 | 1.39403 | 32 | 1.304858 | 48 | 1.294889 | 80 | 1.290274 |
| 2-Chloroethyl vinyl ether | | | | | | | | | | | | |
| Chloroprene | 1.6 | 0.9199757 | 6.4 | 1.057473 | 16 | 1.06907 | 32 | 0.9491994 | 48 | 0.963571 | 80 | 0.952061 |

AMEC Environmental & Infrastructure
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Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Chlorotrifluoroethene | 0.5 | | 8 | | 12.5 | | 25 | | 50 | | 100 | |
| Cyclohexane | 0.5 | 0.9539877 | 8 | 1.169169 | 12.5 | 1.166561 | 25 | 1.138622 | 50 | 1.092162 | 100 | 1.05698 |
| Cyclohexanone | 20 | 4.619253E-02 | 80 | 6.051966E-02 | 200 | 6.029389E-02 | 400 | 5.774411E-02 | 640 | 5.608909E-02 | 1000 | 5.314106E-02 |
| trans-1,4-Dichloro-2-butene | 4 | 0.1070305 | 16 | 0.1485409 | 40 | 0.1584113 | 80 | 0.1463982 | 120 | 0.156379 | 200 | 0.1591709 |
| 1,2-Dichlorotrifluoroethane | 0.5 | 0.6390315 | 8 | 0.5805918 | 12.5 | 0.6030747 | 25 | 0.5574614 | 50 | 0.5664479 | 100 | 0.5616614 |
| 2,2-Dichloro-1,1,1-trifluoroethane | 0.5 | 0.8842254 | 8 | 0.909066 | 12.5 | 0.9189314 | 25 | 0.8668024 | 50 | 0.8602965 | 100 | 0.831753 |
| Diethyl ether | 0.5 | 0.2331109 | 8 | 0.2643384 | 12.5 | 0.2481762 | 25 | 0.2513812 | 50 | 0.2536124 | 100 | 0.2475958 |
| Diisopropyl ether | 0.8 | 0.3332089 | 3.2 | 0.314382 | 8 | 0.3253283 | 16 | 0.3081623 | 24 | 0.3184248 | 40 | 0.3214159 |
| 1,4-Dioxane | 100 | 7.576628E-04 | 400 | 8.573601E-04 | 1000 | 8.875621E-04 | 2000 | 8.746215E-04 | 3200 | 8.394126E-04 | 5000 | 8.562031E-04 |
| Ethanol | 200 | 1.51978E-03 | 800 | 1.975713E-03 | 2000 | 2.095152E-03 | 4000 | 1.989658E-03 | 6400 | 2.057566E-03 | 10000 | 2.000485E-03 |
| Ethyl Amyl Ketone | 0.5 | 0.3426973 | 8 | 0.4315027 | 12.5 | 0.4666815 | 25 | 0.437059 | 50 | 0.458652 | 100 | 0.4527818 |
| Ethyl methacrylate | 4 | 0.1634761 | 16 | 0.1877288 | 40 | 0.1720616 | 80 | 0.1750141 | 120 | 0.1664512 | 200 | 0.1710378 |
| Ethyl t-butyl ether | 0.8 | 1.115968 | 3.2 | 1.266639 | 8 | 1.260677 | 16 | 1.22162 | 24 | 1.243867 | 40 | 1.20877 |
| Hexachloroethane | | | | | | | | | | | | |
| Hexane | 0.5 | 0.5158077 | 8 | 0.6065247 | 12.5 | 0.630742 | 25 | 0.5948642 | 50 | 0.600016 | 100 | 0.5798102 |
| 2-Hexanone | 16 | 0.1015038 | 64 | 0.1077523 | 160 | 0.096522 | 320 | 0.0952078 | 480 | 0.0893138 | 800 | 8.627308E-02 |
| Isobutanol | 20 | 5.682433E-03 | 80 | 7.240952E-03 | 200 | 7.205088E-03 | 400 | 7.078858E-03 | 640 | 7.508884E-03 | 1000 | 7.773831E-03 |
| Isopropyl alcohol | 40 | 8.123258E-03 | 160 | 1.002772E-02 | 400 | 1.003425E-02 | 800 | 9.519496E-03 | 1280 | 9.691554E-03 | 2000 | 9.61992E-03 |
| Methacrylonitrile | 8 | 5.439491E-02 | 32 | 6.392117E-02 | 80 | 5.971255E-02 | 160 | 5.982164E-02 | 240 | 5.731155E-02 | 400 | 5.722797E-02 |
| Methyl acetate | 5 | 0.1485298 | 80 | 0.1455381 | 125 | 0.1495122 | 250 | 0.1440595 | 500 | 0.1397044 | 1000 | 0.1346896 |
| Methylcyclohexane | 0.5 | 0.6280816 | 8 | 0.7090798 | 12.5 | 0.6952706 | 25 | 0.6319832 | 50 | 0.6385881 | 100 | 0.5872878 |
| Methyl ethyl ketone | 8 | 7.803372E-02 | 32 | 8.706274E-02 | 80 | 8.169608E-02 | 160 | 8.341345E-02 | 240 | 8.199685E-02 | 400 | 7.961187E-02 |
| 5-Methyl-3-heptanone | 1 | 0.5245367 | 16 | 0.6074283 | 25 | 0.6138666 | 50 | 0.5716436 | 100 | 0.5606122 | 200 | 0.5289357 |
| Methyl iodide | 1.6 | ~~0.1862678~~ | 6.4 | 0.2512822 | 16 | 0.3070695 | 32 | 0.3380214 | 48 | 0.3490042 | 80 | 0.3776876 |
| Methyl isobutyl ketone | 8 | 0.1358986 | 32 | 0.1548692 | 80 | 0.140093 | 160 | 0.1413294 | 240 | 0.134765 | 400 | 0.1301262 |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
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Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF | ug/L | RF |
| Methyl methacrylate | 4 | 7.364984E-02 | 16 | 8.659018E-02 | 40 | 7.586072E-02 | 80 | 7.896281E-02 | 120 | 8.091879E-02 | 200 | 8.092144E-02 |
| Pentachloroethane | 0.8 | 0.4410687 | 3.2 | 0.3841269 | 8 | 0.4878586 | 16 | 0.325197 | 24 | 0.4799154 | 40 | 0.490864 |
| Propionitrile | 20 | 2.139604E-02 | 80 | 2.345008E-02 | 200 | 2.612441E-02 | 400 | 2.318243E-02 | 640 | 2.342655E-02 | 1000 | 0.0230773 |
| Tetrahydrofuran | 16 | 4.919409E-02 | 64 | 5.221408E-02 | 160 | 5.250333E-02 | 320 | 5.150053E-02 | 480 | 4.939146E-02 | 800 | 4.890368E-02 |
| Vinyl acetate | 8 | 0.6132198 | 32 | 0.6436793 | 80 | 0.6282296 | 160 | 0.5636043 | 240 | 0.5883209 | 400 | 0.5705399 |
| p- & m-Xylenes | | | | | | | | | | | | |
| o-Xylene | | | | | | | | | | | | |
| 1,2-Dichloroethane-d4 (Surrogate) | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| Toluene-d8 (Surrogate) | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 4-Bromofluorobenzene (Surrogate) | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1.889378 | 9.186342 | 6.94 | 5.634228E-03 | | | 15 | |
| Bromobenzene | 1.179324 | 8.781515 | 10.45 | 1.926087E-02 | | | 15 | |
| Bromochloromethane | 0.1547174 | 9.471048 | 6.183333 | 0.1673501 | | | 15 | |
| Bromodichloromethane | 0.3291756 | 8.350789 | 8.06 | 1.375235E-02 | | | 15 | |
| Bromoform | 0.3506939 | 13.37441 | 10.16 | 1.968264E-02 | | | SPCC (0.10) | |
| Bromomethane | 0.3180084 | 4.949792 | 2.436667 | 0.2126912 | | | 15 | |
| n-Butylbenzene | 3.493597 | 13.28005 | 11.23667 | 9.156336E-02 | | | 15 | |
| sec-Butylbenzene | 5.379312 | 14.19416 | 10.914 | 8.097688E-02 | | | 15 | |
| tert-Butylbenzene | 3.852201 | 11.35355 | 10.78333 | 5.100083E-02 | | | 15 | |
| Carbon tetrachloride | 0.4688551 | 5.191681 | 6.72 | 1.146183E-02 | | | 15 | |
| Chlorobenzene | 2.978054 | 9.869852 | 9.643333 | 4.988898E-02 | | | SPCC (0.30) | |
| Chloroethane | 0.3902835 | 4.138092 | 2.566667 | 0.2020673 | | | 15 | |
| Chloroform | 0.7548469 | 6.273066 | 6.331667 | 6.112167E-02 | | | CCC (20) | |
| Chloromethane | 0.6989857 | 14.97623 | 1.943333 | 0.2654085 | 0.99772 | | SPCC (0.10) | |
| 2-Chlorotoluene | 3.666018 | 13.06413 | 10.555 | 0.0536519 | | | 15 | |
| 4-Chlorotoluene | 3.285453 | 13.86354 | 10.62667 | 4.983224E-02 | | | 15 | |
| Dibromochloromethane | 0.1708407 | 11.80164 | 9.241666 | 4.175574E-02 | | | 15 | |
| 1,2-Dibromo-3-chloropropane | 0.0666406 | 25.17557 | 11.73833 | 8.312334E-02 | 0.99981 | | 0.99 | |
| 1,2-Dibromoethane | 0.1390115 | 7.054979 | 9.328333 | 4.188551E-02 | | | 15 | |
| Dibromomethane | 0.1132441 | 8.835653 | 7.91 | 1.653285E-02 | | | 15 | |
| 1,2-Dichlorobenzene | 1.693334 | 14.65138 | 11.27833 | 8.752717E-02 | | | 15 | |
| 1,3-Dichlorobenzene | 2.068389 | 12.94808 | 11.008 | 0.1004115 | | | 15 | |
| 1,4-Dichlorobenzene | 1.916207 | 13.63312 | 11.065 | 7.433322E-02 | | | 15 | |
| Dichlorodifluoromethane | 0.4765408 | 8.332592 | 1.76 | 8.063699E-03 | | | 15 | |
| 1,1-Dichloroethane | 1.030991 | 7.692112 | 5.058333 | 8.126204E-02 | | | SPCC (0.10) | |
| 1,2-Dichloroethane | 0.438219 | 8.268656 | 7.005 | 7.754629E-02 | | | 15 | |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.7766588 | 8.198684 | 3.515 | 0.1557692 | | | CCC (20) | |
| cis-1,2-Dichloroethene | 0.4666061 | 4.605245 | 5.831667 | 0.1294296 | | | 15 | |
| trans-1,2-Dichloroethene | 0.4502706 | 8.659956 | 4.501667 | 0.0902417 | | | 15 | |
| Total 1,2-Dichloroethene | 0.4584384 | 6.088896 | 5.831667 | 0.1294296 | | | 15 | |
| 1,2-Dichloropropane | 0.3723271 | 8.709715 | 7.84 | 9.702376E-03 | | | CCC (20) | |
| 1,3-Dichloropropane | 0.2667047 | 7.533232 | 9.09 | 0.0186287 | | | 15 | |
| 2,2-Dichloropropane | 0.6461501 | 7.533896 | 5.84 | 0.1091096 | | | 15 | |
| 1,1-Dichloropropene | 0.61317 | 8.797094 | 6.726667 | 7.685787E-02 | | | 15 | |
| cis-1,3-Dichloropropene | 0.436368 | 9.271827 | 8.408333 | 4.530242E-02 | | | 15 | |
| trans-1,3-Dichloropropene | 0.3001727 | 7.112617 | 8.83 | 2.384445E-02 | | | 15 | |
| Total 1,3-Dichloropropene | 0.3682704 | 7.991017 | 8.83 | 2.384445E-02 | | | 15 | |
| Ethylbenzene | 1.699115 | 14.95483 | 9.698333 | 4.299496E-02 | | | CCC (20) | |
| Hexachlorobutadiene | 0.8012975 | 13.30544 | 12.28833 | 0.1407559 | | | 15 | |
| Isopropylbenzene | 5.188549 | 11.33656 | 10.24 | 0.015589 | | | 15 | |
| p-Isopropyltoluene | 4.064913 | 12.68025 | 10.998 | 7.728538E-02 | | | 15 | |
| Methylene chloride | 0.601454 | 65.25738 | 4.151667 | 9.579772E-02 | 0.99908 | | 0.99 | |
| Methyl t-butyl ether | 0.6285989 | 7.393993 | 4.491666 | 8.862136E-02 | | | 15 | |
| Naphthalene | 1.162765 | 12.34674 | 12.385 | 0.1128744 | | | 15 | |
| n-Propylbenzene | 5.959786 | 13.29814 | 10.488 | 3.977509E-02 | | | 15 | |
| Styrene | 2.90027 | 10.45117 | 10.03167 | 3.567744E-02 | | | 15 | |
| 1,1,1,2-Tetrachloroethane | 0.9261768 | 10.84263 | 9.698333 | 4.299496E-02 | | | 15 | |
| 1,1,2,2-Tetrachloroethane | 0.555952 | 8.993065 | 10.42 | 9.595757E-03 | | | SPCC (0.30) | |
| Tetrachloroethene | 0.3412463 | 14.19945 | 9.038333 | 3.957867E-02 | | | 15 | |
| Toluene | 0.7797766 | 12.17928 | 8.661667 | 0.04731 | | | CCC (20) | |
| 1,2,3-Trichlorobenzene | 1.194842 | 5.768365 | 12.22 | 0.1261601 | | | 15 | |
| 1,2,4-Trichlorobenzene | 1.194842 | 5.768365 | 12.22 | 0.1261601 | | | 15 | |

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Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.6398072 | 7.069666 | 6.528334 | 6.356984E-02 | | | 15 | |
| 1,1,2-Trichloroethane | 0.1533095 | 10.94703 | 8.978333 | 0.0413948 | | | 15 | |
| Trichloroethene | 0.3255704 | 7.473897 | 7.605 | 0.0716509 | | | 15 | |
| Trichlorofluoromethane | 0.5867905 | 8.741507 | 2.868333 | 0.1427778 | | | 15 | |
| 1,2,3-Trichloropropane | 0.105337 | 20.84859 | 10.46167 | 3.519845E-02 | 0.99859 | | 0.99 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.4183029 | 11.63839 | 3.535 | 0.154669 | | | 15 | |
| 1,2,4-Trimethylbenzene | 3.597754 | 13.66403 | 10.81667 | 4.928939E-02 | | | 15 | |
| 1,3,5-Trimethylbenzene | 3.970515 | 12.33762 | 10.588 | 4.151475E-02 | | | 15 | |
| Vinyl chloride | 0.5958562 | 12.3798 | 2.07 | 5.801038E-03 | | | CCC (20) | |
| Total Xylenes | 1.988127 | 12.26843 | 10.02 | 0.0198293 | | | 15 | |
| Total Trihalomethanes | 8361.362 | 5.18931 | 10.16 | 1.968264E-02 | | | 15 | |
| Acetone | 4.776275E-02 | 5.106878 | 3.673333 | 0.1406958 | | | 15 | |
| Acetonitrile | 2.219025E-02 | 4.876544 | 4.028334 | 0.1024495 | | | 15 | |
| Acrolein | 2.197253E-02 | 6.157274 | 3.496667 | 0.1480968 | | | 15 | |
| Acrylonitrile | 6.582196E-02 | 8.577407 | 4.558333 | 0.1652616 | | | 15 | |
| Allyl chloride | 1.085338 | 9.126471 | 4.101667 | 0.100385 | | | 15 | |
| t-Amyl Alcohol | 1.009988E-02 | 4.140124 | 7.085 | 0.1187744 | | | 15 | |
| t-Amyl Methyl ether | 0.6661409 | 6.771256 | 7.195 | 7.643047E-02 | | | 15 | |
| Benzyl chloride | 0.7610056 | 11.53115 | 11.18667 | 4.453499E-02 | | | 15 | |
| t-Butyl alcohol | 1.234081E-02 | 1.84848 | 4.4 | 0.248532 | | | 15 | |
| Carbon disulfide | 1.33473 | 5.686275 | 3.91 | 1.834131E-02 | | | 15 | |
| 2-Chloroethyl vinyl ether | 0.1042548 | 9.542111 | 8.283333 | 6.161591E-02 | | | 15 | |
| Chloroprene | 0.985225 | 6.318114 | 5.278334 | 7.840628E-02 | | | 15 | |
| Chlorotrifluoroethene | | | | | | | 15 | |
| Cyclohexane | 1.096247 | 7.506 | 6.74 | 5.887622E-03 | | | 15 | |
| Cyclohexanone | 5.566339E-02 | 9.694342 | 10.39667 | 4.808811E-02 | | | 15 | |

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Project: Alameda
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Project Manager: Kelli Miller

# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| trans-1,4-Dichloro-2-butene | 0.1459885 | 13.56365 | 10.52333 | 5.058877E-02 | | | 15 | |
| 1,2-Dichlorotrifluoroethane | 0.5847115 | 5.360606 | 3.403333 | 0.1509937 | | | 15 | |
| 2,2-Dichloro-1,1,1-trifluoroethane | 0.8785125 | 3.69033 | 3.491667 | 0.1182266 | | | 15 | |
| Diethyl ether | 0.2497025 | 4.061881 | 3.323333 | 0.1563285 | | | 15 | |
| Diisopropyl ether | 0.3201537 | 2.719082 | 5.23 | 0.1201872 | | | 15 | |
| 1,4-Dioxane | 8.454704E-04 | 5.45229 | 7.995 | 6.794394E-02 | | | 15 | |
| Ethanol | 1.939726E-03 | 10.86005 | 3.186667 | 0.3796969 | | | 15 | |
| Ethyl Amyl Ketone | 0.4315624 | 10.53974 | 10.85 | 1.752687E-02 | | | 15 | |
| Ethyl methacrylate | 0.1726283 | 4.905024 | 8.943333 | 5.550494E-02 | | | 15 | |
| Ethyl t-butyl ether | 1.21959 | 4.54311 | 5.733333 | 9.120568E-02 | | | 15 | |
| Hexachloroethane | 0.7041294 | 7.867683 | 11.45 | 0.0960662 | | | 15 | |
| Hexane | 0.5879608 | 6.648506 | 4.978333 | 8.064439E-02 | | | 15 | |
| 2-Hexanone | 9.609546E-02 | 8.175051 | 9.191666 | 4.589297E-02 | | | 15 | |
| Isobutanol | 7.081674E-03 | 10.29974 | 6.963333 | 7.512301E-02 | | | 15 | |
| Isopropyl alcohol | 0.0095027 | 7.45709 | 3.865 | 0.2162035 | | | 15 | |
| Methacrylonitrile | 5.873163E-02 | 5.499683 | 6.271667 | 6.715632E-02 | | | 15 | |
| Methyl acetate | 0.1436723 | 3.909729 | 4.088333 | 0.1841368 | | | 15 | |
| Methylcyclohexane | 0.6483818 | 7.031329 | 7.915 | 6.895888E-02 | | | 15 | |
| Methyl ethyl ketone | 8.196912E-02 | 3.824962 | 5.96 | 0.1035388 | | | 15 | |
| 5-Methyl-3-heptanone | 0.5678372 | 6.65539 | 10.53167 | 4.211834E-02 | | | 15 | |
| Methyl iodide | 0.324613 | 14.83555 | 3.816 | 0.1441615 | | | 15 | |
| Methyl isobutyl ketone | 0.1395136 | 6.108737 | 8.6 | 4.975675E-03 | | | 15 | |
| Methyl methacrylate | 7.948396E-02 | 5.684143 | 7.976667 | 6.538928E-02 | | | 15 | |
| Pentachloroethane | 0.4348384 | 15.4658 | 10.89333 | 4.833473E-02 | | | 15 | * |
| Propionitrile | 0.0234428 | 6.492279 | 6.051667 | 6.422907E-02 | | | 15 | |
| Tetrahydrofuran | 5.061786E-02 | 3.228326 | 6.335 | 8.532633E-02 | | | 15 | |

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Project: Alameda
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# INITIAL CALIBRATION DATA (Continued)

## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda
Calibration: 1701019
Instrument: MS-V5
Matrix: Water
Calibration Date: 01/19/17 17:21

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| Vinyl acetate | 0.6012656 | 5.362959 | 5.185 | 0.1042042 | | | 15 | |
| p- & m-Xylenes | 2.011739 | 13.84385 | 9.78 | 1.957201E-02 | | | 15 | |
| o-Xylene | 1.940902 | 9.244618 | 10.02 | 0.0198293 | | | 15 | |
| 1,2-Dichloroethane-d4 (Surrogate) | 0.2958699 | 6.360265 | 6.921667 | 6.116163E-02 | | | 15 | |
| Toluene-d8 (Surrogate) | 1.138139 | 1.710998 | 8.61 | 0.0142186 | | | 15 | |
| 4-Bromofluorobenzene (Surrogate) | 1.379025 | 3.111593 | 10.355 | 4.975555E-02 | | | 15 | |

AMEC Environmental & Infrastructure
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Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

# HOLDING TIME SUMMARY
## EPA-8260B

Laboratory: BC Laboratories
SDG: 17-02734
Client: AMEC Environmental & Infrastructure $AMCN
Project: Alameda

| Sample Name | Date Collected | Date Received | Date Prepared | Days to Prep | Max Days to Prep | Date Analyzed | Days to Analysis | Max Days to Analysis | Q |
|---|---|---|---|---|---|---|---|---|---|
| EB03_170131 | 01/31/17 14:00 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 01:27 | 3.00 | 14.00 | |
| EB04_170131 | 01/31/17 14:15 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 01:50 | 3.00 | 14.00 | |
| M002A-R_170131 | 01/31/17 08:35 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 02:14 | 3.00 | 14.00 | |
| M003E-R_170131 | 01/31/17 13:25 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 02:37 | 3.00 | 14.00 | |
| M026A-R_170131 | 01/31/17 10:05 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 03:00 | 3.00 | 14.00 | |
| M028A-R_170131 | 01/31/17 08:34 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 03:24 | 3.00 | 14.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 03:47 | 3.00 | 14.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 07:19 | 3.00 | 14.00 | |
| M034A-R_170131 | 01/31/17 10:04 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 08:06 | 3.00 | 14.00 | |
| TB02_170131 | 01/31/17 12:00 | 01/31/17 22:10 | 02/02/17 08:00 | 3.00 | 14.00 | 02/03/17 09:39 | 3.00 | 14.00 | |

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

AMEC Environmental & Infrastructure
9210 Sky Park Court #200
San Diego, CA 92123

Reported: 3/6/2017 4:52:56PM
Project: Alameda
Project Number: 5023146096
Project Manager: Kelli Miller

## Notes and Definitions

| | |
|---|---|
| B | Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank. |
| D | The reported value is from a dilution. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration. |
| J | The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL. |
| U | The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client. |