

## ANALYTICAL SUMMARY REPORT

May 11, 2012

Cotter Corporation  
0502 Fremont Cnty Rd 68  
Canon City, CO 81212

Workorder No.: C12030404 Quote ID: C3386 - Schwartzwalder Mine

Project Name: Schwartz GW 3/9/12 S26334-S26335

Energy Laboratories, Inc. Casper WY received the following 2 samples for Cotter Corporation on 3/12/2012 for analysis.

| Sample ID     | Client Sample ID           | Collect Date   | Receive Date | Matrix  | Test                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|----------------------------|----------------|--------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C12030404-001 | Mine Refill Water (S26334) | 03/09/12 11:05 | 03/12/12     | Aqueous | Metals by ICP/ICPMS, Dissolved<br>Metals by ICP/ICPMS, Total<br>Alkalinity<br>QA Calculations<br>Mercury, Total<br>Mercury Analysis Prep<br>Field Parameters<br>Fluoride<br>E300.0 Anions<br>Nitrogen, Nitrate + Nitrite<br>Metals Preparation by EPA 200.2<br>Phosphorus, Total<br>Gross Alpha, Gross Beta<br>Radium 226, Dissolved<br>Solids, Total Dissolved<br>Solids, Total Suspended |
| C12030404-002 | Sump-10 (S26335)           | 03/09/12 8:30  | 03/12/12     | Aqueous | Metals by ICP/ICPMS, Dissolved<br>Metals by ICP/ICPMS, Total<br>Alkalinity<br>QA Calculations<br>Mercury, Total<br>Mercury Analysis Prep<br>Field Parameters<br>E300.0 Anions<br>Nitrogen, Nitrate + Nitrite<br>Metals Preparation by EPA 200.2<br>Phosphorus, Total<br>Gross Alpha, Gross Beta<br>Radium 226, Dissolved<br>Solids, Total Dissolved                                        |

The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing. Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. Data corrected for moisture content are typically noted as - dry on the report. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Cotter Corporation  
**Project:** Schwartz GW 3/9/12 S26334-S26335  
**Sample Delivery Group:** C12030404

**Revised Date:** 05/11/12

**Report Date:** 04/16/12

## CASE NARRATIVE

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### REVISED/SUPPLEMENTAL REPORT

The attached analytical report has been revised from a previously submitted report due to the request by the client on April 23, 2012 for the addition of Nitrate on sample -001. The data presented here is from that additional analysis.

### BRANCH LABORATORY SUBCONTRACT ANALYSIS

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Cotter Corporation  
**Project:** Schwartz GW 3/9/12 S26334-S26335  
**Lab ID:** C12030404-001  
**Client Sample ID:** Mine Refill Water (S26334)

**Revised Date:** 05/11/12  
**Report Date:** 04/16/12  
**Collection Date:** 03/09/12 11:05  
**Date Received:** 03/12/12  
**Matrix:** Aqueous

| Analyses                               | Result | Units | Qualifier | RL      | MCL/<br>QCL | Method    | Analysis Date / By     |
|----------------------------------------|--------|-------|-----------|---------|-------------|-----------|------------------------|
| <b>MAJOR IONS</b>                      |        |       |           |         |             |           |                        |
| Alkalinity, Total as CaCO <sub>3</sub> | 378    | mg/L  |           | 1       |             | A2320 B   | 03/12/12 18:24 / jba   |
| Bicarbonate as HCO <sub>3</sub>        | 461    | mg/L  |           | 1       |             | A2320 B   | 03/12/12 18:24 / jba   |
| Calcium                                | 371    | mg/L  | D         | 0.3     |             | E200.7    | 03/19/12 14:00 / cp    |
| Chloride                               | 22     | mg/L  |           | 3       |             | E300.0    | 03/14/12 05:57 / wc    |
| Fluoride                               | 0.5    | mg/L  |           | 0.1     |             | A4500-F C | 03/12/12 13:48 / jba   |
| Magnesium                              | 202    | mg/L  |           | 0.1     |             | E200.8    | 03/13/12 02:27 / smm   |
| Nitrogen, Nitrate+Nitrite as N         | ND     | mg/L  | H         | 0.1     |             | E353.2    | 04/25/12 10:46 / eli-b |
| Phosphorus, Total as P                 | ND     | mg/L  |           | 0.01    |             | E365.1    | 03/19/12 12:45 / eli-b |
| Potassium                              | 21.2   | mg/L  |           | 0.1     |             | E200.8    | 03/13/12 02:27 / smm   |
| Sodium                                 | 143    | mg/L  |           | 0.1     |             | E200.8    | 03/13/12 19:28 / smm   |
| Sulfate                                | 1810   | mg/L  | D         | 8       |             | E300.0    | 03/14/12 05:57 / wc    |
| <b>PHYSICAL PROPERTIES</b>             |        |       |           |         |             |           |                        |
| Solids, Total Dissolved TDS @ 180 C    | 3130   | mg/L  |           | 10      |             | A2540 C   | 03/14/12 14:39 / ab    |
| Solids, Total Suspended TSS @ 105 C    | 9      | mg/L  | D         | 6       |             | A2540 D   | 03/13/12 12:37 / ab    |
| <b>METALS - DISSOLVED</b>              |        |       |           |         |             |           |                        |
| Aluminum                               | ND     | mg/L  |           | 0.2     |             | E200.8    | 03/13/12 00:20 / smm   |
| Antimony                               | ND     | mg/L  |           | 0.001   |             | E200.8    | 03/13/12 02:27 / smm   |
| Arsenic                                | 0.011  | mg/L  |           | 0.001   |             | E200.8    | 03/13/12 02:27 / smm   |
| Copper                                 | ND     | mg/L  |           | 0.001   |             | E200.8    | 03/13/12 02:27 / smm   |
| Iron                                   | 3.54   | mg/L  |           | 0.03    |             | E200.8    | 03/13/12 02:27 / smm   |
| Manganese                              | 3.95   | mg/L  |           | 0.005   |             | E200.8    | 03/13/12 02:27 / smm   |
| Mercury                                | ND     | mg/L  |           | 0.0001  |             | E200.8    | 03/13/12 02:27 / smm   |
| Molybdenum                             | 1.46   | mg/L  |           | 0.005   |             | E200.8    | 03/13/12 00:20 / smm   |
| Silver                                 | ND     | mg/L  |           | 0.00005 |             | E200.8    | 03/13/12 00:20 / smm   |
| Thallium                               | 0.0018 | mg/L  |           | 0.0002  |             | E200.8    | 03/13/12 02:27 / smm   |
| Uranium                                | 24.1   | mg/L  | D         | 0.0005  |             | E200.8    | 03/19/12 12:58 / smm   |
| Zinc                                   | 0.013  | mg/L  |           | 0.005   |             | E200.8    | 03/13/12 02:27 / smm   |
| <b>METALS - TOTAL</b>                  |        |       |           |         |             |           |                        |
| Aluminum                               | ND     | mg/L  |           | 0.2     |             | E200.8    | 03/13/12 19:34 / smm   |
| Antimony                               | 0.001  | mg/L  |           | 0.001   |             | E200.8    | 03/14/12 11:31 / smm   |
| Arsenic                                | 0.013  | mg/L  |           | 0.001   |             | E200.8    | 03/14/12 11:31 / smm   |
| Boron                                  | 0.3    | mg/L  |           | 0.1     |             | E200.8    | 03/13/12 19:34 / smm   |
| Chromium                               | ND     | mg/L  |           | 0.1     |             | E200.8    | 03/14/12 11:31 / smm   |
| Copper                                 | 0.004  | mg/L  |           | 0.001   |             | E200.8    | 03/14/12 11:31 / smm   |
| Iron                                   | 3.67   | mg/L  |           | 0.03    |             | E200.8    | 03/13/12 19:34 / smm   |
| Lead                                   | ND     | mg/L  |           | 0.005   |             | E200.8    | 03/14/12 11:31 / smm   |
| Manganese                              | 3.70   | mg/L  |           | 0.005   |             | E200.8    | 03/13/12 19:34 / smm   |
| Mercury                                | ND     | mg/L  |           | 0.0001  |             | E245.1    | 03/13/12 16:54 / clh   |
| Silver                                 | ND     | mg/L  |           | 0.00005 |             | E200.8    | 03/14/12 11:31 / smm   |
| Thallium                               | 0.0022 | mg/L  |           | 0.0002  |             | E200.8    | 03/14/12 11:31 / smm   |
| Zinc                                   | 0.022  | mg/L  | D         | 0.009   |             | E200.8    | 03/14/12 11:31 / smm   |

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.

## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Cotter Corporation  
**Project:** Schwartz GW 3/9/12 S26334-S26335  
**Lab ID:** C12030404-001  
**Client Sample ID:** Mine Refill Water (S26334)

**Revised Date:** 05/11/12  
**Report Date:** 04/16/12  
**Collection Date:** 03/09/12 11:05  
**Date Received:** 03/12/12  
**Matrix:** Aqueous

| Analyses                           | Result | Units    | Qualifier | RL | MCL/<br>QCL | Method | Analysis Date / By   |
|------------------------------------|--------|----------|-----------|----|-------------|--------|----------------------|
| <b>RADIONUCLIDES - DISSOLVED</b>   |        |          |           |    |             |        |                      |
| Radium 226                         | 216    | pCi/L    |           |    | E903.0      |        | 03/21/12 07:45 / lbb |
| Radium 226 precision (±)           | 2.8    | pCi/L    |           |    | E903.0      |        | 03/21/12 07:45 / lbb |
| Radium 226 MDC                     | 0.17   | pCi/L    |           |    | E903.0      |        | 03/21/12 07:45 / lbb |
| <b>RADIONUCLIDES - TOTAL</b>       |        |          |           |    |             |        |                      |
| Gross Alpha                        | 29300  | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Alpha precision (±)          | 207    | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Alpha MDC                    | 18.1   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Beta                         | 9430   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Beta precision (±)           | 62.7   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Beta MDC                     | 18.7   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| <b>DATA QUALITY</b>                |        |          |           |    |             |        |                      |
| A/C Balance (± 5)                  | -4.46  | %        |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| Anions                             | 45.8   | meq/L    |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| Cations                            | 41.9   | meq/L    |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| Solids, Total Dissolved Calculated | 2810   | mg/L     |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| TDS Balance (0.80 - 1.20)          | 1.11   |          |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| <b>FIELD PARAMETERS</b>            |        |          |           |    |             |        |                      |
| Field Conductivity                 | 3298   | umhos/cm |           |    | FIELD       |        | 03/09/12 11:05 / *** |
| Field pH                           | 7.14   | s.u.     |           |    | FIELD       |        | 03/09/12 11:05 / *** |
| Field Temperature, C               | 12.5   | °C       |           |    | FIELD       |        | 03/09/12 11:05 / *** |
| Flow                               | 2.64   | gpm      |           |    | FIELD       |        | 03/09/12 11:05 / *** |

\*\*\* Performed by Sampler

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Cotter Corporation  
**Project:** Schwartz GW 3/9/12 S26334-S26335  
**Lab ID:** C12030404-002  
**Client Sample ID:** Sump-10 (S26335)

**Revised Date:** 05/11/12  
**Report Date:** 04/16/12  
**Collection Date:** 03/09/12 08:30  
**Date Received:** 03/12/12  
**Matrix:** Aqueous

| Analyses                               | Result | Units | Qualifier | RL      | MCL/<br>QCL | Method  | Analysis Date / By     |
|----------------------------------------|--------|-------|-----------|---------|-------------|---------|------------------------|
| <b>MAJOR IONS</b>                      |        |       |           |         |             |         |                        |
| Alkalinity, Total as CaCO <sub>3</sub> | 216    | mg/L  |           | 1       |             | A2320 B | 03/12/12 18:32 / jba   |
| Bicarbonate as HCO <sub>3</sub>        | 263    | mg/L  |           | 1       |             | A2320 B | 03/12/12 18:32 / jba   |
| Calcium                                | 198    | mg/L  |           | 0.1     |             | E200.7  | 03/19/12 14:04 / cp    |
| Chloride                               | 27     | mg/L  |           | 3       |             | E300.0  | 03/14/12 06:13 / wc    |
| Magnesium                              | 94.6   | mg/L  |           | 0.1     |             | E200.8  | 03/13/12 02:33 / smm   |
| Nitrogen, Nitrate+Nitrite as N         | 0.3    | mg/L  |           | 0.1     |             | E353.2  | 03/27/12 09:02 / eli-b |
| Phosphorus, Total as P                 | ND     | mg/L  |           | 0.01    |             | E365.1  | 03/19/12 12:46 / eli-b |
| Potassium                              | 8.2    | mg/L  |           | 0.1     |             | E200.8  | 03/13/12 02:33 / smm   |
| Sodium                                 | 72.8   | mg/L  |           | 0.1     |             | E200.8  | 03/13/12 19:41 / smm   |
| Sulfate                                | 840    | mg/L  |           | 5       |             | E300.0  | 03/14/12 06:13 / wc    |
| <b>PHYSICAL PROPERTIES</b>             |        |       |           |         |             |         |                        |
| Solids, Total Dissolved TDS @ 180 C    | 1520   | mg/L  |           | 10      |             | A2540 C | 03/14/12 14:39 / ab    |
| <b>METALS - DISSOLVED</b>              |        |       |           |         |             |         |                        |
| Aluminum                               | ND     | mg/L  |           | 0.2     |             | E200.8  | 03/13/12 00:23 / smm   |
| Antimony                               | ND     | mg/L  |           | 0.001   |             | E200.8  | 03/13/12 02:33 / smm   |
| Copper                                 | 0.001  | mg/L  |           | 0.001   |             | E200.8  | 03/13/12 02:33 / smm   |
| Iron                                   | ND     | mg/L  |           | 0.03    |             | E200.8  | 03/13/12 02:33 / smm   |
| Manganese                              | ND     | mg/L  |           | 0.005   |             | E200.8  | 03/13/12 19:41 / smm   |
| Molybdenum                             | 0.120  | mg/L  |           | 0.005   |             | E200.8  | 03/13/12 00:23 / smm   |
| Thallium                               | ND     | mg/L  |           | 0.0002  |             | E200.8  | 03/13/12 02:33 / smm   |
| Uranium                                | 9.83   | mg/L  |           | 0.0002  |             | E200.8  | 03/13/12 02:33 / smm   |
| Zinc                                   | 0.009  | mg/L  |           | 0.005   |             | E200.8  | 03/13/12 02:33 / smm   |
| <b>METALS - TOTAL</b>                  |        |       |           |         |             |         |                        |
| Aluminum                               | ND     | mg/L  |           | 0.2     |             | E200.8  | 03/13/12 19:48 / smm   |
| Antimony                               | ND     | mg/L  |           | 0.001   |             | E200.8  | 03/14/12 12:16 / smm   |
| Arsenic                                | ND     | mg/L  |           | 0.001   |             | E200.8  | 03/14/12 12:16 / smm   |
| Copper                                 | 0.004  | mg/L  |           | 0.001   |             | E200.8  | 03/14/12 12:16 / smm   |
| Iron                                   | ND     | mg/L  |           | 0.03    |             | E200.8  | 03/13/12 19:48 / smm   |
| Lead                                   | ND     | mg/L  |           | 0.005   |             | E200.8  | 03/14/12 12:16 / smm   |
| Manganese                              | ND     | mg/L  |           | 0.005   |             | E200.8  | 03/13/12 19:48 / smm   |
| Mercury                                | ND     | mg/L  |           | 0.0001  |             | E245.1  | 03/13/12 16:58 / clh   |
| Silver                                 | ND     | mg/L  |           | 0.00005 |             | E200.8  | 03/14/12 12:16 / smm   |
| Thallium                               | ND     | mg/L  |           | 0.0002  |             | E200.8  | 03/14/12 12:16 / smm   |
| Zinc                                   | 0.013  | mg/L  | D         | 0.009   |             | E200.8  | 03/14/12 12:16 / smm   |
| <b>RADIONUCLIDES - DISSOLVED</b>       |        |       |           |         |             |         |                        |
| Radium 226                             | 0.07   | pCi/L | U         |         |             | E903.0  | 03/21/12 09:56 / lbb   |
| Radium 226 precision (±)               | 0.11   | pCi/L |           |         |             | E903.0  | 03/21/12 09:56 / lbb   |
| Radium 226 MDC                         | 0.17   | pCi/L |           |         |             | E903.0  | 03/21/12 09:56 / lbb   |

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix.

## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Cotter Corporation  
**Project:** Schwartz GW 3/9/12 S26334-S26335  
**Lab ID:** C12030404-002  
**Client Sample ID:** Sump-10 (S26335)

**Revised Date:** 05/11/12  
**Report Date:** 04/16/12  
**Collection Date:** 03/09/12 08:30  
**Date Received:** 03/12/12  
**Matrix:** Aqueous

| Analyses                           | Result | Units    | Qualifier | RL | MCL/<br>QCL | Method | Analysis Date / By   |
|------------------------------------|--------|----------|-----------|----|-------------|--------|----------------------|
| <b>RADIONUCLIDES - TOTAL</b>       |        |          |           |    |             |        |                      |
| Gross Alpha                        | 11900  | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Alpha precision (±)          | 91.8   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Alpha MDC                    | 8.7    | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Beta                         | 2520   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Beta precision (±)           | 21.7   | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| Gross Beta MDC                     | 8.2    | pCi/L    |           |    | E900.0      |        | 03/23/12 11:44 / ep  |
| <b>DATA QUALITY</b>                |        |          |           |    |             |        |                      |
| A/C Balance (± 5)                  | -3.46  | %        |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| Anions                             | 22.6   | meq/L    |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| Cations                            | 21.1   | meq/L    |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| Solids, Total Dissolved Calculated | 1390   | mg/L     |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| TDS Balance (0.80 - 1.20)          | 1.09   |          |           |    | Calculation |        | 03/21/12 06:55 / kbh |
| <b>FIELD PARAMETERS</b>            |        |          |           |    |             |        |                      |
| Depth to Water                     | 11.7   | feet     |           |    | FIELD       |        | 03/09/12 08:30 / *** |
| Field Conductivity                 | 1830   | umhos/cm |           |    | FIELD       |        | 03/09/12 08:30 / *** |
| Field pH                           | 7.13   | s.u.     |           |    | FIELD       |        | 03/09/12 08:30 / *** |
| Field Temperature, C               | 7.7    | °C       |           |    | FIELD       |        | 03/09/12 08:30 / *** |
| Flow                               | 20.0   | gpm      |           |    | FIELD       |        | 03/09/12 08:30 / *** |

\*\*\* Performed by Sampler

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                                | Count | Result                    | Units | RL  | %REC | Low Limit            | High Limit | RPD | RPDLimit | Qual           |
|----------------------------------------|-------|---------------------------|-------|-----|------|----------------------|------------|-----|----------|----------------|
| <b>Method: A2320 B</b>                 |       |                           |       |     |      |                      |            |     |          | Batch: R157259 |
| <b>Sample ID: MBLK</b>                 | 2     | Method Blank              |       |     |      | Run: MANTECH_120312B |            |     |          | 03/12/12 15:13 |
| Alkalinity, Total as CaCO <sub>3</sub> |       | ND                        | mg/L  | 3   |      |                      |            |     |          |                |
| Bicarbonate as HCO <sub>3</sub>        |       | 3                         | mg/L  | 1   |      |                      |            |     |          |                |
| <b>Sample ID: LCS-6677</b>             |       | Laboratory Control Sample |       |     |      | Run: MANTECH_120312B |            |     |          | 03/12/12 15:28 |
| Alkalinity, Total as CaCO <sub>3</sub> |       | 203                       | mg/L  | 5.0 | 101  | 90                   | 110        |     |          |                |
| <b>Sample ID: C12030406-001ADUP</b>    | 2     | Sample Duplicate          |       |     |      | Run: MANTECH_120312B |            |     |          | 03/12/12 19:08 |
| Alkalinity, Total as CaCO <sub>3</sub> |       | 117                       | mg/L  | 5.0 |      |                      |            | 0.1 | 10       |                |
| Bicarbonate as HCO <sub>3</sub>        |       | 142                       | mg/L  | 5.0 |      |                      |            | 0.1 | 10       |                |
| <b>Sample ID: C12030406-002AMS</b>     |       | Sample Matrix Spike       |       |     |      | Run: MANTECH_120312B |            |     |          | 03/12/12 19:25 |
| Alkalinity, Total as CaCO <sub>3</sub> |       | 248                       | mg/L  | 5.0 | 101  | 80                   | 120        |     |          |                |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                    | Units | RL | %REC | Low Limit          | High Limit | RPD            | RPDLimit | Qual           |
|-------------------------------------|-------|---------------------------|-------|----|------|--------------------|------------|----------------|----------|----------------|
| <b>Method: A2540 C</b>              |       |                           |       |    |      |                    |            |                |          | Batch: R157421 |
| <b>Sample ID: MBLK1_</b>            |       |                           |       |    |      |                    |            |                |          |                |
|                                     |       | Method Blank              |       |    |      | Run: BAL-1_120314A |            | 03/14/12 14:37 |          |                |
| Solids, Total Dissolved TDS @ 180 C |       | ND                        | mg/L  | 4  |      |                    |            |                |          |                |
| <b>Sample ID: LCS1_</b>             |       |                           |       |    |      |                    |            |                |          |                |
|                                     |       | Laboratory Control Sample |       |    |      | Run: BAL-1_120314A |            | 03/14/12 14:38 |          |                |
| Solids, Total Dissolved TDS @ 180 C |       | 1640                      | mg/L  | 10 | 98   | 90                 | 110        |                |          |                |
| <b>Sample ID: C12030369-003ADUP</b> |       |                           |       |    |      |                    |            |                |          |                |
|                                     |       | Sample Duplicate          |       |    |      | Run: BAL-1_120314A |            | 03/14/12 14:38 |          |                |
| Solids, Total Dissolved TDS @ 180 C |       | 1080                      | mg/L  | 10 |      |                    |            | 1.6            | 5        |                |
| <b>Sample ID: C12030441-001AMS</b>  |       |                           |       |    |      |                    |            |                |          |                |
|                                     |       | Sample Matrix Spike       |       |    |      | Run: BAL-1_120314A |            | 03/14/12 14:41 |          |                |
| Solids, Total Dissolved TDS @ 180 C |       | 4720                      | mg/L  | 10 | 98   | 90                 | 110        |                |          |                |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                                              | Count | Result | Units | RL  | %REC | Low Limit      | High Limit | RPD | RPDLimit | Qual           |
|------------------------------------------------------|-------|--------|-------|-----|------|----------------|------------|-----|----------|----------------|
| <b>Method: A2540 D</b>                               |       |        |       |     |      |                |            |     |          | Batch: R157352 |
| <b>Sample ID: MBLK1_</b> Method Blank                |       |        |       |     |      |                |            |     |          |                |
| Run: BAL-1_120313A                                   |       |        |       |     |      | 03/13/12 12:35 |            |     |          |                |
| Solids, Total Suspended TSS @ 105 C                  |       | ND     | mg/L  | 2   |      |                |            |     |          |                |
| <b>Sample ID: LCS1_</b> Laboratory Control Sample    |       |        |       |     |      |                |            |     |          |                |
| Run: BAL-1_120313A                                   |       |        |       |     |      | 03/13/12 12:35 |            |     |          |                |
| Solids, Total Suspended TSS @ 105 C                  |       | 196    | mg/L  | 6.0 | 98   | 60             | 110        |     |          |                |
| <b>Sample ID: C12030404-001BDUP</b> Sample Duplicate |       |        |       |     |      |                |            |     |          |                |
| Run: BAL-1_120313A                                   |       |        |       |     |      | 03/13/12 12:37 |            |     |          |                |
| Solids, Total Suspended TSS @ 105 C                  |       | 9.00   | mg/L  | 6.0 |      |                |            | 0.0 | 5        |                |

### Qualifiers:

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MDC - Minimum detectable concentration



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                        | Units | RL   | %REC | Low Limit | High Limit           | RPD | RPDLimit | Qual           |
|-------------------------------------|-------|-------------------------------|-------|------|------|-----------|----------------------|-----|----------|----------------|
| <b>Method: A4500-F C</b>            |       |                               |       |      |      |           |                      |     |          | Batch: R157244 |
| <b>Sample ID: MBLK</b>              |       | Method Blank                  |       |      |      |           | Run: MANTECH_120312A |     |          | 03/12/12 12:51 |
| Fluoride                            |       | ND                            | mg/L  | 0.01 |      |           |                      |     |          |                |
| <b>Sample ID: LCS-6622</b>          |       | Laboratory Control Sample     |       |      |      |           | Run: MANTECH_120312A |     |          | 03/12/12 12:57 |
| Fluoride                            |       | 1.96                          | mg/L  | 0.10 | 98   | 90        | 110                  |     |          |                |
| <b>Sample ID: C12030404-001BMS</b>  |       | Sample Matrix Spike           |       |      |      |           | Run: MANTECH_120312A |     |          | 03/12/12 13:50 |
| Fluoride                            |       | 2.12                          | mg/L  | 0.10 | 81   | 80        | 120                  |     |          |                |
| <b>Sample ID: C12030404-001BMSD</b> |       | Sample Matrix Spike Duplicate |       |      |      |           | Run: MANTECH_120312A |     |          | 03/12/12 13:53 |
| Fluoride                            |       | 2.25                          | mg/L  | 0.10 | 87   | 80        | 120                  | 5.9 | 10       |                |

### Qualifiers:

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ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                      | Count                                     | Result | Units | RL   | %REC | Low Limit           | High Limit | RPD                            | RPDLimit       | Qual           |
|------------------------------|-------------------------------------------|--------|-------|------|------|---------------------|------------|--------------------------------|----------------|----------------|
| Method: E200.7               |                                           |        |       |      |      |                     |            | Analytical Run: ICP2-C_120319A |                |                |
| Sample ID: ICV               | Initial Calibration Verification Standard |        |       |      |      |                     |            |                                |                | 03/19/12 10:48 |
| Calcium                      |                                           | 49.8   | mg/L  | 0.50 | 100  | 95                  | 105        |                                |                |                |
| Sample ID: ICSA              | Interference Check Sample A               |        |       |      |      |                     |            |                                |                | 03/19/12 11:23 |
| Calcium                      |                                           | 499    | mg/L  | 0.50 | 100  | 80                  | 120        |                                |                |                |
| Sample ID: ICSAB             | Interference Check Sample AB              |        |       |      |      |                     |            |                                |                | 03/19/12 11:27 |
| Calcium                      |                                           | 501    | mg/L  | 0.50 | 100  | 80                  | 120        |                                |                |                |
| Method: E200.7               |                                           |        |       |      |      |                     |            |                                |                | Batch: R157530 |
| Sample ID: MB-120319A        | Method Blank                              |        |       |      |      | Run: ICP2-C_120319A |            |                                | 03/19/12 11:55 |                |
| Calcium                      |                                           | ND     | mg/L  | 0.06 |      |                     |            |                                |                |                |
| Sample ID: LFB-120319A       | Laboratory Fortified Blank                |        |       |      |      | Run: ICP2-C_120319A |            |                                | 03/19/12 11:59 |                |
| Calcium                      |                                           | 47.6   | mg/L  | 0.50 | 95   | 85                  | 115        |                                |                |                |
| Sample ID: C12030569-001CMS2 | Sample Matrix Spike                       |        |       |      |      | Run: ICP2-C_120319A |            |                                | 03/19/12 14:12 |                |
| Calcium                      |                                           | 134    | mg/L  | 1.0  | 95   | 70                  | 130        |                                |                |                |
| Sample ID: C12030569-001CMSD | Sample Matrix Spike Duplicate             |        |       |      |      | Run: ICP2-C_120319A |            |                                | 03/19/12 14:16 |                |
| Calcium                      |                                           | 134    | mg/L  | 1.0  | 95   | 70                  | 130        | 0.1                            | 20             |                |

### Qualifiers:

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MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                                    | Units | RL     | %REC | Low Limit | High Limit | RPD                              | RPDLimit | Qual           |
|-------------------------------------|-------|-------------------------------------------|-------|--------|------|-----------|------------|----------------------------------|----------|----------------|
| <b>Method: E200.8</b>               |       |                                           |       |        |      |           |            | Analytical Run: ICPMS2-C_120312B |          |                |
| <b>Sample ID: ICV</b>               | 3     | Initial Calibration Verification Standard |       |        |      |           |            |                                  |          | 03/12/12 18:42 |
| Aluminum                            |       | 0.0519                                    | mg/L  | 0.0010 | 104  | 90        | 110        |                                  |          |                |
| Molybdenum                          |       | 0.0538                                    | mg/L  | 0.0010 | 108  | 90        | 110        |                                  |          |                |
| Silver                              |       | 0.0205                                    | mg/L  | 0.0010 | 103  | 90        | 110        |                                  |          |                |
| <b>Method: E200.8</b>               |       |                                           |       |        |      |           |            | Batch: R157273                   |          |                |
| <b>Sample ID: LRB</b>               | 3     | Method Blank                              |       |        |      |           |            |                                  |          | 03/12/12 19:05 |
| Aluminum                            |       | ND                                        | mg/L  | 0.001  |      |           |            |                                  |          |                |
| Molybdenum                          |       | ND                                        | mg/L  | 4E-05  |      |           |            |                                  |          |                |
| Silver                              |       | ND                                        | mg/L  | 5E-05  |      |           |            |                                  |          |                |
| <b>Sample ID: LFB</b>               | 3     | Laboratory Fortified Blank                |       |        |      |           |            |                                  |          | 03/12/12 19:08 |
| Aluminum                            |       | 0.0557                                    | mg/L  | 0.0010 | 111  | 85        | 115        |                                  |          |                |
| Molybdenum                          |       | 0.0566                                    | mg/L  | 0.0010 | 113  | 85        | 115        |                                  |          |                |
| Silver                              |       | 0.0208                                    | mg/L  | 0.0010 | 104  | 85        | 115        |                                  |          |                |
| <b>Sample ID: C12030404-002CMS4</b> | 3     | Sample Matrix Spike                       |       |        |      |           |            |                                  |          | 03/13/12 00:26 |
| Aluminum                            |       | 0.0466                                    | mg/L  | 0.030  | 93   | 70        | 130        |                                  |          |                |
| Molybdenum                          |       | 0.168                                     | mg/L  | 0.0010 | 94   | 70        | 130        |                                  |          |                |
| Silver                              |       | 0.0184                                    | mg/L  | 0.0010 | 92   | 70        | 130        |                                  |          |                |
| <b>Sample ID: C12030404-002CMSD</b> | 3     | Sample Matrix Spike Duplicate             |       |        |      |           |            |                                  |          | 03/13/12 00:29 |
| Aluminum                            |       | 0.0472                                    | mg/L  | 0.030  | 94   | 70        | 130        | 1.1                              | 20       |                |
| Molybdenum                          |       | 0.169                                     | mg/L  | 0.0010 | 97   | 70        | 130        | 0.8                              | 20       |                |
| Silver                              |       | 0.0188                                    | mg/L  | 0.0010 | 94   | 70        | 130        | 2.4                              | 20       |                |

### Qualifiers:

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MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                                    | Units | RL      | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual                                 |
|-------------------------------------|-------|-------------------------------------------|-------|---------|------|-----------|------------|-----|----------|--------------------------------------|
| <b>Method: E200.8</b>               |       |                                           |       |         |      |           |            |     |          | Analytical Run: ICPMS2-C_120314A     |
| <b>Sample ID: ICV</b>               | 8     | Initial Calibration Verification Standard |       |         |      |           |            |     |          | 03/14/12 08:56                       |
| Antimony                            |       | 0.0507                                    | mg/L  | 0.0010  | 101  | 90        | 110        |     |          |                                      |
| Arsenic                             |       | 0.0488                                    | mg/L  | 0.0010  | 98   | 90        | 110        |     |          |                                      |
| Chromium                            |       | 0.0490                                    | mg/L  | 0.0010  | 98   | 90        | 110        |     |          |                                      |
| Copper                              |       | 0.0516                                    | mg/L  | 0.0010  | 103  | 90        | 110        |     |          |                                      |
| Lead                                |       | 0.0500                                    | mg/L  | 0.0010  | 100  | 90        | 110        |     |          |                                      |
| Silver                              |       | 0.0202                                    | mg/L  | 0.0010  | 101  | 90        | 110        |     |          |                                      |
| Thallium                            |       | 0.0492                                    | mg/L  | 0.0010  | 98   | 90        | 110        |     |          |                                      |
| Zinc                                |       | 0.0498                                    | mg/L  | 0.0010  | 100  | 90        | 110        |     |          |                                      |
| <b>Method: E200.8</b>               |       |                                           |       |         |      |           |            |     |          | Batch: R157376                       |
| <b>Sample ID: LRB</b>               | 8     | Method Blank                              |       |         |      |           |            |     |          | Run: ICPMS2-C_120314A 03/14/12 09:20 |
| Antimony                            |       | ND                                        | mg/L  | 6E-05   |      |           |            |     |          |                                      |
| Arsenic                             |       | ND                                        | mg/L  | 0.00010 |      |           |            |     |          |                                      |
| Chromium                            |       | ND                                        | mg/L  | 6E-05   |      |           |            |     |          |                                      |
| Copper                              |       | ND                                        | mg/L  | 0.0001  |      |           |            |     |          |                                      |
| Lead                                |       | ND                                        | mg/L  | 3E-05   |      |           |            |     |          |                                      |
| Silver                              |       | ND                                        | mg/L  | 5E-05   |      |           |            |     |          |                                      |
| Thallium                            |       | ND                                        | mg/L  | 9E-06   |      |           |            |     |          |                                      |
| Zinc                                |       | ND                                        | mg/L  | 0.0006  |      |           |            |     |          |                                      |
| <b>Sample ID: LFB</b>               | 8     | Laboratory Fortified Blank                |       |         |      |           |            |     |          | Run: ICPMS2-C_120314A 03/14/12 09:23 |
| Antimony                            |       | 0.0494                                    | mg/L  | 0.0010  | 99   | 85        | 115        |     |          |                                      |
| Arsenic                             |       | 0.0489                                    | mg/L  | 0.0010  | 98   | 85        | 115        |     |          |                                      |
| Chromium                            |       | 0.0482                                    | mg/L  | 0.0010  | 96   | 85        | 115        |     |          |                                      |
| Copper                              |       | 0.0490                                    | mg/L  | 0.0010  | 98   | 85        | 115        |     |          |                                      |
| Lead                                |       | 0.0497                                    | mg/L  | 0.0010  | 99   | 85        | 115        |     |          |                                      |
| Silver                              |       | 0.0199                                    | mg/L  | 0.0010  | 100  | 85        | 115        |     |          |                                      |
| Thallium                            |       | 0.0485                                    | mg/L  | 0.0010  | 97   | 85        | 115        |     |          |                                      |
| Zinc                                |       | 0.0489                                    | mg/L  | 0.0010  | 98   | 85        | 115        |     |          |                                      |
| <b>Sample ID: C12030395-002BMS4</b> | 8     | Sample Matrix Spike                       |       |         |      |           |            |     |          | Run: ICPMS2-C_120314A 03/14/12 12:02 |
| Antimony                            |       | 0.0541                                    | mg/L  | 0.0010  | 108  | 70        | 130        |     |          |                                      |
| Arsenic                             |       | 0.0570                                    | mg/L  | 0.0010  | 111  | 70        | 130        |     |          |                                      |
| Chromium                            |       | 0.0533                                    | mg/L  | 0.0050  | 96   | 70        | 130        |     |          |                                      |
| Copper                              |       | 0.0852                                    | mg/L  | 0.0050  | 88   | 70        | 130        |     |          |                                      |
| Lead                                |       | 0.0519                                    | mg/L  | 0.0010  | 104  | 70        | 130        |     |          |                                      |
| Silver                              |       | 0.00889                                   | mg/L  | 0.0010  | 44   | 70        | 130        |     |          | S                                    |
| Thallium                            |       | 0.0502                                    | mg/L  | 0.00050 | 100  | 70        | 130        |     |          |                                      |
| Zinc                                |       | 0.0814                                    | mg/L  | 0.010   | 85   | 70        | 130        |     |          |                                      |
| <b>Sample ID: C12030395-002BMSD</b> | 8     | Sample Matrix Spike Duplicate             |       |         |      |           |            |     |          | Run: ICPMS2-C_120314A 03/14/12 12:05 |
| Antimony                            |       | 0.0550                                    | mg/L  | 0.0010  | 110  | 70        | 130        | 1.7 | 20       |                                      |
| Arsenic                             |       | 0.0578                                    | mg/L  | 0.0010  | 112  | 70        | 130        | 1.4 | 20       |                                      |
| Chromium                            |       | 0.0542                                    | mg/L  | 0.0050  | 98   | 70        | 130        | 1.8 | 20       |                                      |
| Copper                              |       | 0.0846                                    | mg/L  | 0.0050  | 86   | 70        | 130        | 0.8 | 20       |                                      |

## Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Client: Cotter Corporation

Work Order: C12030404

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                                    | Units | RL      | %REC | Low Limit             | High Limit | RPD | RPDLimit | Qual                             |
|-------------------------------------|-------|-------------------------------------------|-------|---------|------|-----------------------|------------|-----|----------|----------------------------------|
| <b>Method: E200.8</b>               |       |                                           |       |         |      |                       |            |     |          | Batch: R157376                   |
| <b>Sample ID: C12030395-002BMSD</b> | 8     | Sample Matrix Spike Duplicate             |       |         |      | Run: ICPMS2-C_120314A |            |     |          | 03/14/12 12:05                   |
| Lead                                |       | 0.0522                                    | mg/L  | 0.0010  | 104  | 70                    | 130        | 0.5 | 20       |                                  |
| Silver                              |       | 0.00810                                   | mg/L  | 0.0010  | 41   | 70                    | 130        | 9.3 | 20       | S                                |
| Thallium                            |       | 0.0504                                    | mg/L  | 0.00050 | 101  | 70                    | 130        | 0.4 | 20       |                                  |
| Zinc                                |       | 0.0816                                    | mg/L  | 0.010   | 86   | 70                    | 130        | 0.2 | 20       |                                  |
| <b>Method: E200.8</b>               |       |                                           |       |         |      |                       |            |     |          | Analytical Run: ICPMS2-C_120319A |
| <b>Sample ID: ICV</b>               |       | Initial Calibration Verification Standard |       |         |      |                       |            |     |          | 03/19/12 11:04                   |
| Uranium                             |       | 0.0538                                    | mg/L  | 0.00030 | 108  | 90                    | 110        |     |          |                                  |
| <b>Method: E200.8</b>               |       |                                           |       |         |      |                       |            |     |          | Batch: R157503                   |
| <b>Sample ID: LRB</b>               |       | Method Blank                              |       |         |      | Run: ICPMS2-C_120319A |            |     |          | 03/19/12 11:15                   |
| Uranium                             |       | ND                                        | mg/L  | 1E-05   |      |                       |            |     |          |                                  |
| <b>Sample ID: LFB</b>               |       | Laboratory Fortified Blank                |       |         |      | Run: ICPMS2-C_120319A |            |     |          | 03/19/12 11:17                   |
| Uranium                             |       | 0.0524                                    | mg/L  | 0.00030 | 105  | 85                    | 115        |     |          |                                  |
| <b>Sample ID: C12030647-002AMS4</b> |       | Sample Matrix Spike                       |       |         |      | Run: ICPMS2-C_120319A |            |     |          | 03/19/12 13:03                   |
| Uranium                             |       | 0.0702                                    | mg/L  | 0.00030 | 96   | 70                    | 130        |     |          |                                  |
| <b>Sample ID: C12030647-002AMSD</b> |       | Sample Matrix Spike Duplicate             |       |         |      | Run: ICPMS2-C_120319A |            |     |          | 03/19/12 13:05                   |
| Uranium                             |       | 0.0708                                    | mg/L  | 0.00030 | 97   | 70                    | 130        | 0.8 | 20       |                                  |

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Client: Cotter Corporation

Work Order: C12030404

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                                    | Units | RL      | %REC | Low Limit | High Limit                       | RPD | RPDLimit | Qual           |
|-------------------------------------|-------|-------------------------------------------|-------|---------|------|-----------|----------------------------------|-----|----------|----------------|
| <b>Method: E200.8</b>               |       |                                           |       |         |      |           | Analytical Run: ICPMS4-C_120312A |     |          |                |
| <b>Sample ID: ICV</b>               | 11    | Initial Calibration Verification Standard |       |         |      |           |                                  |     |          | 03/12/12 17:13 |
| Antimony                            |       | 0.0488                                    | mg/L  | 0.0010  | 98   | 90        | 110                              |     |          |                |
| Arsenic                             |       | 0.0474                                    | mg/L  | 0.0010  | 95   | 90        | 110                              |     |          |                |
| Copper                              |       | 0.0476                                    | mg/L  | 0.0010  | 95   | 90        | 110                              |     |          |                |
| Iron                                |       | 0.996                                     | mg/L  | 0.0010  | 100  | 90        | 110                              |     |          |                |
| Magnesium                           |       | 9.36                                      | mg/L  | 0.0027  | 94   | 90        | 110                              |     |          |                |
| Manganese                           |       | 0.0464                                    | mg/L  | 0.0010  | 93   | 90        | 110                              |     |          |                |
| Mercury                             |       | 0.00502                                   | mg/L  | 0.0010  | 100  | 90        | 110                              |     |          |                |
| Potassium                           |       | 9.39                                      | mg/L  | 0.0041  | 94   | 90        | 110                              |     |          |                |
| Thallium                            |       | 0.0475                                    | mg/L  | 0.0010  | 95   | 90        | 110                              |     |          |                |
| Uranium                             |       | 0.0460                                    | mg/L  | 0.00030 | 92   | 90        | 110                              |     |          |                |
| Zinc                                |       | 0.0477                                    | mg/L  | 0.0010  | 95   | 90        | 110                              |     |          |                |
| <b>Method: E200.8</b>               |       |                                           |       |         |      |           | Batch: R157265A                  |     |          |                |
| <b>Sample ID: C12030404-002CMS4</b> | 11    | Sample Matrix Spike                       |       |         |      |           |                                  |     |          | 03/13/12 02:40 |
| Run: ICPMS4-C_120312A               |       |                                           |       |         |      |           |                                  |     |          |                |
| Antimony                            |       | 0.0500                                    | mg/L  | 0.0010  | 99   | 70        | 130                              |     |          |                |
| Arsenic                             |       | 0.0493                                    | mg/L  | 0.0010  | 99   | 70        | 130                              |     |          |                |
| Copper                              |       | 0.0487                                    | mg/L  | 0.0050  | 95   | 70        | 130                              |     |          |                |
| Iron                                |       | 1.17                                      | mg/L  | 0.030   | 93   | 70        | 130                              |     |          |                |
| Magnesium                           |       | 105                                       | mg/L  | 1.0     |      | 70        | 130                              |     |          | A              |
| Manganese                           |       | 0.0526                                    | mg/L  | 0.0010  | 95   | 70        | 130                              |     |          |                |
| Mercury                             |       | 0.00448                                   | mg/L  | 0.00010 | 90   | 70        | 130                              |     |          |                |
| Potassium                           |       | 20.2                                      | mg/L  | 1.0     | 96   | 70        | 130                              |     |          |                |
| Thallium                            |       | 0.0476                                    | mg/L  | 0.00050 | 95   | 70        | 130                              |     |          |                |
| Uranium                             |       | 9.82                                      | mg/L  | 0.00030 |      | 70        | 130                              |     |          | A              |
| Zinc                                |       | 0.0541                                    | mg/L  | 0.010   | 91   | 70        | 130                              |     |          |                |
| <b>Sample ID: C12030404-002CMSD</b> | 11    | Sample Matrix Spike Duplicate             |       |         |      |           |                                  |     |          | 03/13/12 02:47 |
| Run: ICPMS4-C_120312A               |       |                                           |       |         |      |           |                                  |     |          |                |
| Antimony                            |       | 0.0501                                    | mg/L  | 0.0010  | 100  | 70        | 130                              | 0.2 | 20       |                |
| Arsenic                             |       | 0.0493                                    | mg/L  | 0.0010  | 99   | 70        | 130                              | 0.0 | 20       |                |
| Copper                              |       | 0.0483                                    | mg/L  | 0.0050  | 94   | 70        | 130                              | 0.9 | 20       |                |
| Iron                                |       | 1.20                                      | mg/L  | 0.030   | 96   | 70        | 130                              | 2.7 | 20       |                |
| Magnesium                           |       | 106                                       | mg/L  | 1.0     |      | 70        | 130                              | 0.7 | 20       | A              |
| Manganese                           |       | 0.0524                                    | mg/L  | 0.0010  | 95   | 70        | 130                              | 0.4 | 20       |                |
| Mercury                             |       | 0.00465                                   | mg/L  | 0.00010 | 93   | 70        | 130                              | 3.6 | 20       |                |
| Potassium                           |       | 20.1                                      | mg/L  | 1.0     | 96   | 70        | 130                              | 0.4 | 20       |                |
| Thallium                            |       | 0.0482                                    | mg/L  | 0.00050 | 96   | 70        | 130                              | 1.1 | 20       |                |
| Uranium                             |       | 9.85                                      | mg/L  | 0.00030 |      | 70        | 130                              | 0.3 | 20       | A              |
| Zinc                                |       | 0.0544                                    | mg/L  | 0.010   | 92   | 70        | 130                              | 0.5 | 20       |                |
| <b>Sample ID: LRB</b>               | 11    | Method Blank                              |       |         |      |           |                                  |     |          | 03/12/12 18:08 |
| Run: ICPMS4-C_120312A               |       |                                           |       |         |      |           |                                  |     |          |                |
| Antimony                            |       | 0.0003                                    | mg/L  | 0.0001  |      |           |                                  |     |          |                |
| Arsenic                             |       | ND                                        | mg/L  | 5E-05   |      |           |                                  |     |          |                |
| Copper                              |       | ND                                        | mg/L  | 3E-05   |      |           |                                  |     |          |                |
| Iron                                |       | 0.0007                                    | mg/L  | 0.0006  |      |           |                                  |     |          |                |
| Magnesium                           |       | ND                                        | mg/L  | 0.003   |      |           |                                  |     |          |                |

## Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte               | Count | Result                     | Units | RL      | %REC | Low Limit             | High Limit | RPD | RPDLimit        | Qual |
|-----------------------|-------|----------------------------|-------|---------|------|-----------------------|------------|-----|-----------------|------|
| <b>Method: E200.8</b> |       |                            |       |         |      |                       |            |     | Batch: R157265A |      |
| <b>Sample ID: LRB</b> | 11    | Method Blank               |       |         |      | Run: ICPMS4-C_120312A |            |     | 03/12/12 18:08  |      |
| Manganese             |       | 3E-05                      | mg/L  | 3E-05   |      |                       |            |     |                 |      |
| Mercury               |       | ND                         | mg/L  | 5E-05   |      |                       |            |     |                 |      |
| Potassium             |       | ND                         | mg/L  | 0.004   |      |                       |            |     |                 |      |
| Thallium              |       | ND                         | mg/L  | 6E-05   |      |                       |            |     |                 |      |
| Uranium               |       | 3E-05                      | mg/L  | 9E-06   |      |                       |            |     |                 |      |
| Zinc                  |       | ND                         | mg/L  | 0.0002  |      |                       |            |     |                 |      |
| <b>Sample ID: LFB</b> | 11    | Laboratory Fortified Blank |       |         |      | Run: ICPMS4-C_120312A |            |     | 03/12/12 18:15  |      |
| Antimony              |       | 0.0439                     | mg/L  | 0.0010  | 87   | 85                    | 115        |     |                 |      |
| Arsenic               |       | 0.0451                     | mg/L  | 0.0010  | 90   | 85                    | 115        |     |                 |      |
| Copper                |       | 0.0450                     | mg/L  | 0.0010  | 90   | 85                    | 115        |     |                 |      |
| Iron                  |       | 1.12                       | mg/L  | 0.0010  | 89   | 85                    | 115        |     |                 |      |
| Magnesium             |       | 10.9                       | mg/L  | 0.0027  | 87   | 85                    | 115        |     |                 |      |
| Manganese             |       | 0.0441                     | mg/L  | 0.0010  | 88   | 85                    | 115        |     |                 |      |
| Mercury               |       | 0.00438                    | mg/L  | 0.0010  | 88   | 85                    | 115        |     |                 |      |
| Potassium             |       | 10.6                       | mg/L  | 0.0041  | 85   | 85                    | 115        |     |                 |      |
| Thallium              |       | 0.0446                     | mg/L  | 0.0010  | 89   | 85                    | 115        |     |                 |      |
| Uranium               |       | 0.0425                     | mg/L  | 0.00030 | 85   | 85                    | 115        |     |                 |      |
| Zinc                  |       | 0.0462                     | mg/L  | 0.0010  | 92   | 85                    | 115        |     |                 |      |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                                    | Units | RL     | %REC | Low Limit             | High Limit | RPD                              | RPDLimit | Qual           |
|-------------------------------------|-------|-------------------------------------------|-------|--------|------|-----------------------|------------|----------------------------------|----------|----------------|
| <b>Method: E200.8</b>               |       |                                           |       |        |      |                       |            | Analytical Run: ICPMS4-C_120313A |          |                |
| <b>Sample ID: ICV</b>               | 4     | Initial Calibration Verification Standard |       |        |      |                       |            |                                  |          | 03/13/12 10:41 |
| Aluminum                            |       | 0.0464                                    | mg/L  | 0.0010 | 93   | 90                    | 110        |                                  |          |                |
| Iron                                |       | 1.01                                      | mg/L  | 0.0010 | 101  | 90                    | 110        |                                  |          |                |
| Manganese                           |       | 0.0476                                    | mg/L  | 0.0010 | 95   | 90                    | 110        |                                  |          |                |
| Sodium                              |       | 9.39                                      | mg/L  | 0.0043 | 94   | 90                    | 110        |                                  |          |                |
| <b>Method: E200.8</b>               |       |                                           |       |        |      |                       |            | Batch: R157326A                  |          |                |
| <b>Sample ID: C12030386-008DMS4</b> | 4     | Sample Matrix Spike                       |       |        |      |                       |            |                                  |          | 03/13/12 18:25 |
|                                     |       |                                           |       |        |      | Run: ICPMS4-C_120313A |            |                                  |          |                |
| Aluminum                            |       | 0.0980                                    | mg/L  | 0.030  | 122  | 70                    | 130        |                                  |          |                |
| Iron                                |       | 1.20                                      | mg/L  | 0.030  | 91   | 70                    | 130        |                                  |          |                |
| Manganese                           |       | 0.0520                                    | mg/L  | 0.0010 | 98   | 70                    | 130        |                                  |          |                |
| Sodium                              |       | 25.5                                      | mg/L  | 1.0    | 93   | 70                    | 130        |                                  |          |                |
| <b>Sample ID: C12030386-008DMSD</b> | 4     | Sample Matrix Spike Duplicate             |       |        |      |                       |            |                                  |          | 03/13/12 18:32 |
|                                     |       |                                           |       |        |      | Run: ICPMS4-C_120313A |            |                                  |          |                |
| Aluminum                            |       | 0.0956                                    | mg/L  | 0.030  | 117  | 70                    | 130        | 2.5                              | 20       |                |
| Iron                                |       | 1.18                                      | mg/L  | 0.030  | 90   | 70                    | 130        | 1.5                              | 20       |                |
| Manganese                           |       | 0.0479                                    | mg/L  | 0.0010 | 90   | 70                    | 130        | 8.2                              | 20       |                |
| Sodium                              |       | 25.1                                      | mg/L  | 1.0    | 90   | 70                    | 130        | 1.5                              | 20       |                |
| <b>Sample ID: LRB</b>               | 4     | Method Blank                              |       |        |      |                       |            |                                  |          | 03/13/12 12:19 |
|                                     |       |                                           |       |        |      | Run: ICPMS4-C_120313A |            |                                  |          |                |
| Aluminum                            |       | ND                                        | mg/L  | 0.0002 |      |                       |            |                                  |          |                |
| Iron                                |       | 0.0006                                    | mg/L  | 0.0006 |      |                       |            |                                  |          |                |
| Manganese                           |       | 0.0008                                    | mg/L  | 3E-05  |      |                       |            |                                  |          |                |
| Sodium                              |       | ND                                        | mg/L  | 0.004  |      |                       |            |                                  |          |                |
| <b>Sample ID: LFB</b>               | 4     | Laboratory Fortified Blank                |       |        |      |                       |            |                                  |          | 03/13/12 12:26 |
|                                     |       |                                           |       |        |      | Run: ICPMS4-C_120313A |            |                                  |          |                |
| Aluminum                            |       | 0.0526                                    | mg/L  | 0.0010 | 105  | 85                    | 115        |                                  |          |                |
| Iron                                |       | 1.30                                      | mg/L  | 0.0010 | 104  | 85                    | 115        |                                  |          |                |
| Manganese                           |       | 0.0521                                    | mg/L  | 0.0010 | 103  | 85                    | 115        |                                  |          |                |
| Sodium                              |       | 12.3                                      | mg/L  | 0.0043 | 99   | 85                    | 115        |                                  |          |                |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                      | Count | Result                                       | Units | RL      | %REC | Low Limit              | High Limit                        | RPD | RPDLimit       | Qual |
|------------------------------|-------|----------------------------------------------|-------|---------|------|------------------------|-----------------------------------|-----|----------------|------|
| Method: E245.1               |       |                                              |       |         |      |                        | Analytical Run: CVAA_C203_120314A |     |                |      |
| Sample ID: ICV               |       | Initial Calibration Verification Standard    |       |         |      |                        |                                   |     | 03/13/12 16:47 |      |
| Mercury                      |       | 0.00471                                      | mg/L  | 0.00010 | 94   | 90                     | 110                               |     |                |      |
| Sample ID: CCV1              |       | Continuing Calibration Verification Standard |       |         |      |                        |                                   |     | 03/13/12 16:49 |      |
| Mercury                      |       | 0.00511                                      | mg/L  | 0.00010 | 102  | 95                     | 105                               |     |                |      |
|                              |       |                                              |       |         |      |                        |                                   |     |                |      |
| Method: E245.1               |       |                                              |       |         |      |                        | Batch: 33009                      |     |                |      |
| Sample ID: MB-33009          |       | Method Blank                                 |       |         |      | Run: CVAA_C203_120314A |                                   |     | 03/13/12 16:52 |      |
| Mercury                      |       | ND                                           | mg/L  | 3E-05   |      |                        |                                   |     |                |      |
| Sample ID: LCS-33009         |       | Laboratory Control Sample                    |       |         |      | Run: CVAA_C203_120314A |                                   |     | 03/13/12 16:53 |      |
| Mercury                      |       | 0.00488                                      | mg/L  | 0.00010 | 98   | 85                     | 115                               |     |                |      |
| Sample ID: C12030404-001DMS  |       | Sample Matrix Spike                          |       |         |      | Run: CVAA_C203_120314A |                                   |     | 03/13/12 16:56 |      |
| Mercury                      |       | 0.00506                                      | mg/L  | 0.00010 | 101  | 70                     | 130                               |     |                |      |
| Sample ID: C12030404-001DMSD |       | Sample Matrix Spike Duplicate                |       |         |      | Run: CVAA_C203_120314A |                                   |     | 03/13/12 16:57 |      |
| Mercury                      |       | 0.00507                                      | mg/L  | 0.00010 | 101  | 70                     | 130                               | 0.2 | 10             |      |

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                                      | Units | RL   | %REC | Low Limit          | High Limit | RPD                           | RPDLimit       | Qual           |
|-------------------------------------|-------|---------------------------------------------|-------|------|------|--------------------|------------|-------------------------------|----------------|----------------|
| <b>Method: E300.0</b>               |       |                                             |       |      |      |                    |            | Analytical Run: IC2-C_120313A |                |                |
| <b>Sample ID: ICV-031312-10</b>     | 2     | Initial Calibration Verification Standard   |       |      |      |                    |            |                               |                | 03/13/12 13:14 |
| Chloride                            |       | 9.68                                        | mg/L  | 1.0  | 97   | 90                 | 110        |                               |                |                |
| Sulfate                             |       | 38.9                                        | mg/L  | 1.0  | 97   | 90                 | 110        |                               |                |                |
| <b>Sample ID: ICB-031312-12</b>     | 2     | Initial Calibration Blank, Instrument Blank |       |      |      |                    |            |                               |                | 03/13/12 13:46 |
| Chloride                            |       | 0.0140                                      | mg/L  | 1.0  |      | 0                  | 0          |                               |                |                |
| Sulfate                             |       | 0.0640                                      | mg/L  | 1.0  |      | 0                  | 0          |                               |                |                |
| <b>Method: E300.0</b>               |       |                                             |       |      |      |                    |            | Batch: R157411                |                |                |
| <b>Sample ID: ICB-031312-11</b>     | 2     | Method Blank                                |       |      |      | Run: IC2-C_120313A |            |                               | 03/13/12 13:30 |                |
| Chloride                            |       | ND                                          | mg/L  | 0.03 |      |                    |            |                               |                |                |
| Sulfate                             |       | ND                                          | mg/L  | 0.10 |      |                    |            |                               |                |                |
| <b>Sample ID: LFB-031312-13</b>     | 2     | Laboratory Fortified Blank                  |       |      |      | Run: IC2-C_120313A |            |                               | 03/13/12 14:03 |                |
| Chloride                            |       | 9.90                                        | mg/L  | 1.0  | 99   | 90                 | 110        |                               |                |                |
| Sulfate                             |       | 39.2                                        | mg/L  | 1.0  | 98   | 90                 | 110        |                               |                |                |
| <b>Sample ID: LFBD-031312-14</b>    | 2     | Laboratory Fortified Blank Duplicate        |       |      |      | Run: IC2-C_120313A |            |                               | 03/13/12 14:19 |                |
| Chloride                            |       | 9.77                                        | mg/L  | 1.0  | 98   | 90                 | 110        | 1.4                           | 10             |                |
| Sulfate                             |       | 39.5                                        | mg/L  | 1.0  | 99   | 90                 | 110        | 0.7                           | 10             |                |
| <b>Sample ID: C12030413-002AMS</b>  | 2     | Sample Matrix Spike                         |       |      |      | Run: IC2-C_120313A |            |                               | 03/15/12 00:20 |                |
| Chloride                            |       | 17.2                                        | mg/L  | 1.0  | 102  | 90                 | 110        |                               |                |                |
| Sulfate                             |       | 39.1                                        | mg/L  | 1.0  | 99   | 90                 | 110        |                               |                |                |
| <b>Sample ID: C12030413-002AMSD</b> | 2     | Sample Matrix Spike Duplicate               |       |      |      | Run: IC2-C_120313A |            |                               | 03/15/12 00:37 |                |
| Chloride                            |       | 17.4                                        | mg/L  | 1.0  | 105  | 90                 | 110        | 1.6                           | 10             |                |
| Sulfate                             |       | 40.3                                        | mg/L  | 1.0  | 102  | 90                 | 110        | 3.0                           | 10             |                |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                        | Count | Result                                    | Units | RL    | %REC             | Low Limit | High Limit | RPD                         | RPDLimit       | Qual |
|--------------------------------|-------|-------------------------------------------|-------|-------|------------------|-----------|------------|-----------------------------|----------------|------|
| Method: E353.2                 |       |                                           |       |       |                  |           |            | Analytical Run: SUB-B182540 |                |      |
| Sample ID: ICV                 |       | Initial Calibration Verification Standard |       |       |                  |           |            |                             | 03/27/12 08:55 |      |
| Nitrogen, Nitrate+Nitrite as N |       | 22.3                                      | mg/L  | 0.060 | 102              | 90        | 110        |                             |                |      |
| Method: E353.2                 |       |                                           |       |       |                  |           |            | Batch: B_R182540            |                |      |
| Sample ID: MBLK                |       | Method Blank                              |       |       | Run: SUB-B182540 |           |            | 03/27/12 08:56              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | ND                                        | mg/L  | 0.003 |                  |           |            |                             |                |      |
| Sample ID: LFB                 |       | Laboratory Fortified Blank                |       |       | Run: SUB-B182540 |           |            | 03/27/12 08:57              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | 1.07                                      | mg/L  | 0.010 | 109              | 90        | 110        |                             |                |      |
| Sample ID: C12030404-002E      |       | Sample Matrix Spike                       |       |       | Run: SUB-B182540 |           |            | 03/27/12 09:03              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | 1.36                                      | mg/L  | 0.010 | 107              | 90        | 110        |                             |                |      |
| Sample ID: C12030404-002E      |       | Sample Matrix Spike Duplicate             |       |       | Run: SUB-B182540 |           |            | 03/27/12 09:04              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | 1.35                                      | mg/L  | 0.010 | 106              | 90        | 110        | 1.0                         | 10             |      |
| Method: E353.2                 |       |                                           |       |       |                  |           |            | Analytical Run: SUB-B184037 |                |      |
| Sample ID: ICV                 |       | Initial Calibration Verification Standard |       |       |                  |           |            |                             | 04/25/12 07:29 |      |
| Nitrogen, Nitrate+Nitrite as N |       | 21.8                                      | mg/L  | 0.060 | 100              | 90        | 110        |                             |                |      |
| Method: E353.2                 |       |                                           |       |       |                  |           |            | Batch: B_R184037            |                |      |
| Sample ID: MBLK                |       | Method Blank                              |       |       | Run: SUB-B184037 |           |            | 04/25/12 07:30              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | ND                                        | mg/L  | 0.004 |                  |           |            |                             |                |      |
| Sample ID: LFB                 |       | Laboratory Fortified Blank                |       |       | Run: SUB-B184037 |           |            | 04/25/12 07:31              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | 1.03                                      | mg/L  | 0.010 | 105              | 90        | 110        |                             |                |      |
| Sample ID: C12030404-001E      |       | Sample Matrix Spike                       |       |       | Run: SUB-B184037 |           |            | 04/25/12 10:47              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | 0.884                                     | mg/L  | 0.010 | 90               | 90        | 110        |                             |                |      |
| Sample ID: C12030404-001E      |       | Sample Matrix Spike Duplicate             |       |       | Run: SUB-B184037 |           |            | 04/25/12 10:48              |                |      |
| Nitrogen, Nitrate+Nitrite as N |       | 0.885                                     | mg/L  | 0.010 | 90               | 90        | 110        | 0.1                         | 10             |      |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                      | Count                                     | Result | Units | RL     | %REC | Low Limit        | High Limit | RPD                         | RPDLimit       | Qual |
|------------------------------|-------------------------------------------|--------|-------|--------|------|------------------|------------|-----------------------------|----------------|------|
| Method: E365.1               |                                           |        |       |        |      |                  |            | Analytical Run: SUB-B182130 |                |      |
| Sample ID: ICV               | Initial Calibration Verification Standard |        |       |        |      |                  |            |                             | 03/19/12 12:25 |      |
| Phosphorus, Total as P       |                                           | 0.238  | mg/L  | 0.0050 | 95   | 90               | 110        |                             |                |      |
|                              |                                           |        |       |        |      |                  |            |                             |                |      |
| Method: E365.1               |                                           |        |       |        |      |                  |            | Batch: B_61001              |                |      |
| Sample ID: MB-61001          | Method Blank                              |        |       |        |      | Run: SUB-B182130 |            |                             | 03/19/12 12:26 |      |
| Phosphorus, Total as P       |                                           | ND     | mg/L  | 0.001  |      |                  |            |                             |                |      |
| Sample ID: LFB-61001         | Laboratory Fortified Blank                |        |       |        |      | Run: SUB-B182130 |            |                             | 03/19/12 12:27 |      |
| Phosphorus, Total as P       |                                           | 0.189  | mg/L  | 0.0050 | 95   | 90               | 110        |                             |                |      |
| Sample ID: B12030974-005CMS  | Sample Matrix Spike                       |        |       |        |      | Run: SUB-B182130 |            |                             | 03/19/12 12:36 |      |
| Phosphorus, Total as P       |                                           | 0.242  | mg/L  | 0.0050 | 104  | 90               | 110        |                             |                |      |
| Sample ID: B12030974-005CMSD | Sample Matrix Spike Duplicate             |        |       |        |      | Run: SUB-B182130 |            |                             | 03/19/12 12:37 |      |
| Phosphorus, Total as P       |                                           | 0.241  | mg/L  | 0.0050 | 103  | 90               | 110        | 0.4                         | 10             |      |
| Sample ID: B12031038-005CMSD | Sample Matrix Spike Duplicate             |        |       |        |      | Run: SUB-B182130 |            |                             | 03/19/12 12:55 |      |
| Phosphorus, Total as P       |                                           | 0.185  | mg/L  | 0.0050 | 93   | 90               | 110        | 0.0                         | 10             |      |
| Sample ID: B12031038-005CMS  | Sample Matrix Spike                       |        |       |        |      | Run: SUB-B182130 |            |                             | 03/19/12 12:57 |      |
| Phosphorus, Total as P       |                                           | 0.185  | mg/L  | 0.0050 | 93   | 90               | 110        |                             |                |      |

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                        | Units | RL  | %REC | Low Limit          | High Limit | RPD | RPDLimit         | Qual |
|-------------------------------------|-------|-------------------------------|-------|-----|------|--------------------|------------|-----|------------------|------|
| <b>Method: E900.0</b>               |       |                               |       |     |      |                    |            |     | Batch: GrAB-1252 |      |
| <b>Sample ID: MB-GrAB-1252</b>      | 6     | Method Blank                  |       |     |      | Run: G542M_120320A |            |     | 03/23/12 11:44   |      |
| Gross Alpha                         |       | -0.6                          | pCi/L |     |      |                    |            |     |                  | U    |
| Gross Alpha precision (±)           |       | 0.8                           | pCi/L |     |      |                    |            |     |                  |      |
| Gross Alpha MDC                     |       | 1                             | pCi/L |     |      |                    |            |     |                  |      |
| Gross Beta                          |       | -0.5                          | pCi/L |     |      |                    |            |     |                  | U    |
| Gross Beta precision (±)            |       | 2                             | pCi/L |     |      |                    |            |     |                  |      |
| Gross Beta MDC                      |       | 3                             | pCi/L |     |      |                    |            |     |                  |      |
| <b>Sample ID: Th230-GrAB-1252</b>   |       | Laboratory Control Sample     |       |     |      | Run: G542M_120320A |            |     | 03/23/12 11:44   |      |
| Gross Alpha                         |       | 107                           | pCi/L | 105 |      | 80                 | 120        |     |                  |      |
| <b>Sample ID: Sr90-GrAB-1252</b>    |       | Laboratory Control Sample     |       |     |      | Run: G542M_120320A |            |     | 03/23/12 11:44   |      |
| Gross Beta                          |       | 161                           | pCi/L | 100 |      | 80                 | 120        |     |                  |      |
| <b>Sample ID: C12030404-002GDUP</b> | 6     | Sample Duplicate              |       |     |      | Run: G542M_120320A |            |     | 03/23/12 11:44   |      |
| Gross Alpha                         |       | 12900                         | pCi/L |     |      |                    |            | 7.4 | 11.5             |      |
| Gross Alpha precision (±)           |       | 95.6                          | pCi/L |     |      |                    |            |     |                  |      |
| Gross Alpha MDC                     |       | 8.76                          | pCi/L |     |      |                    |            |     |                  |      |
| Gross Beta                          |       | 2590                          | pCi/L |     |      |                    |            | 2.8 | 11.7             |      |
| Gross Beta precision (±)            |       | 22.0                          | pCi/L |     |      |                    |            |     |                  |      |
| Gross Beta MDC                      |       | 8.19                          | pCi/L |     |      |                    |            |     |                  |      |
| <b>Sample ID: C12030597-001AMS</b>  |       | Sample Matrix Spike           |       |     |      | Run: G542M_120320A |            |     | 03/24/12 01:47   |      |
| Gross Alpha                         |       | 118                           | pCi/L | 117 |      | 70                 | 130        |     |                  |      |
| <b>Sample ID: C12030597-001AMSD</b> |       | Sample Matrix Spike Duplicate |       |     |      | Run: G542M_120320A |            |     | 03/24/12 01:47   |      |
| Gross Alpha                         |       | 106                           | pCi/L | 105 |      | 70                 | 130        | 11  | 17.6             |      |
| <b>Sample ID: C12030597-001AMS</b>  |       | Sample Matrix Spike           |       |     |      | Run: G542M_120320A |            |     | 03/24/12 13:52   |      |
| Gross Beta                          |       | 172                           | pCi/L | 105 |      | 70                 | 130        |     |                  |      |
| <b>Sample ID: C12030597-001AMSD</b> |       | Sample Matrix Spike Duplicate |       |     |      | Run: G542M_120320A |            |     | 03/24/12 13:52   |      |
| Gross Beta                          |       | 178                           | pCi/L | 109 |      | 70                 | 130        | 3.2 | 14.2             |      |

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 05/11/12

Report Date: 04/16/12

Work Order: C12030404

Client: Cotter Corporation

Project: Schwartz GW 3/9/12 S26334-S26335

| Analyte                             | Count | Result                        | Units | RL | %REC | Low Limit                   | High Limit | RPD | RPDLimit          | Qual |
|-------------------------------------|-------|-------------------------------|-------|----|------|-----------------------------|------------|-----|-------------------|------|
| <b>Method: E903.0</b>               |       |                               |       |    |      |                             |            |     | Batch: RA226-5881 |      |
| <b>Sample ID: LCS-RA226-5881</b>    |       | Laboratory Control Sample     |       |    |      | Run: BERTHOLD 770-1_120315A |            |     | 03/21/12 07:45    |      |
| Radium 226                          |       | 5.4                           | pCi/L |    | 85   | 80                          | 120        |     |                   |      |
| <b>Sample ID: MB-RA226-5881</b>     |       | 3 Method Blank                |       |    |      | Run: BERTHOLD 770-1_120315A |            |     | 03/21/12 07:45    |      |
| Radium 226                          |       | 0.01                          | pCi/L |    |      |                             |            |     |                   | U    |
| Radium 226 precision (±)            |       | 0.1                           | pCi/L |    |      |                             |            |     |                   |      |
| Radium 226 MDC                      |       | 0.2                           | pCi/L |    |      |                             |            |     |                   |      |
| <b>Sample ID: C12030404-002FMS</b>  |       | Sample Matrix Spike           |       |    |      | Run: BERTHOLD 770-1_120315A |            |     | 03/21/12 09:56    |      |
| Radium 226                          |       | 11                            | pCi/L |    | 83   | 70                          | 130        |     |                   |      |
| <b>Sample ID: C12030404-002FMSD</b> |       | Sample Matrix Spike Duplicate |       |    |      | Run: BERTHOLD 770-1_120315A |            |     | 03/21/12 09:56    |      |
| Radium 226                          |       | 13                            | pCi/L |    | 100  | 70                          | 130        | 17  | 27.3              |      |

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# Workorder Receipt Checklist



C12030404

Login completed by: Kristy Gisse

Date Received: 3/12/2012

Reviewed by: BL2000\cwagner

Received by: tj

Reviewed Date: 3/13/2012

Carrier FedEx  
name:

|                                                                                                                                                             |                                         |                             |                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------|-------------------------------------------------|
| Shipping container/cooler in good condition?                                                                                                                | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?                                                                                                          | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles?                                                                                                                     | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                                                                                                                                   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |
| Chain of custody signed when relinquished and received?                                                                                                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |
| Chain of custody agrees with sample labels?                                                                                                                 | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |
| Samples in proper container/bottle?                                                                                                                         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |
| Sample containers intact?                                                                                                                                   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |
| Sufficient sample volume for indicated test?                                                                                                                | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                 |

Container/Temp Blank temperature: 10.4°C On Ice

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt? Yes ☒ No ☐ Not Applicable ☐

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Contact and Corrective Action Comments:



PLEASE PRINT; provide as much information as possible. Refer to corresponding notes on reverse side. Page 1 of 1

 $\frac{1}{2}$

# COTTER CORPORATION SAMPLE SUBMITTAL AND TRACKING FORM

Sample Submittal № S 26334

C: P.O. Box 1750  
Cañon City, CO 81215

S: P.O. Box 1750  
Cañon City, CO 81215

N: P.O. Box 700  
Nucla, CO 81424

Sample Loc./ID No. Mine Refill  
Water

Lab. No.(s) \_\_\_\_\_

Sample Date 3-9-12 Time 11:05

Date Data Entered \_\_\_\_\_

Collected By Bob Tennant

Data Entry By \_\_\_\_\_

Field Custodian Bob Tennant

Laboratory Destination if not Cotter:

| Cotter                          | Off-Site Destination |
|---------------------------------|----------------------|
| Delivered By <u>Bob Tennant</u> | <u>FedEx</u>         |
| Received By <u>FedEx</u>        | <u>Mary Judge</u>    |
| Date Recd. _____                | <u>3-12-12</u>       |
| Time Recd. _____                | <u>10:20</u>         |

Energy Laboratories Inc.  
2393 Salt Creek Hwy.  
Casper, WY 82601

1. Sample Type: Air \_\_\_\_\_ Water 5 - Containers Soil \_\_\_\_\_ Other (specify): \_\_\_\_\_

2. Analysis - Test series requested: Table 2

3. Field Data - Preservation: T<sup>m</sup> 12.5 pH 7.14 Cond. 3298  $\mu$ S/cm  
rise cond. 1.68  $\mu$ S/cm, pump rate 2.84 gpm  
1GFAHNO<sub>3</sub> 20ml, 1GF, 1G4FAHNO<sub>3</sub> 20ml  
1GKF, 1G4FAH<sub>2</sub>SO<sub>4</sub> 5ml

4. Date analysis required by (if not Holding Time): \_\_\_\_\_

5. Special handling conditions or other instructions: \_\_\_\_\_

6. Invalidating circumstances? If YES initial ( ) and explain below.

COMMENTS - Explanation of noted items: \_\_\_\_\_

( ) Check if additional attachments.

QA Review:

Sample valid? YES ( ) NO ( ) If NO, explain: \_\_\_\_\_

QAC \_\_\_\_\_ Date \_\_\_\_\_

## COTTER CORPORATION SAMPLE SUBMITTAL AND TRACKING FORM

Sample Submittal N<sup>o</sup> S 26335C: P.O. Box 1750  
Cañon City, CO 81215S: P.O. Box 1750  
Cañon City, CO 81215N: P.O. Box 700  
Nucla, CO 81424Sample Loc./ID No. Sump-10

Lab. No.(s) \_\_\_\_\_

Sample Date 3-9-2012 Time 8:30

Date Data Entered \_\_\_\_\_

Collected By Bob Tennant

Data Entry By \_\_\_\_\_

Field Custodian Bob Tennant

Laboratory Destination if not Cotter:

|              | Cotter             | Off-Site Destination |
|--------------|--------------------|----------------------|
| Delivered By | <u>Bob Tennant</u> | <u>FedEx</u>         |
| Received By  | <u>FedEx</u>       | <u>Nancy Judge</u>   |
| Date Recd.   |                    | <u>3-12-12</u>       |
| Time Recd.   |                    | <u>10:20</u>         |

Energy Laboratories Inc  
2393 Salt Creek Hwy.  
Casper, WY 82601
1. Sample Type: Air \_\_\_\_\_ Water 6 <sup>containers</sup> Soil \_\_\_\_\_ Other (specify): \_\_\_\_\_2. Analysis - Test series requested: Table 2
3. Field Data - Preservation: T<sup>o</sup> 7.7 pH 7.13 Cond. 1830  $\mu$ S/cm  
rinse cond. 7.75  $\mu$ S/cm, DTWA 7' pump rate 200 gpm  
1 GFAHNO<sub>3</sub> 20ml, 1 LUF, 1 GFAHNO<sub>3</sub> 20ml  
2 LUF, 1 LUF A H<sub>2</sub>SO<sub>4</sub> 5ml

4. Date analysis required by (if not Holding Time): \_\_\_\_\_

5. Special handling conditions or other instructions: \_\_\_\_\_

6. Invalidating circumstances? If YES initial ( ) and explain below.

COMMENTS - Explanation of noted items: \_\_\_\_\_

( ) Check if additional attachments.

QA Review:

Sample valid? YES ( ) NO ( ) If NO, explain: \_\_\_\_\_

QAC \_\_\_\_\_ Date \_\_\_\_\_