

0092141

SAF-RC-176
ARRA Remaining Sites Confirmation
Sampling – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt

H4-21

KW 11/29/10
INITIAL/DATE

COMMENTS:

SDG J00921

SAF-RC-176

Rad only

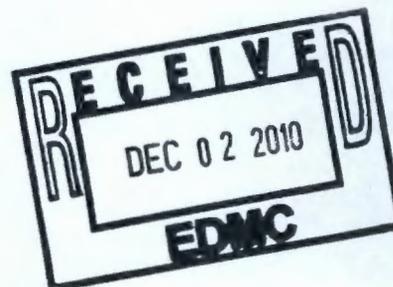
Chem only

Rad & Chem

Complete

Partial

Sample Location: 100-K-90 Other Solid Surface Sample



ANALYTICAL REPORT

Job Number: 280-9726-1

SDG Number: J00921

Job Description: SAF# RC-176

For:

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner



A handwritten signature in black ink that reads "Kae E. Yoder".

Approved for release.
Kae E Yoder
Project Manager II
11/29/2010 2:56 PM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
11/29/2010

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-9726-1

SDG #: J00921

SAF#: RC-176

Date SDG Closed: November 12, 2010

Data Deliverable: 15 Day / Summary

| <u>CLIENT ID</u> | <u>LAB ID</u> | <u>ANALYSES REQUESTED</u> | <u>ANALYSES PERFORMED</u> |
|------------------|---------------|---------------------------|---------------------------|
| J1B521 | 280-9726-1 | 6010/7471 | 6010B/7471A |
| J1B522 | 280-9726-2 | 6010/7471 | 6010B/7471A |

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/12/2010; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.6 C, 1.8 C and 2.0 C.

TOTAL METALS - SW846 6010B/7471A

Low levels of Aluminum, Barium, Calcium, Magnesium and Zinc are present in the method blank associated with batch 280-41028. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "J".

It can be noted that the sample amount was greater than four times the spike amount for Aluminum and Iron in the Matrix Spike performed on sample J1B522; therefore, control limits are not applicable.

The SW846 6010B duplicate analysis of sample J1B522 exhibited RPD data outside the control limits for Sodium, and the associated sample result has been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The Mercury duplicate analysis of sample J1B521 exhibited RPD data outside the control limits, and the associated sample result has been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

| Lab Section | Qualifier | Description |
|-------------|-----------|---|
| Metals | | |
| | U | Analyzed for but not detected. |
| | B | Estimated result. Result is less than the RL, but greater than MDL |
| | J | Method blank contamination. The associated method blank contains the target analyte at a reportable level. |
| | 4 | MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable. |
| | M | Sample duplicate precision not met. |

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

| Description | Lab Location | Method | Preparation Method |
|----------------------|--------------|-------------|--------------------|
| Matrix: Solid | | | |
| Metals (ICP) | TAL DEN | SW846 6010B | |
| Preparation, Metals | TAL DEN | | SW846 3050B |
| Mercury (CVAA) | TAL DEN | SW846 7471A | |
| Preparation, Mercury | TAL DEN | | SW846 7471A |
| ASTM D-2216 | TAL DEN | ASTM D-2216 | |

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

| Method | Analyst | Analyst ID |
|---------------|-------------------|-------------------|
| SW846 6010B | Bowen, Heidi E | HEB |
| SW846 7471A | Stoltz, Katie | KS |
| ASTM D-2216 | Berry III, Paul B | PBB |

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|----------------------|-------------------------|----------------------|------------------------------|-------------------------------|
| 280-9726-1 | J1B521 | Solid | 11/10/2010 1020 | 11/12/2010 0900 |
| 280-9726-2 | J1B522 | Solid | 11/10/2010 1020 | 11/12/2010 0900 |

SAMPLE RESULTS

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

Client Sample ID: J1B522

Lab Sample ID: 280-9726-2

Date Sampled: 11/10/2010 1020

Client Matrix: Solid

% Moisture: 21.6

Date Received: 11/12/2010 0900

6010B Metals (ICP)

| | | | |
|----------------|-----------------|---------------------------|-------------------------------|
| Method: | 6010B | Analysis Batch: 280-42187 | Instrument ID: MT_026 |
| Preparation: | 3050B | Prep Batch: 280-41028 | Lab File ID: 26a111910.asc |
| Dilution: | 1.0 | | Initial Weight/Volume: 1.00 g |
| Date Analyzed: | 11/19/2010 1949 | | Final Weight/Volume: 100 mL |
| Date Prepared: | 11/19/2010 0800 | | |

| Analyte | DryWt Corrected: Y | Result (mg/Kg) | Qualifier | MDL | RL |
|------------|--------------------|----------------|-----------|-------|------|
| Aluminum | | 1650 | J | 2.0 | 6.4 |
| Antimony | | 0.48 | U | 0.48 | 0.77 |
| Arsenic | | 0.84 | U | 0.84 | 1.3 |
| Barium | | 15.2 | J | 0.097 | 0.64 |
| Beryllium | | 0.048 | B | 0.042 | 0.26 |
| Boron | | 1.2 | U | 1.2 | 2.6 |
| Cadmium | | 0.052 | U | 0.052 | 0.26 |
| Calcium | | 1030 | J | 18.0 | 63.8 |
| Chromium | | 1.2 | | 0.074 | 0.26 |
| Cobalt | | 1.2 | B | 0.13 | 1.3 |
| Copper | | 3.0 | | 0.28 | 1.3 |
| Iron | | 3320 | | 4.8 | 6.4 |
| Lead | | 2.7 | | 0.34 | 0.64 |
| Magnesium | | 618 | J | 4.7 | 25.5 |
| Manganese | | 47.1 | | 0.13 | 1.3 |
| Molybdenum | | 0.33 | U | 0.33 | 2.6 |
| Nickel | | 1.7 | B | 0.16 | 5.1 |
| Potassium | | 291 | B | 52.3 | 383 |
| Selenium | | 1.1 | U | 1.1 | 1.3 |
| Silicon | | 276 | | 2.7 | 12.8 |
| Silver | | 0.20 | U | 0.20 | 0.26 |
| Sodium | | 118 | B M | 75.2 | 153 |
| Vanadium | | 8.1 | | 0.12 | 2.6 |
| Zinc | | 12.0 | J | 0.51 | 1.3 |

7471A Mercury (CVAA)

| | | | |
|----------------|-----------------|---------------------------|-------------------------------|
| Method: | 7471A | Analysis Batch: 280-41892 | Instrument ID: MT_033 |
| Preparation: | 7471A | Prep Batch: 280-40980 | Lab File ID: 101118AA.txt |
| Dilution: | 1.0 | | Initial Weight/Volume: 0.63 g |
| Date Analyzed: | 11/18/2010 1355 | | Final Weight/Volume: 50 mL |
| Date Prepared: | 11/18/2010 0900 | | |

| Analyte | DryWt Corrected: Y | Result (mg/Kg) | Qualifier | MDL | RL |
|---------|--------------------|----------------|-----------|--------|-------|
| Mercury | | 0.017 | B | 0.0067 | 0.021 |

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

General Chemistry

Client Sample ID: J1B521

Lab Sample ID: 280-9726-1

Client Matrix: Solid

Date Sampled: 11/10/2010 1020

Date Received: 11/12/2010 0900

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|------------------|---------------------------|------|--------------------------------|------|------|-----|--------------------|
| Percent Moisture | 21.3 | | % | 0.10 | 0.10 | 1.0 | D-2216 |
| | Analysis Batch: 280-40939 | | Date Analyzed: 11/15/2010 1010 | | | | DryWt Corrected: N |

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

General Chemistry

Client Sample ID: J1B522

Lab Sample ID: 280-9726-2

Client Matrix: Solid

Date Sampled: 11/10/2010 1020

Date Received: 11/12/2010 0900

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|------------------|---------------------------|------|--------------------------------|------|------|-----|--------------------|
| Percent Moisture | 21.6 | | % | 0.10 | 0.10 | 1.0 | D-2216 |
| | Analysis Batch: 280-40939 | | Date Analyzed: 11/15/2010 1010 | | | | DryWt Corrected: N |

QUALITY CONTROL RESULTS

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1
Sdg Number: J00921

QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|----------------------------------|--------------------|--------------|---------------|--------|------------|
| Metals | | | | | |
| Prep Batch: 280-40980 | | | | | |
| LCS 280-40980/2-A | Lab Control Sample | T | Solid | 7471A | |
| MB 280-40980/1-A | Method Blank | T | Solid | 7471A | |
| 280-9726-1 | J1B521 | T | Solid | 7471A | |
| 280-9726-1DU | Duplicate | T | Solid | 7471A | |
| 280-9726-1MS | Matrix Spike | T | Solid | 7471A | |
| 280-9726-2 | J1B522 | T | Solid | 7471A | |
| Prep Batch: 280-41028 | | | | | |
| LCS 280-41028/2-A | Lab Control Sample | T | Solid | 3050B | |
| MB 280-41028/1-A | Method Blank | T | Solid | 3050B | |
| 280-9726-1 | J1B521 | T | Solid | 3050B | |
| 280-9726-2 | J1B522 | T | Solid | 3050B | |
| 280-9726-2DU | Duplicate | T | Solid | 3050B | |
| 280-9726-2MS | Matrix Spike | T | Solid | 3050B | |
| Analysis Batch: 280-41892 | | | | | |
| LCS 280-40980/2-A | Lab Control Sample | T | Solid | 7471A | 280-40980 |
| MB 280-40980/1-A | Method Blank | T | Solid | 7471A | 280-40980 |
| 280-9726-1 | J1B521 | T | Solid | 7471A | 280-40980 |
| 280-9726-1DU | Duplicate | T | Solid | 7471A | 280-40980 |
| 280-9726-1MS | Matrix Spike | T | Solid | 7471A | 280-40980 |
| 280-9726-2 | J1B522 | T | Solid | 7471A | 280-40980 |
| Analysis Batch: 280-42187 | | | | | |
| LCS 280-41028/2-A | Lab Control Sample | T | Solid | 6010B | 280-41028 |
| MB 280-41028/1-A | Method Blank | T | Solid | 6010B | 280-41028 |
| 280-9726-1 | J1B521 | T | Solid | 6010B | 280-41028 |
| 280-9726-2 | J1B522 | T | Solid | 6010B | 280-41028 |
| 280-9726-2DU | Duplicate | T | Solid | 6010B | 280-41028 |
| 280-9726-2MS | Matrix Spike | T | Solid | 6010B | 280-41028 |
| Report Basis | | | | | |
| T = Total | | | | | |
| General Chemistry | | | | | |
| Analysis Batch: 280-40939 | | | | | |
| 280-9726-1 | J1B521 | T | Solid | D-2216 | |
| 280-9726-1DU | Duplicate | T | Solid | D-2216 | |
| 280-9726-2 | J1B522 | T | Solid | D-2216 | |
| Report Basis | | | | | |
| T = Total | | | | | |

TestAmerica Denver

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

Method Blank - Batch: 280-41028

Method: 6010B

Preparation: 3050B

Lab Sample ID: MB 280-41028/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1942
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41028
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

| Analyte | Result | Qual | MDL | RL |
|------------|--------|------|-------|------|
| Aluminum | 1.86 | B | 1.6 | 5.0 |
| Antimony | 0.38 | U | 0.38 | 0.60 |
| Arsenic | 0.66 | U | 0.66 | 1.0 |
| Barium | 0.125 | B | 0.076 | 0.50 |
| Beryllium | 0.033 | U | 0.033 | 0.20 |
| Boron | 0.98 | U | 0.98 | 2.0 |
| Cadmium | 0.041 | U | 0.041 | 0.20 |
| Calcium | 15.71 | B | 14.1 | 50.0 |
| Chromium | 0.058 | U | 0.058 | 0.20 |
| Cobalt | 0.10 | U | 0.10 | 1.0 |
| Copper | 0.22 | U | 0.22 | 1.0 |
| Iron | 3.8 | U | 3.8 | 5.0 |
| Lead | 0.27 | U | 0.27 | 0.50 |
| Magnesium | 4.42 | B | 3.7 | 20.0 |
| Manganese | 0.10 | U | 0.10 | 1.0 |
| Molybdenum | 0.26 | U | 0.26 | 2.0 |
| Nickel | 0.12 | U | 0.12 | 4.0 |
| Potassium | 41.0 | U | 41.0 | 300 |
| Selenium | 0.86 | U | 0.86 | 1.0 |
| Silicon | 2.1 | U | 2.1 | 10.0 |
| Silver | 0.16 | U | 0.16 | 0.20 |
| Sodium | 59.0 | U | 59.0 | 120 |
| Vanadium | 0.094 | U | 0.094 | 2.0 |
| Zinc | 0.414 | B | 0.40 | 1.0 |

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1
Sdg Number: J00921

Lab Control Sample - Batch: 280-41028

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-41028/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1945
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41028
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|------------|--------------|--------|--------|----------|------|
| Aluminum | 200 | 189.4 | 95 | 82 - 116 | |
| Antimony | 50.0 | 47.48 | 95 | 82 - 110 | |
| Arsenic | 100 | 96.89 | 97 | 85 - 110 | |
| Barium | 200 | 188.2 | 94 | 87 - 112 | |
| Beryllium | 5.00 | 4.51 | 90 | 84 - 114 | |
| Boron | 100 | 95.19 | 95 | 81 - 110 | |
| Cadmium | 10.0 | 9.83 | 98 | 87 - 110 | |
| Calcium | 5000 | 4654 | 93 | 82 - 114 | |
| Chromium | 20.0 | 19.45 | 97 | 84 - 114 | |
| Cobalt | 50.0 | 48.22 | 96 | 87 - 110 | |
| Copper | 25.0 | 23.57 | 94 | 88 - 110 | |
| Iron | 100 | 98.02 | 98 | 87 - 120 | |
| Lead | 50.0 | 47.87 | 96 | 86 - 110 | |
| Magnesium | 5000 | 4673 | 93 | 90 - 110 | |
| Manganese | 50.0 | 47.24 | 94 | 88 - 110 | |
| Molybdenum | 100 | 95.90 | 96 | 86 - 110 | |
| Nickel | 50.0 | 46.17 | 92 | 87 - 110 | |
| Potassium | 5000 | 4820 | 96 | 89 - 110 | |
| Selenium | 200 | 196.9 | 98 | 83 - 110 | |
| Silicon | 1000 | 111.4 | 11 | 10 - 70 | |
| Silver | 5.00 | 5.12 | 102 | 87 - 114 | |
| Sodium | 5000 | 4869 | 97 | 90 - 112 | |
| Vanadium | 50.0 | 46.85 | 94 | 88 - 110 | |
| Zinc | 50.0 | 49.87 | 100 | 76 - 114 | |

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1
Sdg Number: J00921

Matrix Spike - Batch: 280-41028

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-9726-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1956
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41028
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.16 g
Final Weight/Volume: 100 mL

| Analyte | Sample Result/Qual | Spike Amount | Result | % Rec. | Limit | Qual |
|------------|--------------------|--------------|--------|--------|----------|------|
| Aluminum | 1650 | 220 | 2343 | 314 | 50 - 200 | 4 |
| Antimony | 0.48 U | 55.0 | 36.05 | 66 | 20 - 200 | |
| Arsenic | 0.84 U | 110 | 109.0 | 99 | 76 - 111 | |
| Barium | 15.2 | 220 | 226.9 | 96 | 52 - 159 | |
| Beryllium | 0.048 B | 5.50 | 5.09 | 92 | 72 - 105 | |
| Boron | 1.2 U | 110 | 103.6 | 94 | 75 - 107 | |
| Cadmium | 0.052 U | 11.0 | 11.00 | 100 | 40 - 130 | |
| Calcium | 1030 | 5500 | 6320 | 96 | 43 - 165 | |
| Chromium | 1.2 | 22.0 | 23.68 | 102 | 70 - 200 | |
| Cobalt | 1.2 B | 55.0 | 54.67 | 97 | 72 - 106 | |
| Copper | 3.0 | 27.5 | 30.92 | 102 | 37 - 187 | |
| Iron | 3320 | 110 | 3679 | 324 | 70 - 200 | 4 |
| Lead | 2.7 | 55.0 | 55.95 | 97 | 70 - 200 | |
| Magnesium | 618 | 5500 | 5971 | 97 | 64 - 145 | |
| Manganese | 47.1 | 55.0 | 114.9 | 123 | 40 - 200 | |
| Molybdenum | 0.33 U | 110 | 103.9 | 95 | 75 - 103 | |
| Nickel | 1.7 B | 55.0 | 53.71 | 95 | 61 - 126 | |
| Potassium | 291 | 5500 | 5740 | 99 | 56 - 172 | |
| Selenium | 1.1 U | 220 | 218.5 | 99 | 76 - 104 | |
| Silicon | 276 | 1100 | 589.3 | 28 | 20 - 200 | |
| Silver | 0.20 U | 5.50 | 5.73 | 104 | 75 - 141 | |
| Sodium | 118 | 5500 | 5545 | 99 | 78 - 111 | |
| Vanadium | 8.1 | 55.0 | 61.00 | 96 | 50 - 169 | |
| Zinc | 12.0 | 55.0 | 67.00 | 100 | 70 - 200 | |

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1

Sdg Number: J00921

Duplicate - Batch: 280-41028

Method: 6010B

Preparation: 3050B

Lab Sample ID: 280-9726-2

Analysis Batch: 280-42187

Instrument ID: MT_026

Client Matrix: Solid

Prep Batch: 280-41028

Lab File ID: 26a111910.asc

Dilution: 1.0

Units: mg/Kg

Initial Weight/Volume: 1.15 g

Date Analyzed: 11/19/2010 1954

Final Weight/Volume: 100 mL

Date Prepared: 11/19/2010 0800

| Analyte | Sample Result/Qual | Result | RPD | Limit | Qual |
|------------|--------------------|--------|-----|-------|------|
| Aluminum | 1650 | 1493 | 10 | 40 | |
| Antimony | 0.48 U | 0.42 | NC | 40 | U |
| Arsenic | 0.84 U | 0.73 | NC | 30 | U |
| Barium | 15.2 | 14.88 | 2 | 30 | |
| Beryllium | 0.048 B | 0.0588 | 19 | 30 | B |
| Boron | 1.2 U | 1.1 | NC | 30 | U |
| Cadmium | 0.052 U | 0.0588 | NC | 30 | B |
| Calcium | 1030 | 871.8 | 16 | 30 | |
| Chromium | 1.2 | 1.25 | 4 | 40 | |
| Cobalt | 1.2 B | 1.15 | 3 | 30 | |
| Copper | 3.0 | 3.29 | 11 | 30 | |
| Iron | 3320 | 3166 | 5 | 40 | |
| Lead | 2.7 | 2.70 | 1 | 40 | |
| Magnesium | 618 | 643.8 | 4 | 30 | |
| Manganese | 47.1 | 60.67 | 25 | 40 | |
| Molybdenum | 0.33 U | 0.29 | NC | 30 | U |
| Nickel | 1.7 B | 1.72 | 2 | 30 | B |
| Potassium | 291 B | 298.1 | 2 | 40 | B |
| Selenium | 1.1 U | 0.95 | NC | 30 | U |
| Silicon | 276 | 266.3 | 4 | 40 | |
| Silver | 0.20 U | 0.18 | NC | 30 | U |
| Sodium | 118 B | 69.30 | 52 | 30 | B M |
| Vanadium | 8.1 | 8.16 | 0.9 | 30 | |
| Zinc | 12.0 | 11.38 | 5 | 40 | |

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1
Sdg Number: J00921

Method Blank - Batch: 280-40980

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 280-40980/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1339
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40980
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

| Analyte | Result | Qual | MDL | RL |
|---------|--------|------|--------|-------|
| Mercury | 0.0055 | U | 0.0055 | 0.017 |

Lab Control Sample - Batch: 280-40980

Method: 7471A
Preparation: 7471A

Lab Sample ID: LCS 280-40980/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1341
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40980
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---------|--------------|--------|--------|----------|------|
| Mercury | 0.417 | 0.420 | 101 | 87 - 111 | |

Matrix Spike - Batch: 280-40980

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-9726-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1348
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40980
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.63 g
Final Weight/Volume: 50 mL

| Analyte | Sample Result/Qual | Spike Amount | Result | % Rec. | Limit | Qual |
|---------|--------------------|--------------|--------|--------|----------|------|
| Mercury | 0.0083 B | 0.504 | 0.495 | 97 | 87 - 111 | |

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1
Sdg Number: J00921

Duplicate - Batch: 280-40980

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-9726-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1346
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40980
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.64 g
Final Weight/Volume: 50 mL

| Analyte | Sample Result/Qual | Result | RPD | Limit | Qual |
|---------|--------------------|--------|-----|-------|------|
| Mercury | 0.0083 B | 0.0132 | 46 | 20 | B M |

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-9726-1
Sdg Number: J00921

Duplicate - Batch: 280-40939

Method: D-2216
Preparation: N/A

Lab Sample ID: 280-9726-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/15/2010 1010
Date Prepared: N/A

Analysis Batch: 280-40939
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

| Analyte | Sample Result/Qual | Result | RPD | Limit | Qual |
|------------------|--------------------|--------|-----|-------|------|
| Percent Moisture | 21.3 | 22.1 | 4 | 20 | |

| | | | | | | | | | |
|--|--|---|-------------|--|-----------------------------------|------------------------------------|--|---|----|
| Washington Closure Hanford | | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | | RC-176-013 | | Page 1 of 1 | |
| Collector <i>WT Sessmith</i> | | Company Contact Joan Kessner | | Telephone No. 375-4688 | | Project Coordinator KESSNER, JH | | Price Code <i>96C</i> Data Turnaround <i>Due 11/10/10</i> 15 Days | |
| Project Designation ARRA Remaining Sites Confirmation Sampling - Other | | Sampling Location 100-K-90 Other Solid <i>Surface Sample</i> | | | SAF No. RC-176 | | | | |
| Ice Chest No. <i>NA</i> | | Field Logbook No. EL-1649 | | COA S10K90A000 | | Method of Shipment Hand Deliver | | | |
| Shipped To TestAmerica Incorporated, Richland | | Offsite Property No. NA | | | Bill of Lading/Air Bill No. NA | | | | |
| POSSIBLE SAMPLE HAZARDS/REMARKS <i>None TPD 11/10/10</i> <i>Cool 4C TPD 11/10/10</i> | | | | Preservation | | None | | | |
| | | | | Type of Container | | aG | | | |
| | | | | No. of Container(s) | | 1 | | | |
| | | | | Volume | | 60mL | | 500mL | |
| SAMPLE ANALYSIS | | | | Sec item (1) in Special Instructions | | Chromium Hex - 7196 | | VOA - 8260A (TCL) | |
| | | | | Sec item (2) in Special Instructions | | | | | |
| Sample No. | | Matrix * | Sample Date | Sample Time | | | | | |
| J1B521 | | OTHER | 11/10/10 | 1020 | ✓ | ✓ | | | SS |
| J1B522 | | OTHER | 11/10/10 | 1020 | ✓ | ✓ | | | D |
| CHAIN OF POSSESSION | | | | Sign/Print Names | | SPECIAL INSTRUCTIONS | | | |
| Relinquished By/Removed From <i>Whitney Sessmith</i> | | Date/Time <i>1040</i> | | Received By/Stored In <i>JR DeBriague</i> | | Date/Time <i>11/10/10</i> | | (1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (2) Gamma Spec (Client List) (Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gross Alpha & Gross Beta | |
| Relinquished By/Removed From <i>JR DeBriague</i> | | Date/Time <i>1100</i> | | Received By/Stored In <i>JR Schuman</i> | | Date/Time <i>1100</i> | | | |
| Relinquished By/Removed From <i>JR Schuman</i> | | Date/Time <i>1210</i> | | Received By/Stored In <i>TR IR</i> | | Date/Time <i>1210</i> | | | |
| Relinquished By/Removed From <i>Angela Garcia</i> | | Date/Time <i>1110/10</i> | | Received By/Stored In <i>ANGELA</i> | | Date/Time <i>11.10.10</i> | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | Matrix * | |
| LABORATORY SECTION | | Received By <i>Angela Garcia</i> | | Title | | Date/Time <i>11-10-10</i> | | Date/Time <i>11/12/10 0900</i> | |
| FINAL SAMPLE DISPOSITION | | Disposal Method | | Disposed By | | Date/Time | | | |

Page 22 of 26

Analytical Due:

Report Due: 11/25/10

Sample Check-in List

Date/Time Received: 11/12/10 900 GM Screen Result 60 microR/hr

Client: Washington Closure Hanford SDG #: J00921 NA [] SAF #: RC-176 NA []

Job Number: 97200 Chain of Custody # RC-176-013 ⁷⁹⁶⁴⁴⁰⁹⁰⁰⁴⁹⁴

Shipping Container ID: _____ Air Bill # 794108052324 ⁷⁹⁶⁴⁴⁰ ₇₉₄₁₀₈₀₃₉₅₃₃

1. Custody Seals on shipping container intact? NA [] Yes [] No []
2. Custody Seals dated and signed? NA [] Yes [] No []
3. Chain of Custody record present? NA [] Yes [] No []
4. Cooler Temperature °C: 1:6, 1:8, 2:0 NA [] 5. Vermiculite/packing materials is NA [] Wet [] Dry []
6. Number of samples in shipping container: 21
7. Sample holding times exceeded? NA [] Yes [] No []
8. Samples have:
 - Tape
 - Custody Seals
 - Hazard Labels
 - Appropriate Sample Labels
9. Samples are:
 - In Good Condition
 - Broken
 - Leaking
 - Have Air Bubbles
 (Only for samples requiring no head space.)
10. Sample pH taken? NA [] pH<2 [] pH>2 [] pH>9 [] Amount HNO₃ Added _____
11. Sample Location, Sample Collector Listed? *
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [] No []
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [Signature] Date: 11/12/10 900

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|------------------|--------------------|-----------|-----------------|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager [Signature] Date 11/15/10

From: Origin ID: PSCA (509) 375-3131
Shipping Dept.
TESTAMERICA LABORATORIES
2800 GEORGE WASHINGTON WAY
RICHLAND, WA 99354



Ship Date: 11NOV10
Act/Wgt: 24.0 LB
CAD: 1033413/INET3090

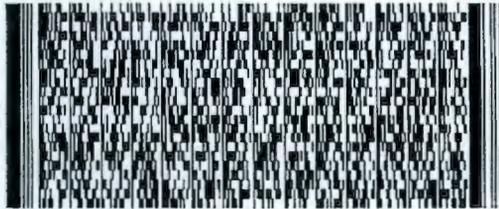
Delivery Address Bar Code



Ref # WCH/RC-119-041
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0100 BILL SENDER
SAMPLE RECEIVING DENVER_WCH
TESTAMERICA DENVER (WCH)
4955 YARROW ST

ARVADA, CO 80002

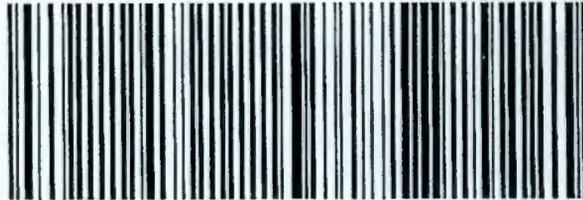


TRK# 7941 0805 2324
0201

FRI - 12 NOV A1
PRIORITY OVERNIGHT

80002
CO-US
DEN

XH WHHA



99A01BC5A2710

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Shipping Dept.
TESTAMERICA LABORATORIES
2800 GEORGE WASHINGTON WAY
RICHLAND, WA 99354



Ship Date: 11NOV10
ActWgt: 25.0 LB
CAD: 1033413/NET3090

SHIP TO: (303) 736-0100 BILL SENDER
SAMPLE RECEIVING DENVER_WCH
TESTAMERICA DENVER (WCH)
4955 YARROW ST
ARVADA, CO 80002

Delivery Address Bar Code



Ref # WCH/RC-119-041
Invoice #
PO #
Dept #

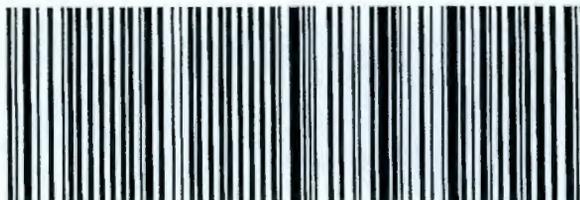


TRK# 7964 4090 0494
0201

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PRIORITY OVERNIGHT

80002
CO-US
DEN

XH WCHA



66AG1@CDA8780

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From: Origin ID: PSCA (509) 375-3131
 Shipping Dept.
 TESTAMERICA LABORATORIES
 2800 GEORGE WASHINGTON WAY



Ship Date: 11NOV10
 ActWgt: 43.0 LB
 CAD: 1033413/NET3090

RICHLAND, WA 99354

Delivery Address Bar Code



Ref # WCH/RC-119-041
 Invoice #
 PO #
 Dept #

SHIP TO: (303) 736-0100 BILL SENDER
SAMPLE RECEIVING DENVER_WCH
TESTAMERICA DENVER (WCH)
4955 YARROW ST

ARVADA, CO 80002

TRK# 7941 0803 9533
 0201

FRI - 12 NOV A1
PRIORITY OVERNIGHT

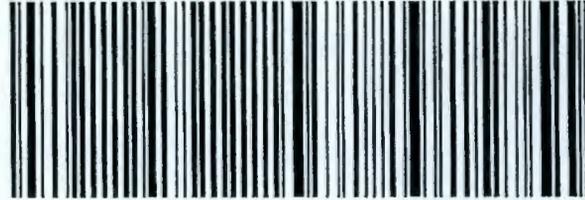


80002

CO-US

DEN

XH WHHA



09A010CDA0780

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