

## **APPENDIX A**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36076-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/15/2011 12:39:17 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

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Have a Question?



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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

**Job ID: 640-36076-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

**Job Narrative**  
**640-36076-1**

### Comments

No additional comments.

### Receipt

All samples were received in good condition within temperature requirements.

### General Chemistry

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No analytical or quality issues were noted.

### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K110437 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

### Client Sample ID: ACB-32S

### Lab Sample ID: 640-36076-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 8.3    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 1.5    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 0.10   |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 0.85   |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: ACB-31S

### Lab Sample ID: 640-36076-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 52     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 5.5    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 3.4    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-33S

### Lab Sample ID: 640-36076-3

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 20     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 1.9    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 0.61   |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 0.45   |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-7SR

### Lab Sample ID: 640-36076-4

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 30     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 3.8    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 2.9    |           | 0.20  |     | mg/L | 2       |   | 340.2           | Total/NA  |
| Nitrate as N | 1.8    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

## General Chemistry

Client Sample ID: ACB-32S  
Date Collected: 11/08/11 10:44  
Date Received: 11/09/11 09:05

Lab Sample ID: 640-36076-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 8.3    |           | 1.0   |     | mg/L |   |          | 11/10/11 12:31 | 1       |
| Chloride     | 1.5    |           | 1.0   |     | mg/L |   |          | 11/09/11 19:28 | 1       |
| Fluoride     | 0.10   |           | 0.10  |     | mg/L |   |          | 11/16/11 11:45 | 1       |
| Nitrate as N | 0.85   |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: ACB-31S  
Date Collected: 11/08/11 11:39  
Date Received: 11/09/11 09:05

Lab Sample ID: 640-36076-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 52     |           | 1.0   |     | mg/L |   |          | 11/10/11 13:21 | 1       |
| Chloride     | 5.5    |           | 1.0   |     | mg/L |   |          | 11/09/11 20:52 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/16/11 11:45 | 1       |
| Nitrate as N | 3.4    |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: AC-33S  
Date Collected: 11/08/11 12:25  
Date Received: 11/09/11 09:05

Lab Sample ID: 640-36076-3  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 20     |           | 1.0   |     | mg/L |   |          | 11/10/11 14:45 | 1       |
| Chloride     | 1.9    |           | 1.0   |     | mg/L |   |          | 11/09/11 21:08 | 1       |
| Fluoride     | 0.61   |           | 0.10  |     | mg/L |   |          | 11/16/11 11:45 | 1       |
| Nitrate as N | 0.45   |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: AC-7SR  
Date Collected: 11/08/11 13:05  
Date Received: 11/09/11 09:05

Lab Sample ID: 640-36076-4  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 30     |           | 1.0   |     | mg/L |   |          | 11/10/11 15:01 | 1       |
| Chloride     | 3.8    |           | 1.0   |     | mg/L |   |          | 11/09/11 21:25 | 1       |
| Fluoride     | 2.9    |           | 0.20  |     | mg/L |   |          | 11/16/11 11:45 | 2       |
| Nitrate as N | 1.8    |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-86962/41

Matrix: Water

Analysis Batch: 86962

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-----|-----|------|---|----------|----------------|---------|
| Chloride | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/09/11 12:15 | 1       |

Lab Sample ID: LCS 640-86962/43

Matrix: Water

Analysis Batch: 86962

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Chloride | 6.00           | 6.09          |                  | mg/L |   | 102  | 90 - 110        |

Lab Sample ID: LCSD 640-86962/44

Matrix: Water

Analysis Batch: 86962

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|----------|----------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| Chloride | 6.00           | 6.15           |                   | mg/L |   | 102  | 90 - 110        | 1   | 30           |

Lab Sample ID: 640-36076-1 MS

Matrix: Water

Analysis Batch: 86962

Client Sample ID: ACB-32S

Prep Type: Total/NA

| Analyte  | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|-----------------|
| Chloride | 1.5              |                     | 6.00           | 8.05         |                 | mg/L |   | 110  | 80 - 120        |

Lab Sample ID: 640-36076-1 DU

Matrix: Water

Analysis Batch: 86962

Client Sample ID: ACB-32S

Prep Type: Total/NA

| Analyte  | Sample<br>Result | Sample<br>Qualifier | DU<br>Result | DU<br>Qualifier | Unit | D | RPD | RPD<br>Limit |
|----------|------------------|---------------------|--------------|-----------------|------|---|-----|--------------|
| Chloride | 1.5              |                     | 1.20         |                 | mg/L |   | 19  | 30           |

Lab Sample ID: MB 640-86996/28

Matrix: Water

Analysis Batch: 86996

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/10/11 11:08 | 1       |
| Chloride | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/10/11 11:08 | 1       |

Lab Sample ID: LCS 640-86996/30

Matrix: Water

Analysis Batch: 86996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Sulfate  | 24.0           | 24.0          |                  | mg/L |   | 100  | 90 - 110        |
| Chloride | 6.00           | 6.04          |                  | mg/L |   | 101  | 90 - 110        |



# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 640-86996/31

Matrix: Water

Analysis Batch: 86996

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.1        |                | mg/L |   | 100  | 90 - 110     | 0   | 30        |
| Chloride | 6.00        | 6.07        |                | mg/L |   | 101  | 90 - 110     | 0   | 30        |

Lab Sample ID: 640-36076-1 MS

Matrix: Water

Analysis Batch: 86996

Client Sample ID: ACB-32S

Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|-----|-----------|
| Sulfate | 8.3           |                  | 24.0        | 32.5      |              | mg/L |   | 101  | 80 - 120     |     |           |

Lab Sample ID: 640-36076-1 DU

Matrix: Water

Analysis Batch: 86996

Client Sample ID: ACB-32S

Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Sulfate | 8.3           |                  | 8.10      |              | mg/L |   | 2   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144158/1

Matrix: Water

Analysis Batch: 144158

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/16/11 11:45 | 1       |

Lab Sample ID: LCS 400-144158/2

Matrix: Water

Analysis Batch: 144158

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Fluoride | 1.00        | 1.02       |               | mg/L |   | 102  | 90 - 110     |     |           |

# QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

## General Chemistry

### Analysis Batch: 86962

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36076-1       | ACB-32S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-1 DU    | ACB-32S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-1 MS    | ACB-32S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-2       | ACB-31S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-3       | AC-33S                 | Total/NA  | Water  | 300.0  |            |
| 640-36076-4       | AC-7SR                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-86962/43  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-86962/44 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-86962/41   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 86996

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36076-1       | ACB-32S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-1 DU    | ACB-32S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-1 MS    | ACB-32S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-2       | ACB-31S                | Total/NA  | Water  | 300.0  |            |
| 640-36076-3       | AC-33S                 | Total/NA  | Water  | 300.0  |            |
| 640-36076-4       | AC-7SR                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-86996/30  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-86996/31 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-86996/28   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 87126

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36076-1   | ACB-32S          | Total/NA  | Water  | Nitrate by calc |            |
| 640-36076-2   | ACB-31S          | Total/NA  | Water  | Nitrate by calc |            |
| 640-36076-3   | AC-33S           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36076-4   | AC-7SR           | Total/NA  | Water  | Nitrate by calc |            |

### Analysis Batch: 144158

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36076-1      | ACB-32S            | Total/NA  | Water  | 340.2  |            |
| 640-36076-2      | ACB-31S            | Total/NA  | Water  | 340.2  |            |
| 640-36076-3      | AC-33S             | Total/NA  | Water  | 340.2  |            |
| 640-36076-4      | AC-7SR             | Total/NA  | Water  | 340.2  |            |
| LCS 400-144158/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144158/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |

# Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

**Client Sample ID: ACB-32S**

**Date Collected: 11/08/11 10:44**

**Date Received: 11/09/11 09:05**

**Lab Sample ID: 640-36076-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144158       | 11/16/11 11:45       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86962        | 11/09/11 19:28       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86996        | 11/10/11 12:31       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |

**Client Sample ID: ACB-31S**

**Date Collected: 11/08/11 11:39**

**Date Received: 11/09/11 09:05**

**Lab Sample ID: 640-36076-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144158       | 11/16/11 11:45       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86962        | 11/09/11 20:52       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86996        | 11/10/11 13:21       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |

**Client Sample ID: AC-33S**

**Date Collected: 11/08/11 12:25**

**Date Received: 11/09/11 09:05**

**Lab Sample ID: 640-36076-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144158       | 11/16/11 11:45       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86962        | 11/09/11 21:08       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86996        | 11/10/11 14:45       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |

**Client Sample ID: AC-7SR**

**Date Collected: 11/08/11 13:05**

**Date Received: 11/09/11 09:05**

**Lab Sample ID: 640-36076-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 2               | 144158       | 11/16/11 11:45       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86962        | 11/09/11 21:25       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 86996        | 11/10/11 15:01       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |

## Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36076-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36076-1   | ACB-32S          | Water  | 11/08/11 10:44 | 11/09/11 09:05 |
| 640-36076-2   | ACB-31S          | Water  | 11/08/11 11:39 | 11/09/11 09:05 |
| 640-36076-3   | AC-33S           | Water  | 11/08/11 12:25 | 11/09/11 09:05 |
| 640-36076-4   | AC-7SR           | Water  | 11/08/11 13:05 | 11/09/11 09:05 |

Analytical Data Package Prepared For

# TestAmerica Tallahassee

640-36076 AGRICO

Radiochemical Analysis By

**TestAmerica**

*2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.*

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49684

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44095   |           | AC-33S (640-36076-3)          | J1K110437-3 | MNXMF1AA   | 9MNXMF10     | 1319067   |
|         |           | AC-33S (640-36076-3)          | J1K110437-3 | MNXMF1AC   | 9MNXMF10     | 1319068   |
|         |           | AC-7SR (640-36076-4)          | J1K110437-4 | MNXMG1AA   | 9MNXMG10     | 1319067   |
|         |           | AC-7SR (640-36076-4)          | J1K110437-4 | MNXMG1AC   | 9MNXMG10     | 1319068   |
|         |           | ACB-31S (640-36076-2)         | J1K110437-2 | MNXME1AA   | 9MNXME10     | 1319067   |
|         |           | ACB-31S (640-36076-2)         | J1K110437-2 | MNXME1AC   | 9MNXME10     | 1319068   |
|         |           | ACB-32S (640-36076-1)         | J1K110437-1 | MNXMD1AA   | 9MNXMD10     | 1319067   |
|         |           | ACB-32S (640-36076-1)         | J1K110437-1 | MNXMD1AC   | 9MNXMD10     | 1319068   |

## Certificate of Analysis

December 8, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

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|                      |   |                   |
|----------------------|---|-------------------|
| Date Received in Lab | : | November 10, 2011 |
| Sample Type          | : | Four (4) Waters   |
| SDG Number           | : | 44095             |
| Client Company Name  | : | Agrico Annual     |
| Project Name/Number  | : | 640-36076-1       |

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### CASE NARRATIVE

#### **I. Introduction**

On November 10, 2011, four water samples were received at TestAmerica's Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned TestAmerica identification number as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J1K110437.

#### **II. Sample Receipt**

The sample was received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analysis requested was:

**Gas Proportional Counting**  
Radium-226 by method RL-RA-001  
Radium-228 by method RL-RA-001



#### IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### V. Comments

##### Gas Proportional Counting

Radium-226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium-228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

# Sample Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49684

SDG No: 44095

| Batch              | Client Id<br>Work Order   | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer<br>Yield | MDL   | CRDL | RER2 |
|--------------------|---------------------------|------------|-----------------------------|------|-------|-----------------|-------|------|------|
| 1319067            | E903.1                    |            |                             |      |       |                 |       |      |      |
|                    | AC-33S (640-36076-3)      |            |                             |      |       |                 |       |      |      |
|                    | MNXMF1AA                  | RADIUM-226 | 0.391 +- 0.19               | J    | pCi/L | 93%             | 0.202 | 1.0  |      |
|                    | AC-7SR (640-36076-4)      |            |                             |      |       |                 |       |      |      |
|                    | MNXMG1AA                  | RADIUM-226 | 0.322 +- 0.16               | J    | pCi/L | 100%            | 0.214 | 1.0  |      |
|                    | ACB-31S (640-36076-2)     |            |                             |      |       |                 |       |      |      |
|                    | MNXME1AA                  | RADIUM-226 | 0.498 +- 0.20               | J    | pCi/L | 100%            | 0.251 | 1.0  |      |
|                    | ACB-32S (640-36076-1)     |            |                             |      |       |                 |       |      |      |
|                    | MNXMD1AA                  | RADIUM-226 | -0.0461 +- 0.11             | U    | pCi/L | 100%            | 0.245 | 1.0  |      |
|                    | ACB-32S (640-36076-1) DUP |            |                             |      |       |                 |       |      |      |
|                    | MNXMD1AD                  | RADIUM-226 | 0.157 +- 0.14               | U    | pCi/L | 100%            | 0.241 | 1.0  | 2.3  |
| 1319068            | E904.0                    |            |                             |      |       |                 |       |      |      |
|                    | AC-33S (640-36076-3)      |            |                             |      |       |                 |       |      |      |
|                    | MNXMF1AC                  | RADIUM-228 | 2.00 +- 0.50                | V    | pCi/L | 86%             | 0.632 | 1.0  |      |
|                    | AC-7SR (640-36076-4)      |            |                             |      |       |                 |       |      |      |
|                    | MNXMG1AC                  | RADIUM-228 | 1.05 +- 0.33                | V    | pCi/L | 96%             | 0.475 | 1.0  |      |
|                    | ACB-31S (640-36076-2)     |            |                             |      |       |                 |       |      |      |
|                    | MNXME1AC                  | RADIUM-228 | 4.49 +- 0.73                | V    | pCi/L | 93%             | 0.711 | 1.0  |      |
|                    | ACB-32S (640-36076-1)     |            |                             |      |       |                 |       |      |      |
|                    | MNXMD1AC                  | RADIUM-228 | 1.28 +- 0.42                | V    | pCi/L | 89%             | 0.75  | 1.0  |      |
|                    | ACB-32S (640-36076-1) DUP |            |                             |      |       |                 |       |      |      |
|                    | MNXMD1AE                  | RADIUM-228 | 0.771 +- 0.43               | U    | pCi/L | 90%             | 0.881 | 1.0  | 1.7  |
| No. of Results: 10 |                           |            |                             |      |       |                 |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio =  $(S-D)/[\sqrt{sq(TPUs)+sq(TPUD)}]$  as defined by ICPT BOA.  
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

# QC Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49684

SDG No.: 44101

| Batch                    | Work Order        | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|-------------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |                   |            |                             |      |       |              |              |      |       |
|                          | 1319067 BLANK QC, |            |                             |      |       |              |              |      |       |
|                          | MN1NQ1AA          | RADIUM-226 | 0.0581 +- 0.068             | U    | pCi/L | 100%         |              |      | 0.12  |
|                          | 1319067 LCS,      |            |                             |      |       |              |              |      |       |
|                          | MN1NQ1AC          | RADIUM-226 | 9.28 +- 2.2                 | V    | pCi/L | 97%          | 93%          | -0.1 | 0.128 |
| <b>E904.0</b>            |                   |            |                             |      |       |              |              |      |       |
|                          | 1319068 BLANK QC, |            |                             |      |       |              |              |      |       |
|                          | MN1NR1AA          | RADIUM-228 | 0.463 +- 0.28               | U    | pCi/L | 94%          |              |      | 0.544 |
|                          | 1319068 LCS,      |            |                             |      |       |              |              |      |       |
|                          | MN1NR1AC          | RADIUM-228 | 9.55 +- 1.3                 | V    | pCi/L | 93%          | 98%          | 0.0  | 0.7   |
| <b>No. of Results: 4</b> |                   |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K1110437-3  
Client Sample ID: AC-33S (640-36076-3)  
640-36076 AGRICO

SDG: 44095  
Report No.: 49684  
COC No.:

Collection Date: 11/8/2011 12:25:00 PM  
Received Date: 11/10/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.391  | J    | 0.15                  | 0.19                  | 0.202              | pCi/L           | 93%               | (1.9)                    | 12/5/11 02:50 p        |                  | 0.8761          | ASC9MA              |
|                       |        |      |                       |                       |                    | 0.0876          | 1.0               | (4.2)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 2.00   | V    | 0.44                  | 0.50                  | 0.632              | pCi/L           | 86%               | (3.2)                    | 12/7/11 01:33 p        |                  | 0.8761          | GPC2A               |
|                       |        |      |                       |                       |                    | 0.281           | 1.0               | (8.1)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K1110437-4  
Client Sample ID: AC-7SR (640-36076-4)  
640-36076 AGRICO

SDG: 44095  
Report No.: 49684  
COC No.:

Collection Date: 11/8/2011 1:05:00 PM  
Received Date: 11/10/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter                                   | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| <b>Batch:</b> 1319067 E903.1                |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226                                  | 0.322  | J    | 0.14                  | 0.16                  | 0.214              | pCi/L           | 100%              | (1.5)                    | 12/5/11 02:49 p        |                  | 0.9207          | ASCASA              |
| Work Order: MNXMG1AA Report DB ID: 9MNXMG10 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
|                                             |        |      |                       |                       |                    | 0.0958          | 1.0               | (3.9)                    |                        |                  | L               |                     |
| <b>Batch:</b> 1319068 E904.0                |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228                                  | 1.05   | V    | 0.30                  | 0.33                  | 0.475              | pCi/L           | 96%               | (2.2)                    | 12/7/11 01:33 p        |                  | 0.9207          | GPC2C               |
| Work Order: MNXMG1AC Report DB ID: 9MNXMG10 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
|                                             |        |      |                       |                       |                    | 0.207           | 1.0               | (6.4)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K1110437-2  
Client Sample ID: ACB-31S (640-36076-2)  
640-36076 AGRICO

SDG: 44095  
Report No.: 49684  
COC No.:

Collection Date: 11/8/2011 11:39:00 AM  
Received Date: 11/10/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.498  | J    | 0.18                  | 0.20                  | 0.251              | pCi/L           | 100%              | (2.)                     | 12/5/11 02:49 p        |                  | 0.9317          | ASC8HA              |
|                       |        |      |                       |                       |                    | 0.114           | 1.0               | (4.9)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 4.49   | V    | 0.53                  | 0.73                  | 0.711              | pCi/L           | 93%               | (6.3)                    | 12/7/11 01:33 p        |                  | 0.9317          | GPC1D               |
|                       |        |      |                       |                       |                    | 0.33            | 1.0               | (12.3)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.



## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K1110437-1  
Client Sample ID: ACB-32S (640-36076-1)  
640-36076 AGRICO

SDG: 44095  
Report No.: 49684  
COC No.:

Collection Date: 11/8/2011 10:44:00 AM  
Received Date: 11/10/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter                                   | Result  | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------|---------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1                       |         |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| Work Order: MNXMD1AA Report DB ID: 9MNXMD10 |         |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226                                  | -0.0461 | U    | 0.11                  | 0.11                  | 0.245              | pCi/L           | 100%              | -0.19                    | 12/5/11 02:31 p        |                  | 0.9305          | ASC6RA              |
|                                             |         |      |                       |                       |                    | 0.111           | 1.0               | -0.83                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0                       |         |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| Work Order: MNXMD1AC Report DB ID: 9MNXMD10 |         |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228                                  | 1.28    | V    | 0.39                  | 0.42                  | 0.75               | pCi/L           | 89%               | (1.7)                    | 12/7/11 01:33 p        |                  | 0.9305          | GPC1B               |
|                                             |         |      |                       |                       |                    | 0.349           | 1.0               | (6.)                     |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM II

Date: 08-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica      SDG: 44095      Collection Date: 11/8/2011 10:44:00 AM  
Lot-Sample No.: J1K110437-1      Report No.: 49684      Received Date: 11/10/2011 10:30:00 AM  
Client Sample ID: ACB-32S (640-36076-1) DUP      COC No.:      Matrix: WATER      W

| Parameter                                                                                                     | Result,<br>Orig Rst | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------------------------------------------------------------------------|---------------------|------|-----------------------|-----------------------|--------------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067      E903.1      Work Order: MNXMD1AD      Report DB ID: MNXMD1DR      Orig Sa DB ID: 9MNXMD10 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226                                                                                                    | 0.157               | U    | 0.14                  | 0.14                  | 0.241              | pCi/L             | 100%  | 0.65                     | 12/5/11 02:51 p        | 0.833            | L               | ASC7HA              |
|                                                                                                               | -0.0461             | U    | RER2 2.3              |                       |                    | 1.0               |       | (2.2)                    |                        |                  |                 |                     |
| Batch: 1319068      E904.0      Work Order: MNXMD1AE      Report DB ID: MNXMD1ER      Orig Sa DB ID: 9MNXMD10 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228                                                                                                    | 0.771               | U    | 0.41                  | 0.43                  | 0.881              | pCi/L             | 90%   | 0.88                     | 12/7/11 01:33 p        | 0.833            | L               | GPC1C               |
|                                                                                                               | 1.28                | V    | RER2 1.7              |                       |                    | 1.0               |       | (3.6)                    |                        |                  |                 |                     |

No. of Results: 2      Comments:

TestAmerica      RER2      - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
RptSTLRchDupV5.      MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
2.18 A2002      U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

**Date:** 08-Dec-11

**SDG:** 44101

**Report No.:** 49684

| No. of Results: | 2 | Comments: |
|-----------------|---|-----------|
|-----------------|---|-----------|

FORM II

Date: 08-Dec-11

LCS RESULTS

Lab Name: TestAmerica

SDG: 44101

Matrix: WATER

Report No.: 49684

| Parameter                                   | Result | Qual | Count Error ( 2 s) | Total Uncert(2 s) | MDL   | Report Unit | Yield       | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---------------------------------------------|--------|------|--------------------|-------------------|-------|-------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| Batch: 1319067 E903.1                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN1NQ1AC Report DB ID: MN1NQ1CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-226                                  | 9.28   | V    | 0.53               | 2.2               | 0.128 | pCi/L       | 97%         | 9.95     | 0.1             | 93%            | 12/5/11 03:10 p     | 1.004        | ASCPMD           |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 70       | 130             | -0.1           |                     |              |                  |
| Batch: 1319068 E904.0                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN1NR1AC Report DB ID: MN1NR1CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-228                                  | 9.55   | V    | 0.68               | 1.3               | 0.7   | pCi/L       | 93%         | 9.75     | 0.32            | 98%            | 12/7/11 01:35 p     | 1.004        | GPC6A            |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.0            | L                   |              |                  |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica V Qual - Detected.

TestAmerica V5.2.18 A2002

Test America Laboratories, Inc.

2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9

## Chain of Custody Record

[illegible]

**Sample Check-in List**

Date/Time Received: 11.10.11 1030 Container GM Screen Result: (Airlock) .04 Initials JE  
Sample GM Screen Result (Sample Receiving) .04 Initials JE

Client: TA-Tallahassee SDG #: 614095 NA [ ] SAF #: NA42

Lot Number: JIK110437

Chain of Custody # 640-47402.1

Shipping Container ID: Cooler NA [ ] Air Bill Number: NAJE

Samples received inside shipping container/cooler/box Yes JE Continue with 1 through 4. Initial appropriate response.

No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes JE No [ ] No Custody Seal [ ]

2. Custody Seals dated and signed? Yes [ ] No JE No Custody Seal [ ]

3. Cooler temperature: \_\_\_\_\_ °C NA JE

4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry JE

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes JE No [ ]

6. Number of samples received (Each sample may contain multiple bottles): 4

7. Containers received: 8x 1LP

8. Sample holding times exceeded? NA [ ] Yes [ ] No JE

9. Samples have:  
\_\_\_\_\_ tape JE hazard labels  
\_\_\_\_\_ custody seals JE appropriate sample labels

10. Matrix:  
\_\_\_\_\_ A (FLT, Wipe, Solid, Soil) JE I (Water)  
\_\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
JE are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_\_ Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes JE No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used : \_\_\_\_\_

13. Were any anomalies identified in sample receipt? Yes [ ] No JE

14. Description of anomalies (include sample numbers): NA [ ] \_\_\_\_\_

15. Sample Location, Sample Collector Listed on COC? \* Yes ☒ No ☐  
\*For documentation only. No corrective action needed.

16. Additional Information: \_\_\_\_\_  
\_\_\_\_\_

☐ Client/Courier denied temperature check.

☒ Client/Courier unpack cooler.

Sample Custodian: Jonathas Silva Date: 11-10-11

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☒ No action necessary; process as is

Project Manager Emily Benti Date 11/14/11

| SAMPLE ID                                     | Initial pH | Acid Amt | Final pH | SAMPLE ID | Initial pH | Acid Amt | Final pH |
|-----------------------------------------------|------------|----------|----------|-----------|------------|----------|----------|
| <div>Jonathas Silva</div> <div>11-10-11</div> |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |
|                                               |            |          |          |           |            |          |          |

## TestAmerica

Figure 1. The effect of the concentration of the inhibitor on the rate of polymerization of  $\alpha$ -methylstyrene in the presence of  $\text{SnCl}_4$  at  $25^\circ\text{C}$ . The concentration of  $\alpha$ -methylstyrene was  $0.1\text{ mol/L}$ , and the concentration of  $\text{SnCl}_4$  was  $0.001\text{ mol/L}$ . The concentration of the inhibitor was  $0.001\text{ mol/L}$  (○),  $0.002\text{ mol/L}$  (□),  $0.004\text{ mol/L}$  (△),  $0.006\text{ mol/L}$  (◇), and  $0.008\text{ mol/L}$  (×).

12/15/2011



## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36076-1

Login Number: 36076

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Savoie, Noel

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36076-1

**Login Number: 36076**

**List Source: TestAmerica Pensacola**

**List Number: 1**

**List Creation: 11/11/11 11:35 AM**

**Creator: Hor, Koma**

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True   |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36116-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/15/2011 1:06:35 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

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results through

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

**Job ID: 640-36116-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

#### Job Narrative 640-36116-1

#### Comments

No additional comments.

#### Receipt

All samples were received in good condition within temperature requirements.

#### General Chemistry

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No analytical or quality issues were noted.

#### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K140459 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

### Client Sample ID: AC-34S

### Lab Sample ID: 640-36116-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 67     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 3.3    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 1.0    |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 2.9    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-8D

### Lab Sample ID: 640-36116-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 3.7    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 13     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 6.5    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-36D

### Lab Sample ID: 640-36116-3

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 17     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 12     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 5.7    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-13D

### Lab Sample ID: 640-36116-4

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 300    |           | 5.0   |     | mg/L | 5       |   | 300.0           | Total/NA  |
| Chloride     | 26     |           | 5.0   |     | mg/L | 5       |   | 300.0           | Total/NA  |
| Fluoride     | 14     |           | 1.0   |     | mg/L | 10      |   | 340.2           | Total/NA  |
| Nitrate as N | 13     |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-12D

### Lab Sample ID: 640-36116-5

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 240    |           | 5.0   |     | mg/L | 5       |   | 300.0           | Total/NA  |
| Chloride     | 18     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 14     |           | 1.0   |     | mg/L | 10      |   | 340.2           | Total/NA  |
| Nitrate as N | 10     |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: DUP-1

### Lab Sample ID: 640-36116-6

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 54     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 2.6    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 1.1    |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 3.0    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

## General Chemistry

Client Sample ID: AC-34S  
Date Collected: 11/09/11 07:22  
Date Received: 11/10/11 13:50

Lab Sample ID: 640-36116-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 67     |           | 1.0   |     | mg/L |   |          | 11/17/11 06:27 | 1       |
| Chloride     | 3.3    |           | 1.0   |     | mg/L |   |          | 11/17/11 06:27 | 1       |
| Fluoride     | 1.0    |           | 0.10  |     | mg/L |   |          | 11/16/11 13:15 | 1       |
| Nitrate as N | 2.9    |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: AC-8D  
Date Collected: 11/09/11 09:23  
Date Received: 11/10/11 13:50

Lab Sample ID: 640-36116-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 3.7    |           | 1.0   |     | mg/L |   |          | 11/17/11 06:43 | 1       |
| Chloride     | 13     |           | 1.0   |     | mg/L |   |          | 11/17/11 06:43 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/16/11 13:15 | 1       |
| Nitrate as N | 6.5    |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: AC-36D  
Date Collected: 11/09/11 11:18  
Date Received: 11/10/11 13:50

Lab Sample ID: 640-36116-3  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 17     |           | 1.0   |     | mg/L |   |          | 11/17/11 07:00 | 1       |
| Chloride     | 12     |           | 1.0   |     | mg/L |   |          | 11/17/11 07:00 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/16/11 14:15 | 1       |
| Nitrate as N | 5.7    |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: AC-13D  
Date Collected: 11/09/11 14:32  
Date Received: 11/10/11 13:50

Lab Sample ID: 640-36116-4  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 300    |           | 5.0   |     | mg/L |   |          | 11/17/11 17:50 | 5       |
| Chloride     | 26     |           | 5.0   |     | mg/L |   |          | 11/17/11 17:50 | 5       |
| Fluoride     | 14     |           | 1.0   |     | mg/L |   |          | 11/16/11 13:15 | 10      |
| Nitrate as N | 13     |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

Client Sample ID: AC-12D  
Date Collected: 11/09/11 16:05  
Date Received: 11/10/11 13:50

Lab Sample ID: 640-36116-5  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 240    |           | 5.0   |     | mg/L |   |          | 11/17/11 18:40 | 5       |
| Chloride     | 18     |           | 1.0   |     | mg/L |   |          | 11/17/11 10:37 | 1       |
| Fluoride     | 14     |           | 1.0   |     | mg/L |   |          | 11/16/11 13:15 | 10      |
| Nitrate as N | 10     |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |



## Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

### General Chemistry

Client Sample ID: DUP-1  
Date Collected: 11/09/11 00:00  
Date Received: 11/10/11 13:50

Lab Sample ID: 640-36116-6  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 54     |           | 1.0   |     | mg/L |   |          | 11/17/11 10:53 | 1       |
| Chloride     | 2.6    |           | 1.0   |     | mg/L |   |          | 11/17/11 10:53 | 1       |
| Fluoride     | 1.1    |           | 0.10  |     | mg/L |   |          | 11/16/11 13:15 | 1       |
| Nitrate as N | 3.0    |           | 0.010 |     | mg/L |   |          | 11/16/11 09:54 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87190/46

Matrix: Water

Analysis Batch: 87190

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/16/11 19:20 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/16/11 19:20 | 1       |

Lab Sample ID: LCS 640-87190/48

Matrix: Water

Analysis Batch: 87190

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 23.9       |               | mg/L |   | 100  | 90 - 110     |
| Chloride | 6.00        | 6.03       |               | mg/L |   | 100  | 90 - 110     |

Lab Sample ID: LCSD 640-87190/49

Matrix: Water

Analysis Batch: 87190

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.2        |                | mg/L |   | 101  | 90 - 110     | 1   | 30        |
| Chloride | 6.00        | 6.14        |                | mg/L |   | 102  | 90 - 110     | 2   | 30        |

Lab Sample ID: MB 640-87229/2

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/17/11 07:50 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/17/11 07:50 | 1       |

Lab Sample ID: LCS 640-87229/3

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.0       |               | mg/L |   | 100  | 90 - 110     |
| Chloride | 6.00        | 6.08       |               | mg/L |   | 101  | 90 - 110     |

Lab Sample ID: LCSD 640-87229/4

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.2        |                | mg/L |   | 101  | 90 - 110     | 1   | 30        |
| Chloride | 6.00        | 6.15        |                | mg/L |   | 102  | 90 - 110     | 1   | 30        |

Lab Sample ID: 640-36116-4 MS

Matrix: Water

Analysis Batch: 87229

Client Sample ID: AC-13D

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Sulfate  | 300           |                  | 120         | 420       |              | mg/L |   | 99   | 80 - 120     |
| Chloride | 26            |                  | 30.0        | 58.8      |              | mg/L |   | 111  | 80 - 120     |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 640-36116-4 DU

Matrix: Water

Analysis Batch: 87229

Client Sample ID: AC-13D

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Sulfate  | 300           |                  | 300       |              | mg/L |   | 0.8 | 30        |
| Chloride | 26            |                  | 25.1      |              | mg/L |   | 2   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144224/1

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/16/11 13:15 | 1       |

Lab Sample ID: LCS 400-144224/2

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Fluoride | 1.00        | 1.03       |               | mg/L |   | 103  | 90 - 110     |

Lab Sample ID: 640-36116-1 MS

Matrix: Water

Analysis Batch: 144224

Client Sample ID: AC-34S

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Fluoride | 1.0           |                  | 0.800       | 1.82      |              | mg/L |   | 96   | 74 - 125     |

Lab Sample ID: 640-36116-1 MSD

Matrix: Water

Analysis Batch: 144224

Client Sample ID: AC-34S

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Fluoride | 1.0           |                  | 0.800       | 1.83       |               | mg/L |   | 98   | 74 - 125     | 1   | 4         |

# QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

## General Chemistry

### Analysis Batch: 87126

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36116-1   | AC-34S           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36116-2   | AC-8D            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36116-3   | AC-36D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36116-4   | AC-13D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36116-5   | AC-12D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36116-6   | DUP-1            | Total/NA  | Water  | Nitrate by calc |            |

### Analysis Batch: 87190

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36116-1       | AC-34S                 | Total/NA  | Water  | 300.0  |            |
| 640-36116-2       | AC-8D                  | Total/NA  | Water  | 300.0  |            |
| 640-36116-3       | AC-36D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87190/48  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87190/49 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87190/46   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 87229

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36116-4      | AC-13D                 | Total/NA  | Water  | 300.0  |            |
| 640-36116-4 DU   | AC-13D                 | Total/NA  | Water  | 300.0  |            |
| 640-36116-4 MS   | AC-13D                 | Total/NA  | Water  | 300.0  |            |
| 640-36116-5      | AC-12D                 | Total/NA  | Water  | 300.0  |            |
| 640-36116-5      | AC-12D                 | Total/NA  | Water  | 300.0  |            |
| 640-36116-6      | DUP-1                  | Total/NA  | Water  | 300.0  |            |
| LCS 640-87229/3  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87229/4 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87229/2   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 144224

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36116-1      | AC-34S             | Total/NA  | Water  | 340.2  |            |
| 640-36116-1 MS   | AC-34S             | Total/NA  | Water  | 340.2  |            |
| 640-36116-1 MSD  | AC-34S             | Total/NA  | Water  | 340.2  |            |
| 640-36116-2      | AC-8D              | Total/NA  | Water  | 340.2  |            |
| 640-36116-3      | AC-36D             | Total/NA  | Water  | 340.2  |            |
| 640-36116-4      | AC-13D             | Total/NA  | Water  | 340.2  |            |
| 640-36116-5      | AC-12D             | Total/NA  | Water  | 340.2  |            |
| 640-36116-6      | DUP-1              | Total/NA  | Water  | 340.2  |            |
| LCS 400-144224/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144224/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |

# Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

**Client Sample ID: AC-34S**

**Date Collected: 11/09/11 07:22**

**Date Received: 11/10/11 13:50**

**Lab Sample ID: 640-36116-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87190        | 11/17/11 06:27       | FFC     | TAL TAL |

**Client Sample ID: AC-8D**

**Date Collected: 11/09/11 09:23**

**Date Received: 11/10/11 13:50**

**Lab Sample ID: 640-36116-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87190        | 11/17/11 06:43       | FFC     | TAL TAL |

**Client Sample ID: AC-36D**

**Date Collected: 11/09/11 11:18**

**Date Received: 11/10/11 13:50**

**Lab Sample ID: 640-36116-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 14:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87190        | 11/17/11 07:00       | FFC     | TAL TAL |

**Client Sample ID: AC-13D**

**Date Collected: 11/09/11 14:32**

**Date Received: 11/10/11 13:50**

**Lab Sample ID: 640-36116-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 10              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 5               | 87229        | 11/17/11 17:50       | FFC     | TAL TAL |

**Client Sample ID: AC-12D**

**Date Collected: 11/09/11 16:05**

**Date Received: 11/10/11 13:50**

**Lab Sample ID: 640-36116-5**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 10              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87229        | 11/17/11 10:37       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 5               | 87229        | 11/17/11 18:40       | FFC     | TAL TAL |

## Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

**Client Sample ID: DUP-1**

**Date Collected: 11/09/11 00:00**

**Date Received: 11/10/11 13:50**

**Lab Sample ID: 640-36116-6**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87126        | 11/16/11 09:54       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87229        | 11/17/11 10:53       | FFC     | TAL TAL |

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994



## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36116-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36116-1   | AC-34S           | Water  | 11/09/11 07:22 | 11/10/11 13:50 |
| 640-36116-2   | AC-8D            | Water  | 11/09/11 09:23 | 11/10/11 13:50 |
| 640-36116-3   | AC-36D           | Water  | 11/09/11 11:18 | 11/10/11 13:50 |
| 640-36116-4   | AC-13D           | Water  | 11/09/11 14:32 | 11/10/11 13:50 |
| 640-36116-5   | AC-12D           | Water  | 11/09/11 16:05 | 11/10/11 13:50 |
| 640-36116-6   | DUP-1            | Water  | 11/09/11 00:00 | 11/10/11 13:50 |

Analytical Data Package Prepared For

# TestAmerica Tallahassee

640-36116-1 AGRICO

Radiochemical Analysis By

**TestAmerica**

*2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.*

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49686

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44101   |           | AC-12D (640-36116-5)          | J1K140459-5 | MN1HL1AA   | 9MN1HL10     | 1319067   |
|         |           | AC-12D (640-36116-5)          | J1K140459-5 | MN1HL1AC   | 9MN1HL10     | 1319068   |
|         |           | AC-13D (640-36116-4)          | J1K140459-4 | MN1HK1AA   | 9MN1HK10     | 1319067   |
|         |           | AC-13D (640-36116-4)          | J1K140459-4 | MN1HK1AC   | 9MN1HK10     | 1319068   |
|         |           | AC-34S (640-36116-1)          | J1K140459-1 | MN1HC1AA   | 9MN1HC10     | 1319067   |
|         |           | AC-34S (640-36116-1)          | J1K140459-1 | MN1HC1AC   | 9MN1HC10     | 1319068   |
|         |           | AC-36D (640-36116-3)          | J1K140459-3 | MN1HJ1AA   | 9MN1HJ10     | 1319067   |
|         |           | AC-36D (640-36116-3)          | J1K140459-3 | MN1HJ1AC   | 9MN1HJ10     | 1319068   |
|         |           | AC-8D (640-36116-2)           | J1K140459-2 | MN1HH1AA   | 9MN1HH10     | 1319067   |
|         |           | AC-8D (640-36116-2)           | J1K140459-2 | MN1HH1AC   | 9MN1HH10     | 1319068   |
|         |           | DUP-1 (640-36116-6)           | J1K140459-6 | MN1HM1AA   | 9MN1HM10     | 1319067   |
|         |           | DUP-1 (640-36116-6)           | J1K140459-6 | MN1HM1AC   | 9MN1HM10     | 1319068   |

## Certificate of Analysis

December 8, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

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|                      |   |                   |
|----------------------|---|-------------------|
| Date Received in Lab | : | November 11, 2011 |
| Sample Type          | : | Six (6) Waters    |
| SDG Number           | : | 44101             |
| Client Company Name  | : | Agrico Annual     |
| Project Name/Number  | : | 640-36116-1       |

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### CASE NARRATIVE

#### **I. Introduction**

On November 11, 2011, six water samples were received at TestAmerica's Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned TestAmerica identification number as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J1K140459.

#### **II. Sample Receipt**

The sample was received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analysis requested was:

**Gas Proportional Counting**  
Radium-226 by method RL-RA-001  
Radium-228 by method RL-RA-001

#### IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### V. Comments

##### Gas Proportional Counting

Radium-226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium-228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

|                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                         | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                              | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                               | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                             | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                   | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                          | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                 | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                      | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                            | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                   | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                  | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                            | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                       | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                       | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                         | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                              | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

## Sample Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49686

SDG No: 44101

| Batch              | Client Id<br>Work Order   | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer<br>Yield | MDL   | CRDL | RER2 |
|--------------------|---------------------------|------------|-----------------------------|------|-------|-----------------|-------|------|------|
| 1319067            | E903.1                    |            |                             |      |       |                 |       |      |      |
|                    | AC-12D (640-36116-5)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HL1AA                  | RADIUM-226 | 4.80 +- 1.2                 | V    | pCi/L | 91%             | 0.496 | 1.0  |      |
|                    | AC-13D (640-36116-4)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HK1AA                  | RADIUM-226 | 1.64 +- 0.40                | V    | pCi/L | 100%            | 0.188 | 1.0  |      |
|                    | AC-34S (640-36116-1)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HC1AA                  | RADIUM-226 | 0.296 +- 0.16               | J    | pCi/L | 100%            | 0.229 | 1.0  |      |
|                    | AC-36D (640-36116-3)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HJ1AA                  | RADIUM-226 | 1.45 +- 0.44                | V    | pCi/L | 96%             | 0.231 | 1.0  |      |
|                    | AC-8D (640-36116-2)       |            |                             |      |       |                 |       |      |      |
|                    | MN1HH1AA                  | RADIUM-226 | 0.863 +- 0.28               | J    | pCi/L | 100%            | 0.223 | 1.0  |      |
|                    | ACB-32S (640-36076-1) DUP |            |                             |      |       |                 |       |      |      |
|                    | MNXMD1AD                  | RADIUM-226 | 0.157 +- 0.14               | U    | pCi/L | 100%            | 0.241 | 1.0  | 2.3  |
|                    | DUP-1 (640-36116-6)       |            |                             |      |       |                 |       |      |      |
|                    | MN1HM1AA                  | RADIUM-226 | 0.0896 +- 0.12              | U    | pCi/L | 86%             | 0.215 | 1.0  |      |
| 1319068            | E904.0                    |            |                             |      |       |                 |       |      |      |
|                    | AC-12D (640-36116-5)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HL1AC                  | RADIUM-228 | 8.43 +- 1.2                 | V    | pCi/L | 86%             | 0.709 | 1.0  |      |
|                    | AC-13D (640-36116-4)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HK1AC                  | RADIUM-228 | 8.18 +- 1.2                 | V    | pCi/L | 96%             | 0.569 | 1.0  |      |
|                    | AC-34S (640-36116-1)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HC1AC                  | RADIUM-228 | 0.984 +- 0.34               | J    | pCi/L | 94%             | 0.549 | 1.0  |      |
|                    | AC-36D (640-36116-3)      |            |                             |      |       |                 |       |      |      |
|                    | MN1HJ1AC                  | RADIUM-228 | 2.88 +- 0.55                | V    | pCi/L | 93%             | 0.502 | 1.0  |      |
|                    | AC-8D (640-36116-2)       |            |                             |      |       |                 |       |      |      |
|                    | MN1HH1AC                  | RADIUM-228 | 1.45 +- 0.40                | V    | pCi/L | 95%             | 0.585 | 1.0  |      |
|                    | ACB-32S (640-36076-1) DUP |            |                             |      |       |                 |       |      |      |
|                    | MNXMD1AE                  | RADIUM-228 | 0.771 +- 0.43               | U    | pCi/L | 90%             | 0.881 | 1.0  | 1.7  |
|                    | DUP-1 (640-36116-6)       |            |                             |      |       |                 |       |      |      |
|                    | MN1HM1AC                  | RADIUM-228 | 0.851 +- 0.49               | U    | pCi/L | 83%             | 0.939 | 1.0  |      |
| No. of Results: 14 |                           |            |                             |      |       |                 |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio =  $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$  as defined by ICPT BOA.

J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

V Qual - Detected.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

# QC Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49686

SDG No.: 44101

| Batch                    | Work Order | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |            |            |                             |      |       |              |              |      |       |
| 1319067                  | BLANK QC,  |            |                             |      |       |              |              |      |       |
|                          | MN1NQ1AA   | RADIUM-226 | 0.0581 +- 0.068             | U    | pCi/L | 100%         |              |      | 0.12  |
| 1319067                  | LCS,       |            |                             |      |       |              |              |      |       |
|                          | MN1NQ1AC   | RADIUM-226 | 9.28 +- 2.2                 | V    | pCi/L | 97%          | 93%          | -0.1 | 0.128 |
| <b>E904.0</b>            |            |            |                             |      |       |              |              |      |       |
| 1319068                  | BLANK QC,  |            |                             |      |       |              |              |      |       |
|                          | MN1NR1AA   | RADIUM-228 | 0.463 +- 0.28               | U    | pCi/L | 94%          |              |      | 0.544 |
| 1319068                  | LCS,       |            |                             |      |       |              |              |      |       |
|                          | MN1NR1AC   | RADIUM-228 | 9.55 +- 1.3                 | V    | pCi/L | 93%          | 98%          | 0.0  | 0.7   |
| <b>No. of Results: 4</b> |            |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

V Qual - Detected.



## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K140459-5  
Client Sample ID: AC-12D (640-36116-5)  
640-36116-1 AGRICO

SDG: 44101  
Report No.: 49686  
COC No.:

Collection Date: 11/9/2011 4:05:00 PM  
Received Date: 11/11/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 4.80   | V    | 0.69                  | 1.2                   | 0.496              | pCi/L           | 91%               | (9.7)                    | 12/5/11 03:08 p        |                  | 0.9098          | ASCGMA              |
|                       |        |      |                       |                       |                    | 0.218           | 1.0               | (8.1)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 8.43   | V    | 0.75                  | 1.2                   | 0.709              | pCi/L           | 86%               | (11.9)                   | 12/7/11 01:35 p        |                  | 0.9098          | GPC4A               |
|                       |        |      |                       |                       |                    | 0.321           | 1.0               | (13.7)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K140459-4  
Client Sample ID: AC-13D (640-36116-4)  
640-36116-1 AGRICO

SDG: 44101  
Report No.: 49686  
COC No.:

Collection Date: 11/9/2011 2:32:00 PM  
Received Date: 11/11/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.64   | V    | 0.25                  | 0.40                  | 0.188              | pCi/L           | 100%              | (8.7)                    | 12/5/11 03:10 p        |                  | 0.8632          | ASCFAC              |
|                       |        |      |                       |                       |                    | 0.0822          | 1.0               | (8.1)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 8.18   | V    | 0.69                  | 1.2                   | 0.569              | pCi/L           | 96%               | (14.4)                   | 12/7/11 01:34 p        |                  | 0.8632          | GPC3D               |
|                       |        |      |                       |                       |                    | 0.254           | 1.0               | (14.2)                   |                        |                  | L               |                     |

No. of Results: 2      Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K140459-1  
Client Sample ID: AC-34S (640-36116-1)  
640-36116-1 AGRICO

SDG: 44101  
Report No.: 49686  
COC No.:

Collection Date: 11/9/2011 7:22:00 AM  
Received Date: 11/11/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter                                   | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1                       |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226                                  | 0.296  | J    | 0.15                  | 0.16                  | 0.229              | pCi/L           | 100%              | (1.3)                    | 12/5/11 02:50 p        | 0.8824           | L               | ASCBMA              |
| Work Order: MN1HC1AA Report DB ID: 9MN1HC10 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
|                                             |        |      |                       |                       |                    | 0.101           | 1.0               | (3.6)                    |                        |                  |                 |                     |
| Batch: 1319068 E904.0                       |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228                                  | 0.984  | J    | 0.31                  | 0.34                  | 0.549              | pCi/L           | 94%               | (1.8)                    | 12/7/11 01:34 p        | 0.8824           | L               | GPC3A               |
| Work Order: MN1HC1AC Report DB ID: 9MN1HC10 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
|                                             |        |      |                       |                       |                    | 0.243           | 1.0               | (5.8)                    |                        |                  |                 |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K140459-3  
Client Sample ID: AC-36D (640-36116-3)  
640-36116-1 AGRICO

SDG: 44101  
Report No.: 49686  
COC No.:

Collection Date: 11/9/2011 11:18:00 AM  
Received Date: 11/11/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.45   | V    | 0.26                  | 0.44                  | 0.231              | pCi/L           | 96%               | (6.3)                    | 12/5/11 03:13 p        |                  | 0.889           | ASCEHA              |
|                       |        |      |                       |                       |                    | 0.103           | 1.0               | (6.6)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 2.88   | V    | 0.43                  | 0.55                  | 0.502              | pCi/L           | 93%               | (5.7)                    | 12/7/11 01:34 p        |                  | 0.889           | GPC3C               |
|                       |        |      |                       |                       |                    | 0.22            | 1.0               | (10.5)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC\MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc\Mda\Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K140459-2  
Client Sample ID: AC-8D (640-36116-2)  
640-36116-1 AGRICO

SDG: 44101  
Report No.: 49686  
COC No.:

Collection Date: 11/9/2011 9:23:00 AM  
Received Date: 11/11/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.863  | J    | 0.22                  | 0.28                  | 0.223              | pCi/L           | 100%              | (3.9)                    | 12/5/11 02:51 p        |                  | 0.846           | ASCDUE              |
|                       |        |      |                       |                       |                    | 0.0977          | 1.0               | (6.3)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 1.45   | V    | 0.36                  | 0.40                  | 0.585              | pCi/L           | 95%               | (2.5)                    | 12/7/11 01:34 p        |                  | 0.846           | GPC3B               |
|                       |        |      |                       |                       |                    | 0.261           | 1.0               | (7.2)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC\MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K140459-6  
Client Sample ID: DUP-1 (640-36116-6)  
640-36116-1 AGRICO

SDG: 44101  
Report No.: 49686  
COC No.:

Collection Date: 11/9/2011  
Received Date: 11/11/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.0896 | U    | 0.12                  | 0.12                  | 0.215              | pCi/L           | 86%               | 0.42                     | 12/5/11 03:10 p        |                  | 0.8413          | ASCHMA              |
|                       |        |      |                       |                       |                    | 0.0934          | 1.0               | (1.5)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.851  | U    | 0.47                  | 0.49                  | 0.939              | pCi/L           | 83%               | 0.91                     | 12/7/11 01:35 p        |                  | 0.8413          | GPC4C               |
|                       |        |      |                       |                       |                    | 0.433           | 1.0               | (3.5)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC\MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM II

Date: 08-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica      SDG: 44095      Collection Date: 11/8/2011 10:44:00 AM  
Lot-Sample No.: J1K110437-1      Report No.: 49686      Received Date: 11/10/2011 10:30:00 AM  
Client Sample ID: ACB-32S (640-36076-1) DUP      COC No.:      Matrix: WATER      W

| Parameter                                                                                                     | Result,<br>Orig Rst | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUncert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------------------------------------------------------------------------|---------------------|------|-----------------------|-----------------------|--------------------|-------------------|-------|---------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067      E903.1      Work Order: MNXMD1AD      Report DB ID: MNXMD1DR      Orig Sa DB ID: 9MNXMD10 |                     |      |                       |                       |                    |                   |       |                           |                        |                  |                 |                     |
| RADIUM-226                                                                                                    | 0.157               | U    | 0.14                  | 0.14                  | 0.241              | pCi/L             | 100%  | 0.65                      | 12/5/11 02:51 p        | 0.833            | L               | ASC7HA              |
|                                                                                                               | -0.0461             | U    | RER2 2.3              |                       |                    | 1.0               |       | (2.2)                     |                        |                  |                 |                     |
| Batch: 1319068      E904.0      Work Order: MNXMD1AE      Report DB ID: MNXMD1ER      Orig Sa DB ID: 9MNXMD10 |                     |      |                       |                       |                    |                   |       |                           |                        |                  |                 |                     |
| RADIUM-228                                                                                                    | 0.771               | U    | 0.41                  | 0.43                  | 0.881              | pCi/L             | 90%   | 0.88                      | 12/7/11 01:33 p        | 0.833            | L               | GPC1C               |
|                                                                                                               | 1.28                | V    | RER2 1.7              |                       |                    | 1.0               |       | (3.6)                     |                        |                  |                 |                     |

No. of Results: 2      Comments:

TestAmerica      RER2      - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
RptSTLRchDupV5.      MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
2.18 A2002      U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

FORM II

Date: 08-Dec-11

BLANK RESULTS

Lab Name: TestAmerica  
Matrix: WATER

SDG: 44101  
Report No. : 49686

| Parameter              | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Lc | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|------------------------|--------|------|-----------------------|-----------------------|------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1  |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226             | 0.0581 | U    | 0.067                 | 0.068                 | 0.12       | pCi/L             | 100%  | 0.49                     | 12/5/11 03:15 p        |                  | 1.0             | ASCJMB              |
| Report DB ID: MN1NQ1AB |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
|                        |        |      |                       |                       | 0.0493     | 1.0               |       | (1.7)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0  |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228             | 0.463  | U    | 0.27                  | 0.28                  | 0.544      | pCi/L             | 94%   | 0.85                     | 12/7/11 01:35 p        |                  | 1.0             | GPC4D               |
| Report DB ID: MN1NR1AB |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
|                        |        |      |                       |                       | 0.244      | 1.0               |       | (3.3)                    |                        |                  | L               |                     |

No. of Results: 2      Comments:



FORM II

Date: 08-Dec-11

LCS RESULTS

Lab Name: TestAmerica

SDG: 44101

Matrix: WATER

Report No.: 49686

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert(2 s) | MDL   | Report<br>Unit | Yield       | Expected | Expected<br>Uncert | Recovery,<br>Bias | Analysis,<br>Prep Date | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|----------------------|-------|----------------|-------------|----------|--------------------|-------------------|------------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                      |       |                |             |          |                    |                   |                        |                 |                     |
| RADIUM-226            | 9.28   | V    | 0.53                  | 2.2                  | 0.128 | pCi/L          | 97%         | 9.95     | 0.1                | 93%               | 12/5/11 03:10 p        | 1.004           | ASCPMD              |
|                       |        |      |                       |                      |       |                | Rec Limits: | 70       | 130                | -0.1              |                        |                 |                     |
| Batch: 1319068 E904.0 |        |      |                       |                      |       |                |             |          |                    |                   |                        |                 |                     |
| RADIUM-228            | 9.55   | V    | 0.68                  | 1.3                  | 0.7   | pCi/L          | 93%         | 9.75     | 0.32               | 98%               | 12/7/11 01:35 p        | 1.004           | GPC6A               |
|                       |        |      |                       |                      |       |                | Rec Limits: | 75       | 125                | 0.0               |                        |                 |                     |

No. of Results: 2      Comments:

TestAmerica      Bias      - (Result/Expected)-1 as defined by ANSI N13.30.

OptSTLRchLcs      V Qual - Detected.

V5.2.18 A2002

Test America Laboratories, Inc.



# TestAmerica Tallahassee

2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9504

## Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

|                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Client Information (Sub Contract Lab)</b><br>Client Contact: _____<br>Shipping/Receiving: _____<br>Company: _____                                                                                                                                                                                                      |  | Lab Plot: _____<br>Phone: _____<br>E-Mail: _____                                                                                   |  | Carrier Tracking No(s): _____<br>Page: _____<br>Page 1 of 1                                                                                                                                                                                                                                                                                                                                                                                             |  |
| TestAmerica Laboratories, Inc.<br>Address: 2800 George Washington Way,<br>City: Tallahassee<br>State: FL<br>Zip: 32301<br>Phone: (850) 878-3994<br>Fax: (850) 878-9504<br>Email: _____<br>Project Name: _____<br>Agt No: _____<br>Site: _____                                                                             |  | Due Date Requested: 11/22/2011<br>TAT Requested (days): _____<br>PO #: _____<br>WO #: _____<br>Project #: 64000434<br>SSOW#: _____ |  | Analysis Requested<br>Preservation Codes:<br>A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Anhydrous<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other: _____<br>Preservation Codes:<br>M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2O4S<br>Q - Na2SO3<br>R - Na2S2O3<br>S - H2SO4<br>T - TSP Dodecahydrate<br>U - Acetone<br>V - MCAA<br>W - pH 4-5<br>Z - other (specify) |  |
| <b>Sample Identification - Client ID (Lab ID)</b><br>AC-34S (640-36116-1)<br>AC-8D (640-36116-2)<br>AC-36D (640-36116-3)<br>AC-13D (640-36116-4)<br>AC-12D (640-36116-5)<br>DUP-1 (640-36116-6)                                                                                                                           |  | Sample Date<br>11/9/11<br>11/9/11<br>11/9/11<br>11/9/11<br>11/9/11<br>11/9/11                                                      |  | Sample Time<br>07:22 Eastern<br>09:23 Eastern<br>11:18 Eastern<br>14:32 Eastern<br>16:05 Eastern<br>Eastern                                                                                                                                                                                                                                                                                                                                             |  |
| Sample Type (C=Comp, G=grab)<br>Matrix (W=water, S=solid, O=oil, A=air)<br>Preservation Code: _____                                                                                                                                                                                                                       |  | Field Filtered Sample (Yes or No)<br>SUBCONTRACT/ Rad 228-Method 904.0 (Richland)<br>SUBCONTRACT/ Rad 228-Method 903.1 (Richland)  |  | Total Number of Containers<br>Special Instructions/Note:                                                                                                                                                                                                                                                                                                                                                                                                |  |
| SDG # 4410<br>LOT # J1K140459<br>Report: 12/9/11                                                                                                                                                                                                                                                                          |  | 2<br>2<br>2<br>2<br>2<br>2                                                                                                         |  | MN1HC<br>MN1HH<br>MN1HJ<br>MN1AK<br>MN1HL<br>MN1HM                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| <b>Possible Hazard Identification</b><br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological<br>Deliverable Requested: I, II, III, IV, Other (specify) |  |                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b><br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months                                                                                        |  |                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <b>Special Instructions/QC Requirements:</b>                                                                                                                                                                                                                                                                              |  |                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <b>Empty Kit Relinquished by:</b>                                                                                                                                                                                                                                                                                         |  |                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Relinquished by: _____<br>Date/Time: 11/10/11 1730                                                                                                                                                                                                                                                                        |  | Relinquished by: Julie Pock<br>Date/Time: 11-11-11 1015                                                                            |  | Company: TAC Company                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Relinquished by: _____<br>Date/Time:                                                                                                                                                                                                                                                                                      |  | Relinquished by: _____<br>Date/Time:                                                                                               |  | Company: _____                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Relinquished by: _____<br>Date/Time:                                                                                                                                                                                                                                                                                      |  | Relinquished by: _____<br>Date/Time:                                                                                               |  | Company: _____                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                            |  | Custody Seal No.: _____                                                                                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |

### Sample Check-in List

Date/Time Received: 11-11-11 1015 Container GM Screen Result: (Airlock) 1.04 Initials B  
Sample GM Screen Result (Sample Receiving) 1.06 Initials B

Client: STL-T SDG #: 414101 NA ☐ SAF #: NA B

Lot Number: J1K140459

Chain of Custody # \_\_\_\_\_

Shipping Container ID: \_\_\_\_\_ NA B Air Bill Number: \_\_\_\_\_ NA B

Samples received inside shipping container/cooler/box Yes B ] Continue with 1 through 4. Initial appropriate response.  
No ☐ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes B ] No ☐ ] No Custody Seal ☐ ]

2. Custody Seals dated and signed? Yes B ] No ☐ ] No Custody Seal ☐ ]

3. Cooler temperature: \_\_\_\_\_ °C NA B ]

4. Vermiculite/packing materials is NA ☐ ] Wet ☐ ] Dry B ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes B ] No ☐ ]

6. Number of samples received (Each sample may contain multiple bottles): 6

7. Containers received: 12 x 4P

8. Sample holding times exceeded? NA ☐ ] Yes ☐ ] No B ]

9. Samples have:  
\_\_\_\_\_ tape B hazard labels  
\_\_\_\_\_ custody seals B appropriate sample labels

10. Matrix:  
\_\_\_\_\_ A (FLT, Wipe, Solid, Soil) B I (Water)  
\_\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
B are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_\_ Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes B ] No ☐ ] NA ☐ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used : \_\_\_\_\_

13. Were any anomalies identified in sample receipt? Yes 11-11-11 B ] No B ]

14. Description of anomalies (include sample numbers): NA B



TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9504

# Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

|                                                  |  |                                      |  |                                            |  |                                 |  |
|--------------------------------------------------|--|--------------------------------------|--|--------------------------------------------|--|---------------------------------|--|
| <b>Client Information</b>                        |  | Sampler: <i>Eric M. Amiea Bryant</i> |  | Lab PM: <i>Sneed, Laura B</i>              |  | Carrier Tracking No(s):         |  |
| Client Contact: <i>Mr. Jeff Wagner</i>           |  | Phone: <i>850.251.0585</i>           |  | E-Mail: <i>laura.sneed@testamerica.com</i> |  | COC No: <i>640-30090-6826.2</i> |  |
| Company: <i>URS Corporation</i>                  |  | Due Date Requested:                  |  | Analysis Requested                         |  | Job #: <i>640-3016</i>          |  |
| Address: <i>1625 Summit Lake Drive Suite 200</i> |  | TAT Requested (days):                |  |                                            |  | Page: <i>2 of 4</i>             |  |
| City: <i>Tallahassee</i>                         |  |                                      |  |                                            |  |                                 |  |
| State Zip: <i>FL 32317</i>                       |  |                                      |  |                                            |  |                                 |  |
| Phone:                                           |  | PO #:                                |  |                                            |  |                                 |  |
| Email: <i>jeffry_wagner@urscorp.com</i>          |  | WO #:                                |  |                                            |  |                                 |  |
| Project Name: <i>AgriCo Annual</i>               |  | Project #:                           |  |                                            |  |                                 |  |
| Site: <i>Pensacola, Florida</i>                  |  | SSOW#:                               |  |                                            |  |                                 |  |

  

| Sample Identification | Sample Date | Sample Time | Sample Type (G=comp, G=grab) | Matrix (W=water, S=solid, O=soil, A=air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 340.2 - Fluoride (Pensacola) | SUBCONTRACT - Rad 226-Method 903.1 (Richland) | SUBCONTRACT - Rad 226-Method 904.0 (Richland) | 353.2 - Nitrate as N | 300.0_28D - Chloride, Sulfate | SM4500_NO2_B - Nitrate as N | 6010B - Arsenic | Total Number of containers | Special Instructions/Note: |
|-----------------------|-------------|-------------|------------------------------|------------------------------------------|-----------------------------------|----------------------------|------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------|-------------------------------|-----------------------------|-----------------|----------------------------|----------------------------|
| AC-345                | 11/9/2011   | 0722        | G                            | W                                        | N                                 | N                          | 1                            | 1                                             | 1                                             | 1                    | 1                             | 1                           | 1               | 6                          |                            |
| AC-8D                 | 11/9/2011   | 0923        | G                            | W                                        | N                                 | N                          | 1                            | 1                                             | 1                                             | 1                    | 1                             | 1                           | 1               | 6                          |                            |
| AC-36D                | 11/9/2011   | 1118        | G                            | W                                        | N                                 | N                          | 1                            | 1                                             | 1                                             | 1                    | 1                             | 1                           | 1               | 6                          |                            |
| AC-13D                | 11/9/2011   | 1432        | G                            | W                                        | N                                 | N                          | 1                            | 1                                             | 1                                             | 1                    | 1                             | 1                           | 1               | 6                          |                            |
| AC-12D                | 11/9/2011   | 1605        | G                            | W                                        | N                                 | N                          | 1                            | 1                                             | 1                                             | 1                    | 1                             | 1                           | 1               | 6                          |                            |
| DUP-1                 | 11/9/2011   |             | G                            | W                                        | N                                 | N                          | 1                            | 1                                             | 1                                             | 1                    | 1                             | 1                           | 1               | 6                          |                            |

  

|                                                                                |                                                                                                                                                                                    |                                                                                     |                                                                                                               |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Possible Hazard Identification                                                 |                                                                                                                                                                                    | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) |                                                                                                               |
| <input type="checkbox"/> Non-Hazard                                            | <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological | <input type="checkbox"/> Return To Client                                           | <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months |
| Deliverable Requested: I, II, III, IV, Other (specify)                         |                                                                                                                                                                                    | Special Instructions/IOC Requirements:                                              |                                                                                                               |
| Empty Kit Relinquished by: <i>TM</i>                                           |                                                                                                                                                                                    | Date: <i>11/2/11</i> Time: <i>1420</i> Method of Shipment:                          |                                                                                                               |
| Relinquished by: <i>Amiea Bryant</i>                                           |                                                                                                                                                                                    | Date/Time: <i>11/9/2011 1800</i> Company: <i>URS</i>                                |                                                                                                               |
| Relinquished by:                                                               |                                                                                                                                                                                    | Date/Time: Company:                                                                 |                                                                                                               |
| Relinquished by:                                                               |                                                                                                                                                                                    | Date/Time: Company:                                                                 |                                                                                                               |
| Custody Seats Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No |                                                                                                                                                                                    | Custody Seal No.:                                                                   |                                                                                                               |
| Cooler Temperature(s) °C and Other Remarks: <i>0.8, 1.0</i>                    |                                                                                                                                                                                    |                                                                                     |                                                                                                               |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36116-1

Login Number: 36116

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Mitchell, Travis X

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36116-1

**Login Number: 36116**

**List Source: TestAmerica Pensacola**

**List Number: 1**

**List Creation: 11/11/11 04:28 PM**

**Creator: Hor, Koma**

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36132-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/15/2011 3:50:11 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

### Qualifiers

#### General Chemistry

| Qualifier | Qualifier Description                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| E         | Result exceeded calibration range.                                                                                                                        |

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

**Job ID: 640-36132-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

#### Job Narrative 640-36132-1

#### Comments

No additional comments.

#### Receipt

All samples were received in good condition within temperature requirements.

#### General Chemistry

Method 300.0: The matrix spike (MS) recovery for sulfate in batch 640-87261 was outside advisory limit due to the abundance of the target analyte present in the un-spiked parent sample, AC-9D2. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries met acceptance criteria. Pertaining QC data was flagged "4". The concentration of sulfate in batch 640-87261 matrix spike was outside the calibration range of the analytical curve. Associated QC data was flagged "E".

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No other analytical or quality issues were noted.

#### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K160417 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

### Client Sample ID: AC-6D

### Lab Sample ID: 640-36132-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 29     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 10     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 5.0    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-9D2

### Lab Sample ID: 640-36132-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 230    |           | 2.0   |     | mg/L | 2       |   | 300.0           | Total/NA  |
| Chloride     | 44     |           | 2.0   |     | mg/L | 2       |   | 300.0           | Total/NA  |
| Fluoride     | 42     |           | 2.0   |     | mg/L | 20      |   | 340.2           | Total/NA  |
| Nitrate as N | 13     |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-28D

### Lab Sample ID: 640-36132-3

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 56     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 23     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 9.3    |           | 1.0   |     | mg/L | 10      |   | 340.2           | Total/NA  |
| Nitrate as N | 6.8    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

## General Chemistry

Client Sample ID: AC-6D  
Date Collected: 11/10/11 10:19  
Date Received: 11/11/11 09:10

Lab Sample ID: 640-36132-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 29     |           | 1.0   |     | mg/L |   |          | 11/17/11 11:10 | 1       |
| Chloride     | 10     |           | 1.0   |     | mg/L |   |          | 11/17/11 11:10 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/16/11 13:15 | 1       |
| Nitrate as N | 5.0    |           | 0.010 |     | mg/L |   |          | 11/21/11 08:46 | 1       |

Client Sample ID: AC-9D2  
Date Collected: 11/10/11 13:54  
Date Received: 11/11/11 09:10

Lab Sample ID: 640-36132-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 230    |           | 2.0   |     | mg/L |   |          | 11/20/11 16:01 | 2       |
| Chloride     | 44     |           | 2.0   |     | mg/L |   |          | 11/20/11 16:01 | 2       |
| Fluoride     | 42     |           | 2.0   |     | mg/L |   |          | 11/16/11 13:15 | 20      |
| Nitrate as N | 13     |           | 0.010 |     | mg/L |   |          | 11/21/11 08:46 | 1       |

Client Sample ID: AC-28D  
Date Collected: 11/10/11 15:43  
Date Received: 11/11/11 09:10

Lab Sample ID: 640-36132-3  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 56     |           | 1.0   |     | mg/L |   |          | 11/17/11 11:43 | 1       |
| Chloride     | 23     |           | 1.0   |     | mg/L |   |          | 11/17/11 11:43 | 1       |
| Fluoride     | 9.3    |           | 1.0   |     | mg/L |   |          | 11/16/11 13:15 | 10      |
| Nitrate as N | 6.8    |           | 0.010 |     | mg/L |   |          | 11/21/11 08:46 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87229/2

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/17/11 07:50 | 1       |
| Chloride | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/17/11 07:50 | 1       |

Lab Sample ID: LCS 640-87229/3

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Sulfate  | 24.0           | 24.0          |                  | mg/L |   | 100  | 90 - 110        |
| Chloride | 6.00           | 6.08          |                  | mg/L |   | 101  | 90 - 110        |

Lab Sample ID: LCSD 640-87229/4

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|----------|----------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| Sulfate  | 24.0           | 24.2           |                   | mg/L |   | 101  | 90 - 110        | 1   | 30           |
| Chloride | 6.00           | 6.15           |                   | mg/L |   | 102  | 90 - 110        | 1   | 30           |

Lab Sample ID: MB 640-87261/2

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/20/11 14:38 | 1       |
| Chloride | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/20/11 14:38 | 1       |

Lab Sample ID: LCS 640-87261/4

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Sulfate  | 24.0           | 23.5          |                  | mg/L |   | 98   | 90 - 110        |
| Chloride | 6.00           | 5.93          |                  | mg/L |   | 99   | 90 - 110        |

Lab Sample ID: LCSD 640-87261/5

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|----------|----------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| Sulfate  | 24.0           | 23.9           |                   | mg/L |   | 100  | 90 - 110        | 2   | 30           |
| Chloride | 6.00           | 6.04           |                   | mg/L |   | 101  | 90 - 110        | 2   | 30           |

Lab Sample ID: 640-36132-2 MS

Matrix: Water

Analysis Batch: 87261

Client Sample ID: AC-9D2

Prep Type: Total/NA

| Analyte  | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|-----------------|
| Sulfate  | 230              |                     | 48.0           | 261          | E 4             | mg/L |   | 75   | 80 - 120        |
| Chloride | 44               |                     | 12.0           | 56.5         |                 | mg/L |   | 100  | 80 - 120        |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 640-36132-2 DU

Matrix: Water

Analysis Batch: 87261

Client Sample ID: AC-9D2

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Sulfate  | 230           |                  | 229       |              | mg/L |   | 1   | 30        |
| Chloride | 44            |                  | 45.1      |              | mg/L |   | 1   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144224/1

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/16/11 13:15 | 1       |

Lab Sample ID: LCS 400-144224/2

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Fluoride | 1.00        | 1.03       |               | mg/L |   | 103  | 90 - 110     |

## QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

### General Chemistry

#### Analysis Batch: 87229

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36132-1      | AC-6D                  | Total/NA  | Water  | 300.0  |            |
| 640-36132-3      | AC-28D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87229/3  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87229/4 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87229/2   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87259

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36132-1   | AC-6D            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36132-2   | AC-9D2           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36132-3   | AC-28D           | Total/NA  | Water  | Nitrate by calc |            |

#### Analysis Batch: 87261

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36132-2      | AC-9D2                 | Total/NA  | Water  | 300.0  |            |
| 640-36132-2 DU   | AC-9D2                 | Total/NA  | Water  | 300.0  |            |
| 640-36132-2 MS   | AC-9D2                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87261/4  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87261/5 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87261/2   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 144224

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36132-1      | AC-6D              | Total/NA  | Water  | 340.2  |            |
| 640-36132-2      | AC-9D2             | Total/NA  | Water  | 340.2  |            |
| 640-36132-3      | AC-28D             | Total/NA  | Water  | 340.2  |            |
| LCS 400-144224/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144224/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |



## Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

**Client Sample ID: AC-6D**

**Date Collected: 11/10/11 10:19**

**Date Received: 11/11/11 09:10**

**Lab Sample ID: 640-36132-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87229        | 11/17/11 11:10       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87259        | 11/21/11 08:46       | TDW     | TAL TAL |

**Client Sample ID: AC-9D2**

**Date Collected: 11/10/11 13:54**

**Date Received: 11/11/11 09:10**

**Lab Sample ID: 640-36132-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 20              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87259        | 11/21/11 08:46       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 2               | 87261        | 11/20/11 16:01       | FFC     | TAL TAL |

**Client Sample ID: AC-28D**

**Date Collected: 11/10/11 15:43**

**Date Received: 11/11/11 09:10**

**Lab Sample ID: 640-36132-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 10              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87229        | 11/17/11 11:43       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87259        | 11/21/11 08:46       | TDW     | TAL TAL |

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36132-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36132-1   | AC-6D            | Water  | 11/10/11 10:19 | 11/11/11 09:10 |
| 640-36132-2   | AC-9D2           | Water  | 11/10/11 13:54 | 11/11/11 09:10 |
| 640-36132-3   | AC-28D           | Water  | 11/10/11 15:43 | 11/11/11 09:10 |

Analytical Data Package Prepared For

# TestAmerica Tallahassee

640-36132-1 AGRICO

Radiochemical Analysis By

**TestAmerica**

*2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.*

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49687

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44108   |           | AC-28D (640-36132-3)          | J1K160417-3 | MN2XV1AA   | 9MN2XV10     | 1319067   |
|         |           | AC-28D (640-36132-3)          | J1K160417-3 | MN2XV1AC   | 9MN2XV10     | 1319068   |
|         |           | AC-6D (640-36132-1)           | J1K160417-1 | MN2XK1AA   | 9MN2XK10     | 1319067   |
|         |           | AC-6D (640-36132-1)           | J1K160417-1 | MN2XK1AC   | 9MN2XK10     | 1319068   |
|         |           | AC-9D2 (640-36132-2)          | J1K160417-2 | MN2XT1AA   | 9MN2XT10     | 1319067   |
|         |           | AC-9D2 (640-36132-2)          | J1K160417-2 | MN2XT1AC   | 9MN2XT10     | 1319068   |

## Certificate of Analysis

December 8, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

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|                      |   |                   |
|----------------------|---|-------------------|
| Date Received in Lab | : | November 15, 2011 |
| Sample Type          | : | Three (3) Waters  |
| SDG Number           | : | 44108             |
| Client Company Name  | : | Agrico Annual     |
| Project Name/Number  | : | 640-36132-1       |

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### CASE NARRATIVE

#### **I. Introduction**

On November 15, 2011, three water samples were received at TestAmerica's Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned TestAmerica identification number as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J1K160417.

#### **II. Sample Receipt**

The sample was received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analysis requested was:

**Gas Proportional Counting**  
Radium-226 by method RL-RA-001  
Radium-228 by method RL-RA-001

#### IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### V. Comments

##### Gas Proportional Counting

Radium-226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium-228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.



## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

# Sample Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49687

SDG No: 44108

| Batch             | Client Id<br>Work Order   | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer<br>Yield | MDL   | CRDL | RER2 |
|-------------------|---------------------------|------------|-----------------------------|------|-------|-----------------|-------|------|------|
| 1319067           | E903.1                    |            |                             |      |       |                 |       |      |      |
|                   | AC-28D (640-36132-3)      |            |                             |      |       |                 |       |      |      |
|                   | MN2XV1AA                  | RADIUM-226 | 3.27 +- 0.79                | V    | pCi/L | 100%            | 0.172 | 1.0  |      |
|                   | AC-6D (640-36132-1)       |            |                             |      |       |                 |       |      |      |
|                   | MN2XK1AA                  | RADIUM-226 | 5.14 +- 1.1                 | V    | pCi/L | 90%             | 0.165 | 1.0  |      |
|                   | AC-9D2 (640-36132-2)      |            |                             |      |       |                 |       |      |      |
|                   | MN2XT1AA                  | RADIUM-226 | 1.52 +- 0.42                | V    | pCi/L | 98%             | 0.196 | 1.0  |      |
|                   | ACB-32S (640-36076-1) DUP |            |                             |      |       |                 |       |      |      |
|                   | MNXMD1AD                  | RADIUM-226 | 0.157 +- 0.14               | U    | pCi/L | 100%            | 0.241 | 1.0  | 2.3  |
| 1319068           | E904.0                    |            |                             |      |       |                 |       |      |      |
|                   | AC-28D (640-36132-3)      |            |                             |      |       |                 |       |      |      |
|                   | MN2XV1AC                  | RADIUM-228 | 10.4 +- 1.4                 | V    | pCi/L | 87%             | 0.877 | 1.0  |      |
|                   | AC-6D (640-36132-1)       |            |                             |      |       |                 |       |      |      |
|                   | MN2XK1AC                  | RADIUM-228 | 3.28 +- 0.67                | V    | pCi/L | 89%             | 0.874 | 1.0  |      |
|                   | AC-9D2 (640-36132-2)      |            |                             |      |       |                 |       |      |      |
|                   | MN2XT1AC                  | RADIUM-228 | 8.56 +- 1.2                 | V    | pCi/L | 94%             | 0.68  | 1.0  |      |
|                   | ACB-32S (640-36076-1) DUP |            |                             |      |       |                 |       |      |      |
|                   | MNXMD1AE                  | RADIUM-228 | 0.771 +- 0.43               | U    | pCi/L | 90%             | 0.881 | 1.0  | 1.7  |
| No. of Results: 8 |                           |            |                             |      |       |                 |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

V Qual - Detected.

**QC Results Summary**  
**TestAmerica TARL**  
 Ordered by Method, Batch No, QC Type,.

Date: 08-Dec-11

Report No. : 49687

SDG No.: 44101

| Batch                    | Work Order | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |            |            |                             |      |       |              |              |      |       |
| 1319067 BLANK QC,        |            |            |                             |      |       |              |              |      |       |
|                          | MN1NQ1AA   | RADIUM-226 | 0.0581 +- 0.068             | U    | pCi/L | 100%         |              |      | 0.12  |
| 1319067 LCS,             |            |            |                             |      |       |              |              |      |       |
|                          | MN1NQ1AC   | RADIUM-226 | 9.28 +- 2.2                 | V    | pCi/L | 97%          | 93%          | -0.1 | 0.128 |
| <b>E904.0</b>            |            |            |                             |      |       |              |              |      |       |
| 1319068 BLANK QC,        |            |            |                             |      |       |              |              |      |       |
|                          | MN1NR1AA   | RADIUM-228 | 0.463 +- 0.28               | U    | pCi/L | 94%          |              |      | 0.544 |
| 1319068 LCS,             |            |            |                             |      |       |              |              |      |       |
|                          | MN1NR1AC   | RADIUM-228 | 9.55 +- 1.3                 | V    | pCi/L | 93%          | 98%          | 0.0  | 0.7   |
| <b>No. of Results: 4</b> |            |            |                             |      |       |              |              |      |       |

|                                                                         |                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TestAmerica</b><br><b>rptSTLRchQcSummary V5.2.18</b><br><b>A2002</b> | Bias - (Result/Expected)-1 as defined by ANSI N13.30.<br>U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.<br>V Qual - Detected. |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K160417-3  
Client Sample ID: AC-28D (640-36132-3)  
640-36132-1 AGRICO

SDG: 44108  
Report No.: 49687  
COC No.:

Collection Date: 11/10/2011 3:43:00 PM  
Received Date: 11/15/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 3.27   | V    | 0.35                  | 0.79                  | 0.172              | pCi/L           | 100%              | (19.)                    | 12/5/11 08:35 p        |                  | 0.8501          | ASC9HB              |
|                       |        |      |                       |                       |                    | 0.0741          | 1.0               | (8.3)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 10.4   | V    | 0.81                  | 1.4                   | 0.877              | pCi/L           | 87%               | (11.9)                   | 12/7/11 04:40 p        |                  | 0.8501          | GPC1A               |
|                       |        |      |                       |                       |                    | 0.409           | 1.0               | (14.8)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K160417-1  
Client Sample ID: AC-6D (640-36132-1)  
640-36132-1 AGRICO

SDG: 44108  
Report No.: 49687  
COC No.:

Collection Date: 11/10/2011 10:19:00 AM  
Received Date: 11/15/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 5.14   | V    | 0.45                  | 1.1                   | 0.165              | pCi/L           | 90%               | (31.1)                   | 12/5/11 08:38 p        |                  | 0.8617          | ASC1MB              |
|                       |        |      |                       |                       |                    | 0.0694          | 1.0               | (9.3)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 3.28   | V    | 0.54                  | 0.67                  | 0.874              | pCi/L           | 89%               | (3.8)                    | 12/7/11 01:35 p        |                  | 0.8617          | GPC6B               |
|                       |        |      |                       |                       |                    | 0.409           | 1.0               | (9.8)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K160417-2  
Client Sample ID: AC-9D2 (640-36132-2)  
640-36132-1 AGRICO

SDG: 44108  
Report No.: 49687  
COC No.:

Collection Date: 11/10/2011 1:54:00 PM  
Received Date: 11/15/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.52   | V    | 0.26                  | 0.42                  | 0.196              | pCi/L           | 98%               | 9MN2XT10<br>(7.8)        | 12/5/11 08:35 p        |                  | 0.9077          | ASC7UA              |
|                       |        |      |                       |                       |                    | 0.0847          | 1.0               | (7.3)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 8.56   | V    | 0.67                  | 1.2                   | 0.68               | pCi/L           | 94%               | 9MN2XT10<br>(12.6)       | 12/7/11 01:35 p        |                  | 0.9077          | GPC6C               |
|                       |        |      |                       |                       |                    | 0.316           | 1.0               | (14.8)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

# FORM II

Date: 08-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica      SDG: 44095      Collection Date: 11/8/2011 10:44:00 AM  
 Lot-Sample No.: J1K110437-1      Report No.: 49687      Received Date: 11/10/2011 10:30:00 AM  
 Client Sample ID: ACB-32S (640-36076-1) DUP      COC No.:      Matrix: WATER      W

| Parameter                                                                                                     | Result, Orig Rst | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDL, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---------------------------------------------------------------------------------------------------------------|------------------|------|--------------------|--------------------|-----------------|----------------|-------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1319067      E903.1      Work Order: MNXMD1AD      Report DB ID: MNXMD1DR      Orig Sa DB ID: 9MNXMD10 |                  |      |                    |                    |                 |                |       |                       |                     |               |              |                  |
| RADIUM-226                                                                                                    | 0.157            | U    | 0.14               | 0.14               | 0.241           | pCi/L          | 100%  | 0.65                  | 12/5/11 02:51 p     | 0.833         | L            | ASC7HA           |
|                                                                                                               | -0.0461          | U    | RER2 2.3           |                    |                 | 1.0            |       | (2.2)                 |                     |               |              |                  |
| Batch: 1319068      E904.0      Work Order: MNXMD1AE      Report DB ID: MNXMD1ER      Orig Sa DB ID: 9MNXMD10 |                  |      |                    |                    |                 |                |       |                       |                     |               |              |                  |
| RADIUM-228                                                                                                    | 0.771            | U    | 0.41               | 0.43               | 0.881           | pCi/L          | 90%   | 0.88                  | 12/7/11 01:33 p     | 0.833         | L            | GPC1C            |
|                                                                                                               | 1.28             | V    | RER2 1.7           |                    |                 | 1.0            |       | (3.6)                 |                     |               |              |                  |

No. of Results: 2      Comments:

TestAmerica      RER2      - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
 rptSTL RchDupV5.      MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 2.18 A2002      U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
                                          V Qual - Detected.

FORM II

Date: 08-Dec-11

BLANK RESULTS

Lab Name: TestAmerica  
Matrix: WATER

SDG: 44101  
Report No. : 49687

| Parameter                                   | Batch  | Result | Qual  | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Lc | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------|--------|--------|-------|-----------------------|-----------------------|------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1                       |        |        |       |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN1NQ1AA Report DB ID: MN1NQ1AB |        |        |       |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226                                  | 0.0581 | U      | 0.067 | 0.068                 | 0.12                  | pCi/L      | 100%              | 0.49  | 12/5/11 03:15 p          | 1.0                    | ASCJMB           |                 |                     |
|                                             |        |        |       |                       | 0.0493                | 1.0        |                   | (1.7) |                          |                        |                  | L               |                     |
| Batch: 1319068 E904.0                       |        |        |       |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN1NR1AA Report DB ID: MN1NR1AB |        |        |       |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228                                  | 0.463  | U      | 0.27  | 0.28                  | 0.544                 | pCi/L      | 94%               | 0.85  | 12/7/11 01:35 p          | 1.0                    | GPC4D            |                 |                     |
|                                             |        |        |       |                       | 0.244                 | 1.0        |                   | (3.3) |                          |                        |                  | L               |                     |

No. of Results: 2      Comments:



FORM II

Date: 08-Dec-11

LCS RESULTS

Lab Name: TestAmerica

SDG: 44101

Matrix: WATER

Report No.: 49687

| Parameter                                   | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert(2 s) | MDL   | Report<br>Unit | Yield | Expected | Expected<br>Uncert | Recovery,<br>Bias | Analysis,<br>Prep Date | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------|--------|------|-----------------------|----------------------|-------|----------------|-------|----------|--------------------|-------------------|------------------------|-----------------|---------------------|
| Batch: 1319067 E903.1                       |        |      |                       |                      |       |                |       |          |                    |                   |                        |                 |                     |
| Work Order: MN1NQ1AC Report DB ID: MN1NQ1CS |        |      |                       |                      |       |                |       |          |                    |                   |                        |                 |                     |
| RADIUM-226                                  | 9.28   | V    | 0.53                  | 2.2                  | 0.128 | pCi/L          | 97%   | 9.95     | 0.1                | 93%               | 12/5/11 03:10 p        | 1.004           | ASCPMD              |
| Rec Limits:                                 |        |      |                       |                      |       |                | 70    | 130      | -0.1               | L                 |                        |                 |                     |
| Batch: 1319068 E904.0                       |        |      |                       |                      |       |                |       |          |                    |                   |                        |                 |                     |
| Work Order: MN1NR1AC Report DB ID: MN1NR1CS |        |      |                       |                      |       |                |       |          |                    |                   |                        |                 |                     |
| RADIUM-228                                  | 9.55   | V    | 0.68                  | 1.3                  | 0.7   | pCi/L          | 93%   | 9.75     | 0.32               | 98%               | 12/7/11 01:35 p        | 1.004           | GPC6A               |
| Rec Limits:                                 |        |      |                       |                      |       |                | 75    | 125      | 0.0                | L                 |                        |                 |                     |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
rptSTLRchLcs V Qual - Detected.  
V5.2.18 A2002

Test America Laboratories, Inc.

Phone (850) 878-3994 Fax (850) 878-9504

## Chain of Custody Record



DOMESTIC WAREHOUSES IN GREAT BRITAIN 2012

[illegible]

**Sample Check-in List**

Date/Time Received: 11-15-11 1015 Container GM Screen Result: (Airlock) .04 Initials JE  
Sample GM Screen Result (Sample Receiving) .05 Initials JE

Client: STL-T SDG #: 44108 NA [ ] SAF #: NA

Lot Number: JIK160417

Chain of Custody # 640-47460.1

Shipping Container ID: Cooler NA [ ] Air Bill Number: NA

Samples received inside shipping container/cooler/box Yes JE Continue with 1 through 4. Initial appropriate response.

No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes JE No [ ] No Custody Seal [ ]

2. Custody Seals dated and signed? Yes [ ] No JE No Custody Seal [ ]

3. Cooler temperature: \_\_\_\_\_ °C NA JE

4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry JE

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes JE No [ ]

6. Number of samples received (Each sample may contain multiple bottles): 3

7. Containers received: 6x 1LP

8. Sample holding times exceeded? NA [ ] Yes [ ] No JE

9. Samples have:  
\_\_\_\_ tape JE hazard labels  
\_\_\_\_ custody seals JE appropriate sample labels

10. Matrix:  
\_\_\_\_ A (FLT, Wipe, Solid, Soil) JE I (Water)  
\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_ T (Biological, Ni-63)

11. Samples:  
JE are in good condition \_\_\_\_ are leaking  
\_\_\_\_ are broken \_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_ Other

12. Sample pH appropriate for analysis requested Yes JE No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used : \_\_\_\_\_

13. Were any anomalies identified in sample receipt? Yes [ ] No X

14. Description of anomalies (include sample numbers): NA X

16. Additional Information: \_\_\_\_\_

NA] Client/Courier unpack cooler.

Date:

[X] No action necessary; process as is

Date \_\_\_\_\_

V1K160417

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

## Chain of Custody Record

# TestAmerica

Figure 6. The effect of the initial concentration of the monomer on the polymerization of MMA initiated by AIBN at 70°C.

[illegible]

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36132-1

Login Number: 36132

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Savoie, Noel

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36132-1

Login Number: 36132

List Source: TestAmerica Pensacola

List Number: 1

List Creation: 11/15/11 04:34 PM

Creator: Hor, Koma

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True   |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36151-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/15/2011 4:14:22 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

Review your project  
results through

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

**Job ID: 640-36151-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

#### Job Narrative 640-36151-1

#### Comments

The equipment blank associated with the project samples contained a detection of nitrate, chloride, and fluoride above the reporting limit (RL).

#### Receipt

All samples were received in good condition within temperature requirements.

#### General Chemistry

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No other analytical or quality issues were noted.

#### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K160419 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

### Client Sample ID: EQBLNK-1

### Lab Sample ID: 640-36151-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Chloride     | 1.2    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 0.39   |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 0.013  |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-29D

### Lab Sample ID: 640-36151-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 220    |           | 5.0   |     | mg/L | 5       |   | 300.0           | Total/NA  |
| Chloride     | 54     |           | 5.0   |     | mg/L | 5       |   | 300.0           | Total/NA  |
| Fluoride     | 41     |           | 2.0   |     | mg/L | 20      |   | 340.2           | Total/NA  |
| Nitrate as N | 12     |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: PIP-D

### Lab Sample ID: 640-36151-3

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 2.1    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 3.3    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 2.9    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

## General Chemistry

Client Sample ID: EQBLNK-1  
Date Collected: 11/11/11 07:00  
Date Received: 11/12/11 09:10

Lab Sample ID: 640-36151-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | <1.0   |           | 1.0   |     | mg/L |   |          | 11/17/11 15:37 | 1       |
| Chloride     | 1.2    |           | 1.0   |     | mg/L |   |          | 11/17/11 15:37 | 1       |
| Fluoride     | 0.39   |           | 0.10  |     | mg/L |   |          | 11/16/11 13:15 | 1       |
| Nitrate as N | 0.013  |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

Client Sample ID: AC-29D  
Date Collected: 11/11/11 08:44  
Date Received: 11/12/11 09:10

Lab Sample ID: 640-36151-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 220    |           | 5.0   |     | mg/L |   |          | 11/22/11 09:36 | 5       |
| Chloride     | 54     |           | 5.0   |     | mg/L |   |          | 11/22/11 09:36 | 5       |
| Fluoride     | 41     |           | 2.0   |     | mg/L |   |          | 11/16/11 13:15 | 20      |
| Nitrate as N | 12     |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

Client Sample ID: PIP-D  
Date Collected: 11/11/11 12:15  
Date Received: 11/12/11 09:10

Lab Sample ID: 640-36151-3  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 2.1    |           | 1.0   |     | mg/L |   |          | 11/20/11 23:31 | 1       |
| Chloride     | 3.3    |           | 1.0   |     | mg/L |   |          | 11/20/11 23:31 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/16/11 13:15 | 1       |
| Nitrate as N | 2.9    |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87229/2

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/17/11 07:50 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/17/11 07:50 | 1       |

Lab Sample ID: LCS 640-87229/3

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.0       |               | mg/L |   | 100  | 90 - 110     |
| Chloride | 6.00        | 6.08       |               | mg/L |   | 101  | 90 - 110     |

Lab Sample ID: LCSD 640-87229/4

Matrix: Water

Analysis Batch: 87229

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.2        |                | mg/L |   | 101  | 90 - 110     | 1   | 30        |
| Chloride | 6.00        | 6.15        |                | mg/L |   | 102  | 90 - 110     | 1   | 30        |

Lab Sample ID: MB 640-87261/2

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/20/11 14:38 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/20/11 14:38 | 1       |

Lab Sample ID: LCS 640-87261/4

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 23.5       |               | mg/L |   | 98   | 90 - 110     |
| Chloride | 6.00        | 5.93       |               | mg/L |   | 99   | 90 - 110     |

Lab Sample ID: LCSD 640-87261/5

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 23.9        |                | mg/L |   | 100  | 90 - 110     | 2   | 30        |
| Chloride | 6.00        | 6.04        |                | mg/L |   | 101  | 90 - 110     | 2   | 30        |

Lab Sample ID: MB 640-87357/44

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/22/11 07:22 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/22/11 07:22 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 640-87357/46

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.1       |               | mg/L |   | 101  | 90 - 110     |
| Chloride | 6.00        | 6.13       |               | mg/L |   | 102  | 90 - 110     |

Lab Sample ID: LCSD 640-87357/47

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 23.8        |                | mg/L |   | 99   | 90 - 110     | 1   | 30        |
| Chloride | 6.00        | 5.98        |                | mg/L |   | 100  | 90 - 110     | 2   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144224/1

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/16/11 13:15 | 1       |

Lab Sample ID: LCS 400-144224/2

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Fluoride | 1.00        | 1.03       |               | mg/L |   | 103  | 90 - 110     |

Lab Sample ID: 640-36151-2 DU

Matrix: Water

Analysis Batch: 144224

Client Sample ID: AC-29D

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Fluoride | 41            |                  | 39.8      |              | mg/L |   | 3   | 4         |

## QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

### General Chemistry

#### Analysis Batch: 87229

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36151-1      | EQBLNK-1               | Total/NA  | Water  | 300.0  |            |
| LCS 640-87229/3  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87229/4 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87229/2   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87261

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36151-3      | PIP-D                  | Total/NA  | Water  | 300.0  |            |
| LCS 640-87261/4  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87261/5 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87261/2   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87357

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36151-2       | AC-29D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87357/46  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87357/47 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87357/44   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87358

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36151-1   | EQBLNK-1         | Total/NA  | Water  | Nitrate by calc |            |
| 640-36151-2   | AC-29D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36151-3   | PIP-D            | Total/NA  | Water  | Nitrate by calc |            |

#### Analysis Batch: 144224

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36151-1      | EQBLNK-1           | Total/NA  | Water  | 340.2  |            |
| 640-36151-2      | AC-29D             | Total/NA  | Water  | 340.2  |            |
| 640-36151-2 DU   | AC-29D             | Total/NA  | Water  | 340.2  |            |
| 640-36151-3      | PIP-D              | Total/NA  | Water  | 340.2  |            |
| LCS 400-144224/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144224/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |



## Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

**Client Sample ID: EQBLNK-1**

**Date Collected: 11/11/11 07:00**

**Date Received: 11/12/11 09:10**

**Lab Sample ID: 640-36151-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87229        | 11/17/11 15:37       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

**Client Sample ID: AC-29D**

**Date Collected: 11/11/11 08:44**

**Date Received: 11/12/11 09:10**

**Lab Sample ID: 640-36151-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 20              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 5               | 87357        | 11/22/11 09:36       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

**Client Sample ID: PIP-D**

**Date Collected: 11/11/11 12:15**

**Date Received: 11/12/11 09:10**

**Lab Sample ID: 640-36151-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87261        | 11/20/11 23:31       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36151-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36151-1   | EQBLNK-1         | Water  | 11/11/11 07:00 | 11/12/11 09:10 |
| 640-36151-2   | AC-29D           | Water  | 11/11/11 08:44 | 11/12/11 09:10 |
| 640-36151-3   | PIP-D            | Water  | 11/11/11 12:15 | 11/12/11 09:10 |

Analytical Data Package Prepared For

# TestAmerica Tallahassee

640-36151-1 AGRICO

Radiochemical Analysis By

**TestAmerica**

*2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.*

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49688

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44109   |           | AC-29D (640-36151-2)          | J1K160419-2 | MN20C1AA   | 9MN20C10     | 1319067   |
|         |           | AC-29D (640-36151-2)          | J1K160419-2 | MN20C1AC   | 9MN20C10     | 1319068   |
|         |           | EQBLNK-1 (640-36151-1)        | J1K160419-1 | MN2X71AA   | 9MN2X710     | 1319067   |
|         |           | EQBLNK-1 (640-36151-1)        | J1K160419-1 | MN2X71AC   | 9MN2X710     | 1319068   |
|         |           | PIP-D (640-36151-3)           | J1K160419-3 | MN20E1AA   | 9MN20E10     | 1319067   |
|         |           | PIP-D (640-36151-3)           | J1K160419-3 | MN20E1AC   | 9MN20E10     | 1319068   |

## Certificate of Analysis

December 8, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

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|                      |   |                   |
|----------------------|---|-------------------|
| Date Received in Lab | : | November 15, 2011 |
| Sample Type          | : | Three (3) Waters  |
| SDG Number           | : | 44109             |
| Client Company Name  | : | Agrico Annual     |
| Project Name/Number  | : | 640-36151-1       |

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### CASE NARRATIVE

#### **I. Introduction**

On November 15, 2011, three water samples were received at TestAmerica's Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned TestAmerica identification number as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J1K160419.

#### **II. Sample Receipt**

The sample was received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analysis requested was:

**Gas Proportional Counting**  
Radium-226 by method RL-RA-001  
Radium-228 by method RL-RA-001

#### IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### V. Comments

##### Gas Proportional Counting

Radium-226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium-228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.



## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

# Sample Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49688

SDG No: 44109

| Client Id                 |            | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | MDL   | CRDL | RER2 |
|---------------------------|------------|------------|-----------------------------|------|-------|--------------|-------|------|------|
| Batch                     | Work Order |            |                             |      |       |              |       |      |      |
| 1319067 E903.1            |            |            |                             |      |       |              |       |      |      |
| AC-29D (640-36151-2)      |            |            |                             |      |       |              |       |      |      |
|                           | MN20C1AA   | RADIUM-226 | 1.76 +- 0.51                | V    | pCi/L | 98%          | 0.191 | 1.0  |      |
| ACB-32S (640-36076-1) DUP |            |            |                             |      |       |              |       |      |      |
|                           | MNXMD1AD   | RADIUM-226 | 0.157 +- 0.14               | U    | pCi/L | 100%         | 0.241 | 1.0  | 2.3  |
| EQBLNK-1 (640-36151-1)    |            |            |                             |      |       |              |       |      |      |
|                           | MN2X71AA   | RADIUM-226 | 0.196 +- 0.14               | U    | pCi/L | 98%          | 0.22  | 1.0  |      |
| PIP-D (640-36151-3)       |            |            |                             |      |       |              |       |      |      |
|                           | MN20E1AA   | RADIUM-226 | 1.01 +- 0.33                | V    | pCi/L | 94%          | 0.166 | 1.0  |      |
| 1319068 E904.0            |            |            |                             |      |       |              |       |      |      |
| AC-29D (640-36151-2)      |            |            |                             |      |       |              |       |      |      |
|                           | MN20C1AC   | RADIUM-228 | 13.6 +- 1.7                 | V    | pCi/L | 94%          | 0.733 | 1.0  |      |
| ACB-32S (640-36076-1) DUP |            |            |                             |      |       |              |       |      |      |
|                           | MNXMD1AE   | RADIUM-228 | 0.771 +- 0.43               | U    | pCi/L | 90%          | 0.881 | 1.0  | 1.7  |
| EQBLNK-1 (640-36151-1)    |            |            |                             |      |       |              |       |      |      |
|                           | MN2X71AC   | RADIUM-228 | 0.0635 +- 0.35              | U    | pCi/L | 92%          | 0.794 | 1.0  |      |
| PIP-D (640-36151-3)       |            |            |                             |      |       |              |       |      |      |
|                           | MN20E1AC   | RADIUM-228 | 1.37 +- 0.43                | V    | pCi/L | 83%          | 0.742 | 1.0  |      |
| No. of Results: 8         |            |            |                             |      |       |              |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio =  $(S-D)/[\sqrt{(sq(TPUs)+sq(TPUD))}]$  as defined by ICPT BOA.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

# QC Results Summary

Date: 08-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49688

SDG No.: 44101

| Batch             | Work Order | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|-------------------|------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>     |            |            |                             |      |       |              |              |      |       |
| 1319067 BLANK QC, |            |            |                             |      |       |              |              |      |       |
|                   | MN1NQ1AA   | RADIUM-226 | 0.0581 +- 0.068             | U    | pCi/L | 100%         |              |      | 0.12  |
| 1319067 LCS,      |            |            |                             |      |       |              |              |      |       |
|                   | MN1NQ1AC   | RADIUM-226 | 9.28 +- 2.2                 | V    | pCi/L | 97%          | 93%          | -0.1 | 0.128 |
| <b>E904.0</b>     |            |            |                             |      |       |              |              |      |       |
| 1319068 BLANK QC, |            |            |                             |      |       |              |              |      |       |
|                   | MN1NR1AA   | RADIUM-228 | 0.463 +- 0.28               | U    | pCi/L | 94%          |              |      | 0.544 |
| 1319068 LCS,      |            |            |                             |      |       |              |              |      |       |
|                   | MN1NR1AC   | RADIUM-228 | 9.55 +- 1.3                 | V    | pCi/L | 93%          | 98%          | 0.0  | 0.7   |
| No. of Results: 4 |            |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K160419-2  
Client Sample ID: AC-29D (640-36151-2)  
640-36151-1 AGRICO

SDG: 44109  
Report No.: 49688  
COC No.:

Collection Date: 11/11/2011 8:44:00 AM  
Received Date: 11/15/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.76   | V    | 0.27                  | 0.51                  | 0.191              | pCi/L           | 98%               | (9.2)                    | 12/5/11 08:36 p        |                  | 0.843           | ASCEHB              |
|                       |        |      |                       |                       |                    | 0.0834          | 1.0               | (6.9)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 13.6   | V    | 0.81                  | 1.7                   | 0.733              | pCi/L           | 94%               | (18.6)                   | 12/7/11 04:40 p        |                  | 0.843           | GPC1C               |
|                       |        |      |                       |                       |                    | 0.342           | 1.0               | (15.8)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K160419-1  
Client Sample ID: EQBLNK-1 (640-36151-1)  
640-36151-1 AGRICO

SDG: 44109  
Report No.: 49688  
COC No.:

Collection Date: 11/11/2011 7:00:00 AM  
Received Date: 11/15/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.196  | U    | 0.13                  | 0.14                  | 0.22               | pCi/L           | 98%               | 0.89                     | 12/5/11 08:36 p        |                  | 0.842           | ASCASC              |
|                       |        |      |                       |                       |                    | 0.0967          | 1.0               | (2.7)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.0635 | U    | 0.24                  | 0.35                  | 0.794              | pCi/L           | 92%               | 0.08                     | 12/7/11 04:40 p        |                  | 0.842           | GPC1B               |
|                       |        |      |                       |                       |                    | 0.369           | 1.0               | 0.37                     |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 08-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K160419-3  
Client Sample ID: PIP-D (640-36151-3)  
640-36151-1 AGRICO

SDG: 44109  
Report No.: 49688  
COC No.:

Collection Date: 11/11/2011 12:15:00 PM  
Received Date: 11/15/2011 10:15:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1319067 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.01   | V    | 0.20                  | 0.33                  | 0.166              | pCi/L           | 94%               | (6.1)                    | 12/5/11 08:36 p        |                  | 0.8749          | ASCFAB              |
|                       |        |      |                       |                       |                    | 0.071           | 1.0               | (6.1)                    |                        |                  | L               |                     |
| Batch: 1319068 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 1.37   | V    | 0.39                  | 0.43                  | 0.742              | pCi/L           | 83%               | (1.8)                    | 12/7/11 04:40 p        |                  | 0.8748          | GPC1D               |
|                       |        |      |                       |                       |                    | 0.345           | 1.0               | (6.3)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

# FORM II

Date: 08-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica      SDG: 44095      Collection Date: 11/8/2011 10:44:00 AM  
 Lot-Sample No.: J1K110437-1      Report No.: 49688      Received Date: 11/10/2011 10:30:00 AM  
 Client Sample ID: ACB-32S (640-36076-1) DUP      COC No.:      Matrix: WATER      W

| Parameter                                                                                                     | Result, Orig Rst | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDL, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---------------------------------------------------------------------------------------------------------------|------------------|------|--------------------|--------------------|-----------------|----------------|-------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1319067      E903.1      Work Order: MNXMD1AD      Report DB ID: MNXMD1DR      Orig Sa DB ID: 9MNXMD10 |                  |      |                    |                    |                 |                |       |                       |                     |               |              |                  |
| RADIUM-226                                                                                                    | 0.157            | U    | 0.14               | 0.14               | 0.241           | pCi/L          | 100%  | 0.65                  | 12/5/11 02:51 p     | 0.833         | L            | ASC7HA           |
|                                                                                                               | -0.0461          | U    | RER2 2.3           |                    |                 | 1.0            |       | (2.2)                 |                     |               |              |                  |
| Batch: 1319068      E904.0      Work Order: MNXMD1AE      Report DB ID: MNXMD1ER      Orig Sa DB ID: 9MNXMD10 |                  |      |                    |                    |                 |                |       |                       |                     |               |              |                  |
| RADIUM-228                                                                                                    | 0.771            | U    | 0.41               | 0.43               | 0.881           | pCi/L          | 90%   | 0.88                  | 12/7/11 01:33 p     | 0.833         | L            | GPC1C            |
|                                                                                                               | 1.28             | V    | RER2 1.7           |                    |                 | 1.0            |       | (3.6)                 |                     |               |              |                  |

No. of Results: 2      Comments:

TestAmerica      RER2      - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
 rptSTLRchDupV5.      MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 2.18 A2002      U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
                                  V Qual - Detected.

# FORM II

Date: 08-Dec-11

## BLANK RESULTS

Lab Name: TestAmerica      SDG: 44101      Report No. : 49688  
 Matrix: WATER

| Parameter             | Batch  | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDL, Lc | Rpt Unit, CRDL | Yield | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|-----------------------|--------|--------|------|--------------------|--------------------|---------|----------------|-------|-----------------------|---------------------|---------------|--------------|------------------|
| <b>Batch: 1319067</b> |        |        |      |                    |                    |         |                |       |                       |                     |               |              |                  |
| RADIUM-226            |        |        |      |                    |                    |         |                |       |                       |                     |               |              |                  |
|                       | E903.1 | 0.0581 | U    | 0.067              | 0.068              | 0.12    | pCi/L          | 100%  | 0.49                  | 12/5/11 03:15 p     |               | 1.0          | ASCJMB           |
|                       |        |        |      |                    |                    | 0.0493  | 1.0            |       | (1.7)                 |                     |               | L            |                  |
| <b>Batch: 1319068</b> |        |        |      |                    |                    |         |                |       |                       |                     |               |              |                  |
| RADIUM-228            |        |        |      |                    |                    |         |                |       |                       |                     |               |              |                  |
|                       | E904.0 | 0.463  | U    | 0.27               | 0.28               | 0.544   | pCi/L          | 94%   | 0.85                  | 12/7/11 01:35 p     |               | 1.0          | GPC4D            |
|                       |        |        |      |                    |                    | 0.244   | 1.0            |       | (3.3)                 |                     |               | L            |                  |

No. of Results: 2      Comments:



FORM II

Date: 08-Dec-11

LCS RESULTS

Lab Name: TestAmerica

SDG: 44101

Matrix: WATER

Report No.: 49688

| Parameter                                   | Result | Qual | Count Error ( 2 s) | Total Uncert(2 s) | MDL   | Report Unit | Yield       | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---------------------------------------------|--------|------|--------------------|-------------------|-------|-------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| Batch: 1319067 E903.1                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN1NQ1AC Report DB ID: MN1NQ1CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-226                                  | 9.28   | V    | 0.53               | 2.2               | 0.128 | pCi/L       | 97%         | 9.95     | 0.1             | 93%            | 12/5/11 03:10 p     | 1.004        | ASCPMD           |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 70       | 130             | -0.1           |                     |              |                  |
| Batch: 1319068 E904.0                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN1NR1AC Report DB ID: MN1NR1CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-228                                  | 9.55   | V    | 0.68               | 1.3               | 0.7   | pCi/L       | 93%         | 9.75     | 0.32            | 98%            | 12/7/11 01:35 p     | 1.004        | GPC6A            |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.0            |                     |              |                  |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica V Qual - Detected.

TestAmerica V5.2.18 A2002

Test America Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9504

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

| Client Information (Sub Contract Lab)                                                                                                   |  | Sampler:                                                   | Lab PM:                                                                                                                                                                            | Carrier Tracking No(s):                     | COC No:                                     |                                                        |                                              |                                                                                     |                            |                            |
|-----------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|----------------------------|----------------------------|
| Client Contact:<br>Shipping/Receiving                                                                                                   |  | Phone:                                                     | Snead, Laura B                                                                                                                                                                     |                                             | 640-47484.1                                 |                                                        |                                              |                                                                                     |                            |                            |
| Company:<br>TestAmerica Laboratories, Inc.                                                                                              |  | E-Mail:                                                    | laura.snead@testamericainc.com                                                                                                                                                     |                                             | Page: 1 of 1                                |                                                        |                                              |                                                                                     |                            |                            |
| Address:<br>2800 George Washington Way,<br>City: Tallahassee<br>State: FL<br>Zip: 32301<br>Phone: (850) 878-3994<br>Fax: (850) 878-9504 |  | Due Date Requested:<br>11/28/2011<br>TAT Requested (days): | Analysis Requested                                                                                                                                                                 |                                             |                                             |                                                        |                                              |                                                                                     |                            |                            |
| Project Name:<br>Agrico                                                                                                                 |  | PO #:                                                      | Preservation Codes:                                                                                                                                                                |                                             |                                             |                                                        |                                              |                                                                                     |                            |                            |
| Site:                                                                                                                                   |  | WO #:                                                      | A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other: |                                             |                                             |                                                        |                                              |                                                                                     |                            |                            |
| Sample Identification - Client ID (Lab ID)                                                                                              |  | Sample Date                                                | Sample Time                                                                                                                                                                        | Sample Type (C=Comp, G=Grab)                | Matrix (W=Water, S=Solid, O=Organic, A=Air) | Field Filtered Sample (Yes or No)                      | Subcontract/ Rad 226-Method 903.1 (Richland) | Subcontract/ Rad 226-Method 904.0 (Richland)                                        | Total Number of Containers | Special Instructions/Note: |
| EQBLNK-1 (640-36151-1)                                                                                                                  |  | 11/11/11                                                   | 07:00 Eastern                                                                                                                                                                      | Water                                       | Water                                       |                                                        | X                                            | X                                                                                   | 2                          | MAN/207                    |
| AC-29D (640-36151-2)                                                                                                                    |  | 11/11/11                                                   | 08:44 Eastern                                                                                                                                                                      | Water                                       | Water                                       |                                                        | X                                            | X                                                                                   | 2                          | MAN/208                    |
| PIP-D (640-36151-3)                                                                                                                     |  | 11/11/11                                                   | 12:15 Eastern                                                                                                                                                                      | Water                                       | Water                                       |                                                        | X                                            | X                                                                                   | 2                          | MAN/209                    |
| SDG# 44109                                                                                                                              |  |                                                            |                                                                                                                                                                                    |                                             |                                             |                                                        |                                              |                                                                                     |                            |                            |
| LOT# JIK160419                                                                                                                          |  |                                                            |                                                                                                                                                                                    |                                             |                                             |                                                        |                                              |                                                                                     |                            |                            |
| Report# 12/13/11                                                                                                                        |  |                                                            |                                                                                                                                                                                    |                                             |                                             |                                                        |                                              |                                                                                     |                            |                            |
| Possible Hazard Identification                                                                                                          |  | Poison B                                                   |                                                                                                                                                                                    | Unknown                                     |                                             | Radiological                                           |                                              | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) |                            |                            |
| Non-Hazard                                                                                                                              |  | Flammable                                                  |                                                                                                                                                                                    | Skin Irritant                               |                                             | Deliverable Requested: I, II, III, IV, Other (specify) |                                              | Return To Client                                                                    |                            |                            |
| Empty Kit Relinquished by:                                                                                                              |  | Date:                                                      |                                                                                                                                                                                    | Time:                                       |                                             | Method of Shipment:                                    |                                              | Archive For                                                                         |                            |                            |
| Relinquished by: NED                                                                                                                    |  | Date: 11/16/11                                             |                                                                                                                                                                                    | Time: 1730                                  |                                             | Company: TAC                                           |                                              | Date/Time: 11/15/11 1015                                                            |                            |                            |
| Relinquished by:                                                                                                                        |  | Date/Time:                                                 |                                                                                                                                                                                    | Company:                                    |                                             | Relinquished by:                                       |                                              | Date/Time:                                                                          |                            |                            |
| Relinquished by:                                                                                                                        |  | Date/Time:                                                 |                                                                                                                                                                                    | Company:                                    |                                             | Relinquished by:                                       |                                              | Date/Time:                                                                          |                            |                            |
| Custody Seals Intact:                                                                                                                   |  | Custody Seal No.:                                          |                                                                                                                                                                                    | Cooler Temperature(s) °C and Other Remarks: |                                             |                                                        |                                              |                                                                                     |                            |                            |

**Sample Check-in List**

Date/Time Received: 11-15-11 1015 Container GM Screen Result: (Airlock) -04 Initials JE  
Sample GM Screen Result (Sample Receiving) -05 Initials JE

Client: STL-T SDG #: 441104 NA [ ] SAF #: \_\_\_\_\_ NA [ ]

Lot Number: J1 K160419

Chain of Custody # 640-47484.1

Shipping Container ID: Cooler NA [ ] Air Bill Number: \_\_\_\_\_ NA JE

Samples received inside shipping container/cooler/box Yes JE Continue with 1 through 4. Initial appropriate response.  
No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes JE No [ ] No Custody Seal [ ]

2. Custody Seals dated and signed? Yes [ ] No JE No Custody Seal [ ]

3. Cooler temperature: \_\_\_\_\_ °C NA JE

4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry JE

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes JE No [ ]

6. Number of samples received (Each sample may contain multiple bottles): 3

7. Containers received: 6x 1LP

8. Sample holding times exceeded? NA [ ] Yes [ ] No JE

9. Samples have:  
\_\_\_\_\_ tape JE hazard labels  
\_\_\_\_\_ custody seals JE appropriate sample labels

10. Matrix:  
\_\_\_\_\_ A (FLT, Wipe, Solid, Soil) JE (Water)  
\_\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
JE are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes JE No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used : \_\_\_\_\_

13. Were any anomalies identified in sample receipt? Yes [ ] No JE

14. Description of anomalies (include sample numbers): NA JE

Yes [ 56 ] No [     ]

[ ] Client/Courier denied temperature check.

11A Client/Courier unpack cooler.

Sample Custodian: Jonathan C. Smith Date: 1/13/11

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☒ No action necessary; process as is

Project Manager Carl Smith Date 11/10/11

| SAMPLE ID          | Initial pH | Acid Amt | Final pH | SAMPLE ID | Initial pH | Acid Amt | Final pH |
|--------------------|------------|----------|----------|-----------|------------|----------|----------|
| <i>Shayla E. 2</i> |            |          |          |           |            |          |          |
| <i>11/15/11</i>    |            |          |          |           |            |          |          |

JK160419

## Chain of Custody Record

**TestAmerica**  
THE LEADER IN PERFORMANCE TESTING

12/15/2011

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36151-1

**Login Number: 36151**

**List Source: TestAmerica Tallahassee**

**List Number: 1**

**Creator: Savoie, Noel**

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | N/A    |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36151-1

Login Number: 36151

List Number: 1

Creator: Hor, Koma

List Source: TestAmerica Pensacola

List Creation: 11/15/11 04:34 PM

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True   |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36175-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/16/2011 4:57:30 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

**Job ID: 640-36175-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

#### Job Narrative 640-36175-1

#### Comments

No additional comments.

#### Receipt

All samples were received in good condition within temperature requirements.

#### General Chemistry

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No other analytical or quality issues were noted.

#### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K170489 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

### Client Sample ID: AC-30D

### Lab Sample ID: 640-36175-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 27     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 11     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 7.0    |           | 1.0   |     | mg/L | 10      |   | 340.2           | Total/NA  |
| Nitrate as N | 5.7    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-24D

### Lab Sample ID: 640-36175-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 76     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 160    |           | 10    |     | mg/L | 10      |   | 300.0           | Total/NA  |
| Fluoride     | 65     |           | 5.0   |     | mg/L | 50      |   | 340.2           | Total/NA  |
| Nitrate as N | 6.8    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

## Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

### General Chemistry

Client Sample ID: AC-30D  
Date Collected: 11/14/11 14:00  
Date Received: 11/15/11 09:25

Lab Sample ID: 640-36175-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 27     |           | 1.0   |     | mg/L |   |          | 11/20/11 23:48 | 1       |
| Chloride     | 11     |           | 1.0   |     | mg/L |   |          | 11/20/11 23:48 | 1       |
| Fluoride     | 7.0    |           | 1.0   |     | mg/L |   |          | 11/16/11 13:15 | 10      |
| Nitrate as N | 5.7    |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

Client Sample ID: AC-24D  
Date Collected: 11/14/11 15:51  
Date Received: 11/15/11 09:25

Lab Sample ID: 640-36175-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 76     |           | 1.0   |     | mg/L |   |          | 11/21/11 00:05 | 1       |
| Chloride     | 160    |           | 10    |     | mg/L |   |          | 11/22/11 13:13 | 10      |
| Fluoride     | 65     |           | 5.0   |     | mg/L |   |          | 11/16/11 13:15 | 50      |
| Nitrate as N | 6.8    |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87261/2

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/20/11 14:38 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/20/11 14:38 | 1       |

Lab Sample ID: LCS 640-87261/4

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 23.5       |               | mg/L |   | 98   | 90 - 110     |
| Chloride | 6.00        | 5.93       |               | mg/L |   | 99   | 90 - 110     |

Lab Sample ID: LCSD 640-87261/5

Matrix: Water

Analysis Batch: 87261

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 23.9        |                | mg/L |   | 100  | 90 - 110     | 2   | 30        |
| Chloride | 6.00        | 6.04        |                | mg/L |   | 101  | 90 - 110     | 2   | 30        |

Lab Sample ID: MB 640-87357/44

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/22/11 07:22 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/22/11 07:22 | 1       |

Lab Sample ID: LCS 640-87357/46

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.1       |               | mg/L |   | 101  | 90 - 110     |
| Chloride | 6.00        | 6.13       |               | mg/L |   | 102  | 90 - 110     |

Lab Sample ID: LCSD 640-87357/47

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 23.8        |                | mg/L |   | 99   | 90 - 110     | 1   | 30        |
| Chloride | 6.00        | 5.98        |                | mg/L |   | 100  | 90 - 110     | 2   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144224/1

Matrix: Water

Analysis Batch: 144224

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/16/11 13:15 | 1       |

## QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

Lab Sample ID: LCS 400-144224/2  
Matrix: Water  
Analysis Batch: 144224

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Fluoride | 1.00           | 1.03          |                  | mg/L |   | 103  | 90 - 110        |

## QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

### General Chemistry

#### Analysis Batch: 87261

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36175-1      | AC-30D                 | Total/NA  | Water  | 300.0  |            |
| 640-36175-2      | AC-24D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87261/4  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87261/5 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87261/2   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87357

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36175-2       | AC-24D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87357/46  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87357/47 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87357/44   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87358

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36175-1   | AC-30D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36175-2   | AC-24D           | Total/NA  | Water  | Nitrate by calc |            |

#### Analysis Batch: 144224

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36175-1      | AC-30D             | Total/NA  | Water  | 340.2  |            |
| 640-36175-2      | AC-24D             | Total/NA  | Water  | 340.2  |            |
| LCS 400-144224/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144224/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |



## Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

**Client Sample ID: AC-30D**

**Date Collected: 11/14/11 14:00**

**Date Received: 11/15/11 09:25**

**Lab Sample ID: 640-36175-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 10              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87261        | 11/20/11 23:48       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

**Client Sample ID: AC-24D**

**Date Collected: 11/14/11 15:51**

**Date Received: 11/15/11 09:25**

**Lab Sample ID: 640-36175-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 50              | 144224       | 11/16/11 13:15       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87261        | 11/21/11 00:05       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 10              | 87357        | 11/22/11 13:13       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36175-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36175-1   | AC-30D           | Water  | 11/14/11 14:00 | 11/15/11 09:25 |
| 640-36175-2   | AC-24D           | Water  | 11/14/11 15:51 | 11/15/11 09:25 |

Analytical Data Package Prepared For

# TestAmerica Tallahassee

640-36175-1

Radiochemical Analysis By

**TestAmerica**

**2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.**

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49782

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44128   |           | AC-24D (640-36175-2)          | J1K170489-2 | MN4EM1AA   | 9MN4EM10     | 1325104   |
|         |           | AC-24D (640-36175-2)          | J1K170489-2 | MN4EM1AC   | 9MN4EM10     | 1325105   |
|         |           | AC-30D (640-36175-1)          | J1K170489-1 | MN4EL1AA   | 9MN4EL10     | 1325104   |
|         |           | AC-30D (640-36175-1)          | J1K170489-1 | MN4EL1AC   | 9MN4EL10     | 1325105   |

## Certificate of Analysis

December 15, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

|                      |   |                   |
|----------------------|---|-------------------|
| Date Received by Lab | : | November 16, 2011 |
| Sample Number/Matrix | : | Two (2) Waters    |
| SDG Number           | : | 44128             |
| Project              | : | Agrico            |
| Project Number       | : | 640-36175-1       |

### CASE NARRATIVE

#### **I. Introduction**

On November 16, 2011, two water samples were received at the TestAmerica Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned the TestAmerica identification numbers as described on the cover page of the Analytical Data Package. The samples were assigned to Lot Number J1K170489.

#### **II. Sample Receipt**

The samples were received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analyses requested were:

##### **Gas Proportional Counting**

Radium 226 by method RL-RA-001

Radium 228 by method RL-RA-001

#### **IV. Quality Control**

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### **V. Comments**

##### **Liquid Scintillation**

Radium 226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium 228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.



## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

# Sample Results Summary

Date: 15-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49782

SDG No: 44128

| Client Id                |            | Parameter    | Result +- Uncertainty ( 2s) | Qual  | Units | Tracer Yield | MDL | CRDL | RER2 |
|--------------------------|------------|--------------|-----------------------------|-------|-------|--------------|-----|------|------|
| Batch                    | Work Order |              |                             |       |       |              |     |      |      |
| 1325104 E903.1           |            |              |                             |       |       |              |     |      |      |
| AC-24D (640-36175-2)     |            |              |                             |       |       |              |     |      |      |
| MN4EM1AA                 | RADIUM-226 | 2.96 +- 0.70 | V                           | pCi/L | 83%   | 0.14         | 1.0 |      |      |
| AC-30D (640-36175-1)     |            |              |                             |       |       |              |     |      |      |
| MN4EL1AA                 | RADIUM-226 | 2.05 +- 0.63 | V                           | pCi/L | 77%   | 0.307        | 1.0 |      |      |
| AC-30D (640-36175-1) DUP |            |              |                             |       |       |              |     |      |      |
| MN4EL1AD                 | RADIUM-226 | 2.05 +- 0.56 | V                           | pCi/L | 90%   | 0.181        | 1.0 | 0.0  |      |
| 1325105 E904.0           |            |              |                             |       |       |              |     |      |      |
| AC-24D (640-36175-2)     |            |              |                             |       |       |              |     |      |      |
| MN4EM1AC                 | RADIUM-228 | 10.0 +- 1.4  | V                           | pCi/L | 75%   | 0.615        | 1.0 |      |      |
| AC-30D (640-36175-1)     |            |              |                             |       |       |              |     |      |      |
| MN4EL1AC                 | RADIUM-228 | 9.32 +- 1.4  | V                           | pCi/L | 67%   | 0.771        | 1.0 |      |      |
| AC-30D (640-36175-1) DUP |            |              |                             |       |       |              |     |      |      |
| MN4EL1AE                 | RADIUM-228 | 7.35 +- 1.1  | V                           | pCi/L | 80%   | 0.663        | 1.0 | 2.2  |      |
| No. of Results: 6        |            |              |                             |       |       |              |     |      |      |

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.  
 rptSTLRchSaSum V Qual - Detected.  
 mary2 V5.2.18  
 A2002

# QC Results Summary

Date: 15-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49782

SDG No.: 44128

| Batch                    | Work Order                    | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|-------------------------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1325104 BLANK QC,<br>MN5721AA | RADIUM-226 | 0.0386 +- 0.11              | U    | pCi/L | 100%         |              |      | 0.211 |
|                          | 1325104 LCS,<br>MN5721AC      | RADIUM-226 | 10.5 +- 2.7                 | V    | pCi/L | 91%          | 105%         | 0.1  | 0.242 |
| <b>E904.0</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1325105 BLANK QC,<br>MN5781AA | RADIUM-228 | 0.180 +- 0.23               | U    | pCi/L | 90%          |              |      | 0.506 |
|                          | 1325105 LCS,<br>MN5781AC      | RADIUM-228 | 9.56 +- 1.3                 | V    | pCi/L | 78%          | 98%          | 0.0  | 0.568 |
| <b>No. of Results: 4</b> |                               |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 15-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K1170489-2  
Client Sample ID: AC-24D (640-36175-2)  
640-36175-1

SDG: 44128  
Report No.: 49782  
COC No.: 640-47516.1

Collection Date: 11/14/2011 3:51:00 PM  
Received Date: 11/16/2011 10:00:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 2.96   | V    | 0.35                  | 0.70                  | 0.14               | pCi/L           | 83%               | (21.2)                   | 12/13/11 01:36 p       |                  | 0.9012          | ASCJMB              |
|                       |        |      |                       |                       |                    | 0.056           | 1.0               | (8.5)                    |                        |                  | L               |                     |
| Batch: 1325105 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 10.0   | V    | 0.86                  | 1.4                   | 0.615              | pCi/L           | 75%               | (16.3)                   | 12/14/11 04:59 p       |                  | 0.9012          | GPC2D               |
|                       |        |      |                       |                       |                    | 0.268           | 1.0               | (13.9)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 15-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K1170489-1  
Client Sample ID: AC-30D (640-36175-1)  
640-36175-1

SDG: 44128  
Report No.: 49782  
COC No.: 640-47516.1

Collection Date: 11/14/2011 2:00:00 PM  
Received Date: 11/16/2011 10:00:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDL, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|-----------------------|--------|------|--------------------|--------------------|-----------------|--------------|----------------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1325104 E903.1 |        |      |                    |                    |                 |              |                |                       |                     |               |              |                  |
| RADIUM-226            | 2.05   | V    | 0.34               | 0.63               | MN4EL1AA 0.307  | pCi/L        | 77%            | 9MN4EL10 (6.7)        | 12/13/11 01:19 p    |               | 0.8232       | ASCGMA           |
|                       |        |      |                    |                    |                 | 0.138        | 1.0            | (6.6)                 |                     |               | L            |                  |
| Batch: 1325105 E904.0 |        |      |                    |                    |                 |              |                |                       |                     |               |              |                  |
| RADIUM-228            | 9.32   | V    | 0.93               | 1.4                | MN4EL1AC 0.771  | pCi/L        | 67%            | 9MN4EL10 (12.1)       | 12/14/11 04:59 p    |               | 0.8232       | GPC2A            |
|                       |        |      |                    |                    |                 | 0.337        | 1.0            | (13.1)                |                     |               | L            |                  |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM II

Date: 15-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: 44128

Collection Date: 11/14/2011 2:00:00 PM

Lot-Sample No.: J1K170489-1

Report No.: 49782

Received Date: 11/16/2011 10:00:00 AM

Client Sample ID: AC-30D (640-36175-1) DUP

COC No.: 640-47516.1

Matrix: WATER W

| Parameter             | Result,<br>Orig Rst | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|---------------------|------|-----------------------|-----------------------|--------------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN4EL1AD  |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226            | 2.05                | V    | 0.29                  | 0.56                  | 0.181              | pCi/L             | 90%   | (11.3)                   | 12/13/11 01:16 p       | 0.8681           | L               | ASCHMA              |
|                       | 2.05                | V    | RER2 0.0              |                       |                    | 1.0               |       | (7.3)                    |                        |                  |                 |                     |

|                       |      |   |          |     |       |       |     |        |                  |        |   |       |
|-----------------------|------|---|----------|-----|-------|-------|-----|--------|------------------|--------|---|-------|
| Batch: 1325105 E904.0 |      |   |          |     |       |       |     |        |                  |        |   |       |
| Work Order: MN4EL1AE  |      |   |          |     |       |       |     |        |                  |        |   |       |
| RADIUM-228            | 7.35 | V | 0.74     | 1.1 | 0.663 | pCi/L | 80% | (11.1) | 12/14/11 04:59 p | 0.8681 | L | GPC2C |
|                       | 9.32 | V | RER2 2.2 |     |       | 1.0   |     | (13.)  |                  |        |   |       |

No. of Results: 2 Comments:

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
V Qual - Detected.

FORM II

Date: 15-Dec-11

BLANK RESULTS

Lab Name: TestAmerica  
Matrix: WATER

SDG: 44128  
Report No. : 49782

| Parameter             | Batch | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Lc | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|-------|--------|------|-----------------------|-----------------------|------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |       |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226            |       |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN5721AA  |       |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
|                       |       | 0.0386 | U    | 0.10                  | 0.11                  | 0.211      | pCi/L             | 100%  | 0.18                     | 12/13/11 06:49 p       |                  | 1.0027          | ASC5UC              |
|                       |       |        |      |                       |                       | 0.0927     | 1.0               |       | 0.73                     |                        |                  | L               |                     |
| Batch: 1325105 E904.0 |       |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228            |       |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN5781AA  |       |        |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
|                       |       | 0.180  | U    | 0.22                  | 0.23                  | 0.506      | pCi/L             | 90%   | 0.36                     | 12/14/11 04:44 p       |                  | 1.0027          | GPC4A               |
|                       |       |        |      |                       |                       | 0.225      | 1.0               |       | (1.6)                    |                        |                  | L               |                     |

No. of Results: 2      Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

TestAmerica  
RptSTLRchBlank  
V5.2.18 A2002

FORM II

Date: 15-Dec-11

LCS RESULTS

Lab Name: TestAmerica

SDG: 44128

Matrix: WATER

Report No.: 49782

| Parameter                                   | Result | Qual | Count Error ( 2 s) | Total Uncert(2 s) | MDL   | Report Unit | Yield       | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---------------------------------------------|--------|------|--------------------|-------------------|-------|-------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| Batch: 1325104 E903.1                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN5721AC Report DB ID: MN5721CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-226                                  | 10.5   | V    | 0.60               | 2.7               | 0.242 | pCi/L       | 91%         | 9.96     | 0.1             | 105%           | 12/13/11 06:50 p    | 1.0008       | ASCEHB           |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.1            |                     |              |                  |
| Batch: 1325105 E904.0                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN5781AC Report DB ID: MN5781CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-228                                  | 9.56   | V    | 0.76               | 1.3               | 0.568 | pCi/L       | 78%         | 9.76     | 0.32            | 98%            | 12/14/11 04:44 p    | 1.0008       | GPC4B            |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.0            |                     |              |                  |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

OptSTLRchLcs V Qual - Detected.

V5.2.18 A2002

Test America Laboratories, Inc.



# TestAmerica Tallahassee

2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9504

## Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

|                                                                                                                                                                                                                                                          |  |                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                      |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Client Information (Sub Contract Lab)</b><br>Client Contact: _____<br>Shipping/Receiving: _____<br>Company: _____                                                                                                                                     |  | Sampler: _____<br>Lab PM: Sneed, Laura B<br>E-Mail: laura.sneed@testamericainc.com                                                                                                                                          |  | Carrier Tracking No(s): _____<br>SOC No: 640-47516.1<br>Page: Page 1 of 1<br>Job #: 640-36175-1                                                                                                                                                                      |  |
| Address: 2800 George Washington Way,<br>City: Richland<br>State, Zip: WA, 99352<br>Phone: 509-375-3131 (Tel) 509-375-6590 (Fax)<br>Email: _____<br>Project Name: Agrico<br>Site: _____                                                                   |  | Due Date Requested: 11/29/2011<br>TAT Requested (days): _____<br>PO #: _____<br>WO #: _____<br>Project #: 64000434<br>SSOW#: _____                                                                                          |  | <b>Analysis Requested</b><br>SUBCONTRACT/ Rad 226-Method 904.0 (Richland)<br>SUBCONTRACT/ Rad 226-Method 903.1 (Richland)<br>Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/><br>Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> |  |
| <b>Sample Identification - Client ID (Lab ID)</b><br>AC-30D (640-36175-1) MNHEL<br>AC-24D (640-36175-2) MNHEM                                                                                                                                            |  | Sample Date: 11/14/11<br>Sample Time: 14:00 Eastern<br>Sample Type (C=comp, G=grab): _____<br>Matrix (W=water, S=solid, O=organic, BT=BT, A=AT)                                                                             |  | Preservation Code: _____<br>Special Instructions/Note: _____                                                                                                                                                                                                         |  |
| Possible Hazard Identification<br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological |  | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |  | Special Instructions/QC Requirements: _____                                                                                                                                                                                                                          |  |
| Empty Kit Relinquished by: _____<br>Relinquished by: _____<br>Relinquished by: _____<br>Relinquished by: _____                                                                                                                                           |  | Date/Time: 11/15/11 1730<br>Date/Time: _____<br>Date/Time: _____<br>Date/Time: _____                                                                                                                                        |  | Method of Shipment: _____<br>Date/Time: 11/16/11 1000<br>Date/Time: _____<br>Date/Time: _____<br>Date/Time: _____                                                                                                                                                    |  |
| Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Custody Seal No.: _____                                                                                                                                     |  | Cooler Temperature(s) °C and Other Remarks: _____                                                                                                                                                                           |  | Company: TALL<br>Company: _____<br>Company: _____<br>Company: _____                                                                                                                                                                                                  |  |

**Sample Check-in List**

Date/Time Received: 11/16/11 1000 Container GM Screen Result: (Airlock) -03 Initials JE  
Sample GM Screen Result (Sample Receiving) -04 Initials JE

Client: STL-T SDG #: 44128 NA [ ] SAF #: NA CK

Lot Number: JIK170489

Chain of Custody # 640-47516.1

Shipping Container ID: Cosk NA [ ] Air Bill Number: NA JE

Samples received inside shipping container/cooler/box Yes JE Continue with 1 through 4. Initial appropriate response.  
No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes JE No [ ] No Custody Seal [ ]

2. Custody Seals dated and signed? Yes [ ] No JE No Custody Seal [ ]

3. Cooler temperature: \_\_\_\_\_ °C NA JE

4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry JE

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes JE No [ ] 2

6. Number of samples received (Each sample may contain multiple bottles): 2

7. Containers received: 4x1Lp

8. Sample holding times exceeded? NA [ ] Yes [ ] No JE

9. Samples have:  
\_\_\_\_ tape JE hazard labels  
\_\_\_\_ custody seals JE appropriate sample labels

10. Matrix:  
\_\_\_\_ A (FLT, Wipe, Solid, Soil) JE I (Water)  
\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
JE are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_ Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes JE No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)  
RPL ID # of preservative used: N/A

13. Were any anomalies identified in sample receipt? Yes [ ] No JE

14. Description of anomalies (include sample numbers): NA JE



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# TestAmerica

Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9504

[illegible]

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36175-1

Login Number: 36175

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Mitchell, Travis X

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36175-1

Login Number: 36175

List Number: 1

Creator: Hor, Koma

List Source: TestAmerica Pensacola

List Creation: 11/16/11 03:11 PM

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True   |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36191-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/16/2011 5:27:07 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

**Job ID: 640-36191-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

**Job Narrative**  
**640-36191-1**

### Comments

No additional comments.

### Receipt

All samples were received in good condition within temperature requirements.

### Metals

No analytical or quality issues were noted.

### General Chemistry

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No other analytical or quality issues were noted.

### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K180411 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

### Client Sample ID: AC-3S

### Lab Sample ID: 640-36191-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 30     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 3.8    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 3.9    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-3D

### Lab Sample ID: 640-36191-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 130    |           | 5.0   |     | mg/L | 5       |   | 300.0           | Total/NA  |
| Chloride     | 20     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 17     |           | 1.0   |     | mg/L | 10      |   | 340.2           | Total/NA  |
| Nitrate as N | 7.8    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: NWD-4D

### Lab Sample ID: 640-36191-3

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 35     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 7.9    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Nitrate as N | 0.13   |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-25D

### Lab Sample ID: 640-36191-4

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 78     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 390    |           | 20    |     | mg/L | 20      |   | 300.0           | Total/NA  |
| Fluoride     | 100    |           | 5.0   |     | mg/L | 50      |   | 340.2           | Total/NA  |
| Nitrate as N | 4.7    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

## Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

### Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: AC-3S

Date Collected: 11/15/11 10:25

Date Received: 11/16/11 09:05

Lab Sample ID: 640-36191-1

Matrix: Water

| Analyte | Result | Qualifier | RL    | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Arsenic | <0.010 |           | 0.010 |     | mg/L |   | 11/16/11 15:40 | 11/17/11 15:15 | 1       |

# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

## General Chemistry

Client Sample ID: AC-3S  
Date Collected: 11/15/11 10:25  
Date Received: 11/16/11 09:05

Lab Sample ID: 640-36191-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 30     |           | 1.0   |     | mg/L |   |          | 11/22/11 11:16 | 1       |
| Chloride     | 3.8    |           | 1.0   |     | mg/L |   |          | 11/22/11 11:16 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/18/11 16:45 | 1       |
| Nitrate as N | 3.9    |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

Client Sample ID: AC-3D  
Date Collected: 11/15/11 09:25  
Date Received: 11/16/11 09:05

Lab Sample ID: 640-36191-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 130    |           | 5.0   |     | mg/L |   |          | 11/23/11 14:15 | 5       |
| Chloride     | 20     |           | 1.0   |     | mg/L |   |          | 11/22/11 11:32 | 1       |
| Fluoride     | 17     |           | 1.0   |     | mg/L |   |          | 11/19/11 08:20 | 10      |
| Nitrate as N | 7.8    |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

Client Sample ID: NWD-4D  
Date Collected: 11/15/11 12:59  
Date Received: 11/16/11 09:05

Lab Sample ID: 640-36191-3  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 35     |           | 1.0   |     | mg/L |   |          | 11/22/11 11:49 | 1       |
| Chloride     | 7.9    |           | 1.0   |     | mg/L |   |          | 11/22/11 11:49 | 1       |
| Fluoride     | <0.10  |           | 0.10  |     | mg/L |   |          | 11/19/11 08:20 | 1       |
| Nitrate as N | 0.13   |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

Client Sample ID: AC-25D  
Date Collected: 11/15/11 15:22  
Date Received: 11/16/11 09:05

Lab Sample ID: 640-36191-4  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 78     |           | 1.0   |     | mg/L |   |          | 11/22/11 12:06 | 1       |
| Chloride     | 390    |           | 20    |     | mg/L |   |          | 11/23/11 15:38 | 20      |
| Fluoride     | 100    |           | 5.0   |     | mg/L |   |          | 11/19/11 08:20 | 50      |
| Nitrate as N | 4.7    |           | 0.010 |     | mg/L |   |          | 11/23/11 08:44 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 640-87159/1-A  
Matrix: Water  
Analysis Batch: 87213

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 87159

| Analyte | MB<br>Result | MB<br>Qualifier | RL    | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|-------|-----|------|---|----------------|----------------|---------|
| Arsenic | <0.010       |                 | 0.010 |     | mg/L |   | 11/16/11 15:40 | 11/17/11 14:46 | 1       |

Lab Sample ID: LCS 640-87159/2-A  
Matrix: Water  
Analysis Batch: 87213

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 87159

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|---------|----------------|---------------|------------------|------|---|------|-----------------|
| Arsenic | 2.00           | 2.00          |                  | mg/L |   | 100  | 80 - 120        |

Lab Sample ID: LCSD 640-87159/3-A  
Matrix: Water  
Analysis Batch: 87213

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total Recoverable  
Prep Batch: 87159

| Analyte | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|---------|----------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| Arsenic | 2.00           | 2.09           |                   | mg/L |   | 105  | 80 - 120        | 5   | 20           |

Lab Sample ID: 640-36191-1 MS  
Matrix: Water  
Analysis Batch: 87213

Client Sample ID: AC-3S  
Prep Type: Total Recoverable  
Prep Batch: 87159

| Analyte | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|---------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|-----------------|
| Arsenic | <0.010           |                     | 2.00           | 2.04         |                 | mg/L |   | 102  | 75 - 125        |

Lab Sample ID: 640-36191-1 MSD  
Matrix: Water  
Analysis Batch: 87213

Client Sample ID: AC-3S  
Prep Type: Total Recoverable  
Prep Batch: 87159

| Analyte | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|---------|------------------|---------------------|----------------|---------------|------------------|------|---|------|-----------------|-----|--------------|
| Arsenic | <0.010           |                     | 2.00           | 2.10          |                  | mg/L |   | 105  | 75 - 125        | 3   | 20           |

Lab Sample ID: 640-36191-1 DU  
Matrix: Water  
Analysis Batch: 87213

Client Sample ID: AC-3S  
Prep Type: Total Recoverable  
Prep Batch: 87159

| Analyte | Sample<br>Result | Sample<br>Qualifier | DU<br>Result | DU<br>Qualifier | Unit | D | RPD | RPD<br>Limit |
|---------|------------------|---------------------|--------------|-----------------|------|---|-----|--------------|
| Arsenic | <0.010           |                     | <0.010       |                 | mg/L |   | NC  | 20           |

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87357/44  
Matrix: Water  
Analysis Batch: 87357

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/22/11 07:22 | 1       |
| Chloride | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/22/11 07:22 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 640-87357/46

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.1       |               | mg/L |   | 101  | 90 - 110     |
| Chloride | 6.00        | 6.13       |               | mg/L |   | 102  | 90 - 110     |

Lab Sample ID: LCSD 640-87357/47

Matrix: Water

Analysis Batch: 87357

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 23.8        |                | mg/L |   | 99   | 90 - 110     | 1   | 30        |
| Chloride | 6.00        | 5.98        |                | mg/L |   | 100  | 90 - 110     | 2   | 30        |

Lab Sample ID: MB 640-87418/41

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/23/11 12:02 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/23/11 12:02 | 1       |

Lab Sample ID: LCS 640-87418/43

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.2       |               | mg/L |   | 101  | 90 - 110     |
| Chloride | 6.00        | 6.05       |               | mg/L |   | 101  | 90 - 110     |

Lab Sample ID: LCSD 640-87418/44

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.6        |                | mg/L |   | 103  | 90 - 110     | 2   | 30        |
| Chloride | 6.00        | 6.16        |                | mg/L |   | 103  | 90 - 110     | 2   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144462/1

Matrix: Water

Analysis Batch: 144462

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/18/11 16:45 | 1       |

Lab Sample ID: LCS 400-144462/2

Matrix: Water

Analysis Batch: 144462

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Fluoride | 1.00        | 1.00       |               | mg/L |   | 100  | 90 - 110     |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

## Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 640-36191-1 DU  
Matrix: Water  
Analysis Batch: 144462

Client Sample ID: AC-3S  
Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Fluoride | <0.10         |                  | <0.10     |              | mg/L |   | NC  | 4         |



# QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

## Metals

### Prep Batch: 87159

| Lab Sample ID      | Client Sample ID       | Prep Type         | Matrix | Method | Prep Batch |
|--------------------|------------------------|-------------------|--------|--------|------------|
| 640-36191-1        | AC-3S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36191-1 DU     | AC-3S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36191-1 MS     | AC-3S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36191-1 MSD    | AC-3S                  | Total Recoverable | Water  | 3005A  |            |
| LCS 640-87159/2-A  | Lab Control Sample     | Total Recoverable | Water  | 3005A  |            |
| LCSD 640-87159/3-A | Lab Control Sample Dup | Total Recoverable | Water  | 3005A  |            |
| MB 640-87159/1-A   | Method Blank           | Total Recoverable | Water  | 3005A  |            |

### Analysis Batch: 87213

| Lab Sample ID      | Client Sample ID       | Prep Type         | Matrix | Method | Prep Batch |
|--------------------|------------------------|-------------------|--------|--------|------------|
| 640-36191-1        | AC-3S                  | Total Recoverable | Water  | 6010B  | 87159      |
| 640-36191-1 DU     | AC-3S                  | Total Recoverable | Water  | 6010B  | 87159      |
| 640-36191-1 MS     | AC-3S                  | Total Recoverable | Water  | 6010B  | 87159      |
| 640-36191-1 MSD    | AC-3S                  | Total Recoverable | Water  | 6010B  | 87159      |
| LCS 640-87159/2-A  | Lab Control Sample     | Total Recoverable | Water  | 6010B  | 87159      |
| LCSD 640-87159/3-A | Lab Control Sample Dup | Total Recoverable | Water  | 6010B  | 87159      |
| MB 640-87159/1-A   | Method Blank           | Total Recoverable | Water  | 6010B  | 87159      |

## General Chemistry

### Analysis Batch: 87357

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36191-1       | AC-3S                  | Total/NA  | Water  | 300.0  |            |
| 640-36191-2       | AC-3D                  | Total/NA  | Water  | 300.0  |            |
| 640-36191-3       | NWD-4D                 | Total/NA  | Water  | 300.0  |            |
| 640-36191-4       | AC-25D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87357/46  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87357/47 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87357/44   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 87358

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36191-1   | AC-3S            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36191-2   | AC-3D            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36191-3   | NWD-4D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36191-4   | AC-25D           | Total/NA  | Water  | Nitrate by calc |            |

### Analysis Batch: 87418

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36191-2       | AC-3D                  | Total/NA  | Water  | 300.0  |            |
| 640-36191-4       | AC-25D                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87418/43  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87418/44 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87418/41   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 144462

| Lab Sample ID  | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------|------------------|-----------|--------|--------|------------|
| 640-36191-1    | AC-3S            | Total/NA  | Water  | 340.2  |            |
| 640-36191-1 DU | AC-3S            | Total/NA  | Water  | 340.2  |            |
| 640-36191-2    | AC-3D            | Total/NA  | Water  | 340.2  |            |
| 640-36191-3    | NWD-4D           | Total/NA  | Water  | 340.2  |            |
| 640-36191-4    | AC-25D           | Total/NA  | Water  | 340.2  |            |

## QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

### General Chemistry (Continued)

#### Analysis Batch: 144462 (Continued)

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| LCS 400-144462/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144462/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |

# Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

**Client Sample ID: AC-3S**

**Date Collected: 11/15/11 10:25**

**Date Received: 11/16/11 09:05**

**Lab Sample ID: 640-36191-1**

**Matrix: Water**

| Prep Type         | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total Recoverable | Prep       | 3005A           |     |                 | 87159        | 11/16/11 15:40       | AJN     | TAL TAL |
| Total Recoverable | Analysis   | 6010B           |     | 1               | 87213        | 11/17/11 15:15       | AJN     | TAL TAL |
| Total/NA          | Analysis   | 340.2           |     | 1               | 144462       | 11/18/11 16:45       | ST      | TAL PEN |
| Total/NA          | Analysis   | 300.0           |     | 1               | 87357        | 11/22/11 11:16       | FFC     | TAL TAL |
| Total/NA          | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

**Client Sample ID: AC-3D**

**Date Collected: 11/15/11 09:25**

**Date Received: 11/16/11 09:05**

**Lab Sample ID: 640-36191-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 10              | 144462       | 11/19/11 08:20       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87357        | 11/22/11 11:32       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 5               | 87418        | 11/23/11 14:15       | FFC     | TAL TAL |

**Client Sample ID: NWD-4D**

**Date Collected: 11/15/11 12:59**

**Date Received: 11/16/11 09:05**

**Lab Sample ID: 640-36191-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144462       | 11/19/11 08:20       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87357        | 11/22/11 11:49       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |

**Client Sample ID: AC-25D**

**Date Collected: 11/15/11 15:22**

**Date Received: 11/16/11 09:05**

**Lab Sample ID: 640-36191-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 50              | 144462       | 11/19/11 08:20       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87357        | 11/22/11 12:06       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87358        | 11/23/11 08:44       | TDW     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 20              | 87418        | 11/23/11 15:38       | FFC     | TAL TAL |

## Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 6010B                              | Metals (ICP)               | SW846    | TAL TAL    |
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
NONE = NONE  
SM = "Standard Methods For The Examination Of Water And Wastewater",  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001  
TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131  
TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36191-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36191-1   | AC-3S            | Water  | 11/15/11 10:25 | 11/16/11 09:05 |
| 640-36191-2   | AC-3D            | Water  | 11/15/11 09:25 | 11/16/11 09:05 |
| 640-36191-3   | NWD-4D           | Water  | 11/15/11 12:59 | 11/16/11 09:05 |
| 640-36191-4   | AC-25D           | Water  | 11/15/11 15:22 | 11/16/11 09:05 |

Analytical Data Package Prepared For  
**TestAmerica Tallahassee**

640-36191-1

Radiochemical Analysis By

**TestAmerica**

*2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.*

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49783

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44135   |           | AC-25D (640-36191-4)          | J1K180411-4 | MN4NX1AA   | 9MN4NX10     | 1325104   |
|         |           | AC-25D (640-36191-4)          | J1K180411-4 | MN4NX1AC   | 9MN4NX10     | 1325105   |
|         |           | AC-3D (640-36191-2)           | J1K180411-2 | MN4NR1AA   | 9MN4NR10     | 1325104   |
|         |           | AC-3D (640-36191-2)           | J1K180411-2 | MN4NR1AC   | 9MN4NR10     | 1325105   |
|         |           | AC-3S (640-36191-1)           | J1K180411-1 | MN4NP1AA   | 9MN4NP10     | 1325104   |
|         |           | AC-3S (640-36191-1)           | J1K180411-1 | MN4NP1AC   | 9MN4NP10     | 1325105   |
|         |           | NWD-4D (640-36191-3)          | J1K180411-3 | MN4NV1AA   | 9MN4NV10     | 1325104   |
|         |           | NWD-4D (640-36191-3)          | J1K180411-3 | MN4NV1AC   | 9MN4NV10     | 1325105   |

## Certificate of Analysis

December 15, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

|                      |   |                   |
|----------------------|---|-------------------|
| Date Received by Lab | : | November 17, 2011 |
| Sample Number/Matrix | : | Four (4) Waters   |
| SDG Number           | : | 44135             |
| Project              | : | Agrico            |
| Project Number       | : | 640-36191-1       |

### CASE NARRATIVE

#### **I. Introduction**

On November 17, 2011, four water samples were received at the TestAmerica Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned the TestAmerica identification numbers as described on the cover page of the Analytical Data Package. The samples were assigned to Lot Number J1K180411.

#### **II. Sample Receipt**

The samples were received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analyses requested were:

##### **Gas Proportional Counting**

Radium 226 by method RL-RA-001

Radium 228 by method RL-RA-001



#### **IV. Quality Control**

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### **V. Comments**

##### **Liquid Scintillation**

Radium 226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium 228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

# Sample Results Summary

Date: 15-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49783

SDG No: 44135

| Batch              | Client Id<br>Work Order  | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer<br>Yield | MDL   | CRDL | RER2 |
|--------------------|--------------------------|------------|-----------------------------|------|-------|-----------------|-------|------|------|
| 1325104            | E903.1                   |            |                             |      |       |                 |       |      |      |
|                    | AC-25D (640-36191-4)     |            |                             |      |       |                 |       |      |      |
|                    | MN4NX1AA                 | RADIUM-226 | 2.31 +- 0.61                | V    | pCi/L | 100%            | 0.14  | 1.0  |      |
|                    | AC-30D (640-36175-1) DUP |            |                             |      |       |                 |       |      |      |
|                    | MN4EL1AD                 | RADIUM-226 | 2.05 +- 0.56                | V    | pCi/L | 90%             | 0.181 | 1.0  | 0.0  |
|                    | AC-3D (640-36191-2)      |            |                             |      |       |                 |       |      |      |
|                    | MN4NR1AA                 | RADIUM-226 | 1.59 +- 0.48                | V    | pCi/L | 93%             | 0.179 | 1.0  |      |
|                    | AC-3S (640-36191-1)      |            |                             |      |       |                 |       |      |      |
|                    | MN4NP1AA                 | RADIUM-226 | 0.147 +- 0.11               | U    | pCi/L | 86%             | 0.173 | 1.0  |      |
|                    | NWD-4D (640-36191-3)     |            |                             |      |       |                 |       |      |      |
|                    | MN4NV1AA                 | RADIUM-226 | 1.45 +- 0.47                | V    | pCi/L | 99%             | 0.142 | 1.0  |      |
| 1325105            | E904.0                   |            |                             |      |       |                 |       |      |      |
|                    | AC-25D (640-36191-4)     |            |                             |      |       |                 |       |      |      |
|                    | MN4NX1AC                 | RADIUM-228 | 5.00 +- 0.80                | V    | pCi/L | 89%             | 0.52  | 1.0  |      |
|                    | AC-30D (640-36175-1) DUP |            |                             |      |       |                 |       |      |      |
|                    | MN4EL1AE                 | RADIUM-228 | 7.35 +- 1.1                 | V    | pCi/L | 80%             | 0.663 | 1.0  | 2.2  |
|                    | AC-3D (640-36191-2)      |            |                             |      |       |                 |       |      |      |
|                    | MN4NR1AC                 | RADIUM-228 | 12.5 +- 1.7                 | V    | pCi/L | 84%             | 0.601 | 1.0  |      |
|                    | AC-3S (640-36191-1)      |            |                             |      |       |                 |       |      |      |
|                    | MN4NP1AC                 | RADIUM-228 | 0.888 +- 0.36               | J    | pCi/L | 78%             | 0.63  | 1.0  |      |
|                    | NWD-4D (640-36191-3)     |            |                             |      |       |                 |       |      |      |
|                    | MN4NV1AC                 | RADIUM-228 | 3.43 +- 0.62                | V    | pCi/L | 90%             | 0.507 | 1.0  |      |
| No. of Results: 10 |                          |            |                             |      |       |                 |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio =  $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$  as defined by ICPT BOA.  
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

# QC Results Summary

Date: 15-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49783

SDG No.: 44128

| Batch                    | Work Order                    | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|-------------------------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1325104 BLANK QC,<br>MN5721AA | RADIUM-226 | 0.0386 +- 0.11              | U    | pCi/L | 100%         |              |      | 0.211 |
|                          | 1325104 LCS,<br>MN5721AC      | RADIUM-226 | 10.5 +- 2.7                 | V    | pCi/L | 91%          | 105%         | 0.1  | 0.242 |
| <b>E904.0</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1325105 BLANK QC,<br>MN5781AA | RADIUM-228 | 0.180 +- 0.23               | U    | pCi/L | 90%          |              |      | 0.506 |
|                          | 1325105 LCS,<br>MN5781AC      | RADIUM-228 | 9.56 +- 1.3                 | V    | pCi/L | 78%          | 98%          | 0.0  | 0.568 |
| <b>No. of Results: 4</b> |                               |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

V Qual - Detected.

## FORM I

Date: 15-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K180411-4  
Client Sample ID: AC-25D (640-36191-4)  
640-36191-1

SDG: 44135  
Report No.: 49783  
COC No.: 640-47546.1

Collection Date: 11/15/2011 3:22:00 PM  
Received Date: 11/17/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 2.31   | V    | 0.29                  | 0.61                  | 0.14               | pCi/L           | 100%              | (16.4)                   | 12/13/11 01:38 p       |                  | 0.8568          | ASCPMD              |
|                       |        |      |                       |                       |                    | 0.0585          | 1.0               | (7.5)                    |                        |                  | L               |                     |
| Batch: 1325105 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 5.00   | V    | 0.56                  | 0.80                  | 0.52               | pCi/L           | 89%               | (9.6)                    | 12/14/11 04:44 p       |                  | 0.8568          | GPC3D               |
|                       |        |      |                       |                       |                    | 0.228           | 1.0               | (12.5)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 15-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K180411-2  
Client Sample ID: AC-3D (640-36191-2)  
640-36191-1

SDG: 44135  
Report No.: 49783  
COC No.: 640-47546.1

Collection Date: 11/15/2011 9:25:00 AM  
Received Date: 11/17/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.59   | V    | 0.26                  | 0.48                  | 0.179              | pCi/L           | 93%               | (8.9)                    | 12/13/11 01:36 p       |                  | 0.8276          | ASCMAD              |
|                       |        |      |                       |                       |                    | 0.0772          | 1.0               | (6.6)                    |                        |                  | L               |                     |
| Batch: 1325105 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 12.5   | V    | 0.90                  | 1.7                   | 0.601              | pCi/L           | 84%               | (20.9)                   | 12/14/11 04:44 p       |                  | 0.8276          | GPC3B               |
|                       |        |      |                       |                       |                    | 0.265           | 1.0               | (15.)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 15-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K180411-1  
Client Sample ID: AC-3S (640-36191-1)  
640-36191-1

SDG: 44135  
Report No.: 49783  
COC No.: 640-47546.1

Collection Date: 11/15/2011 10:25:00 AM  
Received Date: 11/17/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.147  | U    | 0.11                  | 0.11                  | 0.173              | pCi/L           | 86%               | 0.85                     | 12/13/11 01:37 p       |                  | 0.8525          | ASCLMA              |
|                       |        |      |                       |                       |                    |                 | 0.0727            | 1.0                      | (2.6)                  | L                |                 |                     |
| Batch: 1325105 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.888  | J    | 0.35                  | 0.36                  | 0.63               | pCi/L           | 78%               | (1.4)                    | 12/14/11 04:44 p       |                  | 0.8525          | GPC3A               |
|                       |        |      |                       |                       |                    |                 | 0.277             | 1.0                      | (4.9)                  | L                |                 |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.



## FORM I

Date: 15-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K180411-3  
Client Sample ID: NWD-4D (640-36191-3)  
640-36191-1

SDG: 44135  
Report No.: 49783  
COC No.: 640-47546.1

Collection Date: 11/15/2011 12:59:00 PM  
Received Date: 11/17/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1325104 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.45   | V    | 0.23                  | 0.47                  | 0.142              | pCi/L           | 99%               | (10.2)                   | 12/13/11 01:37 p       |                  | 0.8739          | ASCNMD              |
|                       |        |      |                       |                       |                    | 0.0599          | 1.0               | (6.2)                    |                        |                  | L               |                     |
| Batch: 1325105 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 3.43   | V    | 0.47                  | 0.62                  | 0.507              | pCi/L           | 90%               | (6.8)                    | 12/14/11 04:44 p       |                  | 0.8739          | GPC3C               |
|                       |        |      |                       |                       |                    | 0.222           | 1.0               | (11.1)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM II

Date: 15-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K170489-1  
Client Sample ID: AC-30D (640-36175-1) DUP

SDG: 44128  
Report No.: 49783  
COC No.: 640-47516.1

Collection Date: 11/14/2011 2:00:00 PM  
Received Date: 11/16/2011 10:00:00 AM  
Matrix: WATER W

| Parameter             | Result, Orig Rst | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDL, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|-----------------------|------------------|------|--------------------|--------------------|-----------------|----------------|-------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1325104 E903.1 |                  |      |                    |                    |                 |                |       |                       |                     |               |              |                  |
| Work Order: MN4EL1AD  |                  |      |                    |                    |                 |                |       |                       |                     |               |              |                  |
| RADIUM-226            | 2.05             | V    | 0.29               | 0.56               | 0.181           | pCi/L          | 90%   | (11.3)                | 12/13/11 01:16 p    | 0.8681        | L            | ASCHMA           |
|                       | 2.05             | V    | RER2 0.0           |                    |                 | 1.0            |       | (7.3)                 |                     |               |              |                  |

|                       |      |   |          |     |       |       |     |        |                  |        |   |       |
|-----------------------|------|---|----------|-----|-------|-------|-----|--------|------------------|--------|---|-------|
| Batch: 1325105 E904.0 |      |   |          |     |       |       |     |        |                  |        |   |       |
| Work Order: MN4EL1AE  |      |   |          |     |       |       |     |        |                  |        |   |       |
| RADIUM-228            | 7.35 | V | 0.74     | 1.1 | 0.663 | pCi/L | 80% | (11.1) | 12/14/11 04:59 p | 0.8681 | L | GPC2C |
|                       | 9.32 | V | RER2 2.2 |     |       | 1.0   |     | (13.)  |                  |        |   |       |

No. of Results: 2    Comments:

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
MDC|MDA,L,c - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
2.18 A2002 V Qual - Detected.

**Date:** 15-Dec-11

SDG: 44128  
Report No.: 49783

| Parameter            | Result | Qual | Count Error (2 s) | Total Uncert( 2 s) | MDL, Lc | Rpt Unit, CRDL | Yield                  | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|----------------------|--------|------|-------------------|--------------------|---------|----------------|------------------------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1325104       |        |      |                   |                    |         |                |                        |                       |                     |               |              |                  |
| RADIUM-226           | 0.0386 | U    | 0.10              | 0.11               | 0.211   | pCi/L          | 100%                   | 0.18                  | 12/13/11 06:49 p    | 1.0027        | 1.0027       | ASC5UC           |
| Work Order: MN5721AA |        |      |                   |                    |         |                | Report DB ID: MN5721AB |                       |                     |               |              |                  |
|                      |        |      |                   |                    | 0.0927  | 1.0            |                        | 0.73                  |                     |               | L            |                  |
| Batch: 1325105       |        |      |                   |                    |         |                |                        |                       |                     |               |              |                  |
| RADIUM-228           | 0.180  | U    | 0.22              | 0.23               | 0.506   | pCi/L          | 90%                    | 0.36                  | 12/14/11 04:44 p    | 1.0027        | 1.0027       | GPC4A            |
| Work Order: MN5781AA |        |      |                   |                    |         |                | Report DB ID: MN5781AB |                       |                     |               |              |                  |
|                      |        |      |                   |                    | 0.225   | 1.0            |                        | (1.6)                 |                     |               | L            |                  |

|                 |   |           |
|-----------------|---|-----------|
| No. of Results: | 2 | Comments: |
|-----------------|---|-----------|

|                 | MDCIMDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.<br>U Qual - Analyzed for but not detected above limiting criteria. L limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software. |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TestAmerica     |                                                                                                                                                                                                                                                                                                                            |
| rpstSTLRchBlank |                                                                                                                                                                                                                                                                                                                            |

FORM II

Date: 15-Dec-11

LCS RESULTS

Lab Name: TestAmerica

SDG: 44128

Matrix: WATER

Report No.: 49783

| Parameter                                   | Result | Qual | Count Error ( 2 s) | Total Uncert(2 s) | MDL   | Report Unit | Yield       | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---------------------------------------------|--------|------|--------------------|-------------------|-------|-------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| Batch: 1325104 E903.1                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN5721AC Report DB ID: MN5721CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-226                                  | 10.5   | V    | 0.60               | 2.7               | 0.242 | pCi/L       | 91%         | 9.96     | 0.1             | 105%           | 12/13/11 06:50 p    | 1.0008       | ASCEHB           |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.1            |                     |              |                  |
| Batch: 1325105 E904.0                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN5781AC Report DB ID: MN5781CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-228                                  | 9.56   | V    | 0.76               | 1.3               | 0.568 | pCi/L       | 78%         | 9.76     | 0.32            | 98%            | 12/14/11 04:44 p    | 1.0008       | GPC4B            |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.0            |                     |              |                  |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
rptSTLRchLcs V Qual - Detected.  
V5.2.18 A2002

Test America Laboratories, Inc.

# Chain of Custody Record

|                                                                                                                                                                                                                        |  |                                        |  |                                              |  |                                                                                                                                                                                               |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------|--|----------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Client Information (Sub Contract Lab)</b>                                                                                                                                                                           |  | Sampler: <b>Lab PM: Snead, Laura B</b> |  | Carrier Tracking No(s):                      |  | COC No: 640-47546.1                                                                                                                                                                           |  |
| Client Contact: Shipping/Receiving                                                                                                                                                                                     |  | Phone:                                 |  | E-Mail: laura.snead@testamericainc.com       |  | Page: Page 1 of 1                                                                                                                                                                             |  |
| Company: TestAmerica Laboratories, Inc.                                                                                                                                                                                |  | Due Date Requested: 11/30/2011         |  | Analysis Requested                           |  | Job #: 640-36191-1                                                                                                                                                                            |  |
| Address: 2800 George Washington Way, Tallahassee, FL 32301                                                                                                                                                             |  | TAT Requested (days):                  |  | SUBCONTRACT/ Rad 228-Method 903.1 (Richland) |  | Preservation Codes:                                                                                                                                                                           |  |
| City: Tallahassee                                                                                                                                                                                                      |  | PO #:                                  |  | SUBCONTRACT/ Rad 228-Method 904.0 (Richland) |  | A - HCL<br>M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2O4S<br>Q - Na2SO3<br>R - Na2SO3<br>S - H2SO4<br>T - TSP Dodecahydrate<br>U - Acetone<br>V - MCAA<br>W - ph 4-5<br>L - EDA<br>Other: |  |
| State, Zip: FL, 32301                                                                                                                                                                                                  |  | WO #:                                  |  | Field Filtered Sample (Yes or No)            |  | Total Number of Containers                                                                                                                                                                    |  |
| Phone: 509-375-3131(Tel) 509-375-5590(Fax)                                                                                                                                                                             |  | Project #:                             |  | Matrix (W-Water, S-Solid, O-Oil)             |  | Special Instructions/Note:                                                                                                                                                                    |  |
| Email: laura.snead@testamericainc.com                                                                                                                                                                                  |  | 64000434                               |  | Sample Type (C-Comp, G-grab)                 |  | Preservation Code                                                                                                                                                                             |  |
| Project Name: Agrico                                                                                                                                                                                                   |  | SSOW#:                                 |  | Sample Date                                  |  | Sample Time                                                                                                                                                                                   |  |
| Site:                                                                                                                                                                                                                  |  |                                        |  | Sample Date                                  |  | Sample Time                                                                                                                                                                                   |  |
| Sample Identification - Client ID (Lab ID)                                                                                                                                                                             |  | Sample Date                            |  | Sample Time                                  |  | Matrix                                                                                                                                                                                        |  |
| AC-3S (640-36191-1) MN4NP                                                                                                                                                                                              |  | 11/15/11                               |  | 10:25 Eastern                                |  | Water                                                                                                                                                                                         |  |
| AC-3D (640-36191-2) MN4NR                                                                                                                                                                                              |  | 11/15/11                               |  | 09:25 Eastern                                |  | Water                                                                                                                                                                                         |  |
| NWD-4D (640-36191-3) MN4NV                                                                                                                                                                                             |  | 11/15/11                               |  | 12:59 Eastern                                |  | Water                                                                                                                                                                                         |  |
| AC-25D (640-36191-4) MN4NX                                                                                                                                                                                             |  | 11/15/11                               |  | 15:22 Eastern                                |  | Water                                                                                                                                                                                         |  |
| Possible Hazard Identification                                                                                                                                                                                         |  | Sample Date                            |  | Sample Time                                  |  | Matrix                                                                                                                                                                                        |  |
| <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological |  | Sample Date                            |  | Sample Time                                  |  | Matrix                                                                                                                                                                                        |  |
| Deliverable Requested: I, II, III, IV, Other (specify)                                                                                                                                                                 |  | Sample Date                            |  | Sample Time                                  |  | Matrix                                                                                                                                                                                        |  |
| Empty Kit Relinquished by:                                                                                                                                                                                             |  | Date:                                  |  | Time:                                        |  | Method of Shipment:                                                                                                                                                                           |  |
| Relinquished by: E. J. J. J.                                                                                                                                                                                           |  | Date/Time: 11/16/11 1730               |  | Company: TAL                                 |  | Received by: Julie Box                                                                                                                                                                        |  |
| Relinquished by:                                                                                                                                                                                                       |  | Date/Time:                             |  | Company:                                     |  | Received by:                                                                                                                                                                                  |  |
| Relinquished by:                                                                                                                                                                                                       |  | Date/Time:                             |  | Company:                                     |  | Received by:                                                                                                                                                                                  |  |
| Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                         |  | Custody Seal No.:                      |  | Cooler Temperature(s) °C and Other Remarks:  |  |                                                                                                                                                                                               |  |

**Sample Check-in List**

Date/Time Received: 11/17/11 / 1030 Container GM Screen Result: (Airlock) 0.04 Initials JS  
Sample GM Screen Result (Sample Receiving) 0.04 Initials JS

Client: STL-T SDG #: 44135 NA [ ] SAF #: NA

Lot Number: JK 180411

Chain of Custody # 640-47546.1

Shipping Container ID: NA Air Bill Number: NA

Samples received inside shipping container/cooler/box Yes JS Continue with 1 through 4. Initial appropriate response.

No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [ ] No [ ] No Custody Seal JS

2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal JS

3. Cooler temperature: \_\_\_\_\_ °C NA JS

4. Vermiculite/packing materials is NA [ ] Wet JS Dry [ ]

Ice

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes JS No [ ]

6. Number of samples received (Each sample may contain multiple bottles): \_\_\_\_\_

7. Containers received: 4

8 x 4

8. Sample holding times exceeded? NA [ ] Yes [ ] No JS

9. Samples have:  
\_\_\_\_\_ tape JS hazard labels  
\_\_\_\_\_ custody seals JS appropriate sample labels

10. Matrix:  
\_\_\_\_\_ A (FLT, Wipe, Solid, Soil) JS I (Water)  
\_\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
JS are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_\_ Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes JS No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used: N/A

13. Were any anomalies identified in sample receipt? Yes [ ] No JS

14. Description of anomalies (include sample numbers): NA

16. Additional Information: \_\_\_\_\_

Sample Custodian: Juan Bar / 1030 Date: 11-17-11

---

Project Manager \_\_\_\_\_
Date \_\_\_\_\_

[illegible]

**TestAmerica**

2014年 1月 26日 星期一 14:30

12/16/2011



## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36191-1

Login Number: 36191

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Delp, Eric

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36191-1

Login Number: 36191

List Source: TestAmerica Pensacola

List Number: 1

List Creation: 11/17/11 06:15 PM

Creator: Hor, Koma

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True   |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36209-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/16/2011 7:35:32 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

**Job ID: 640-36209-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

#### Job Narrative 640-36209-1

#### Comments

The equipment blank associated with the project samples contained a detection of chloride and fluoride above the reporting limit (RL).

#### Receipt

All samples were received in good condition within temperature requirements.

#### Metals

Method 6010B: The matrix duplicate %RPD(precision) for arsenic in batch 640-87405 was outside advisory limits due to matrix interference. Parent sample, AC-2S, was used for the batch laboratory duplicate.

No other analytical or quality issues were noted.

#### General Chemistry

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No other analytical or quality issues were noted.

#### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K210432 for the radium 226 and radium 228 results.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

### Client Sample ID: AC-2D

Lab Sample ID: 640-36209-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 17     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Chloride     | 7.6    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA  |
| Fluoride     | 2.3    |           | 0.20  |     | mg/L | 2       |   | 340.2           | Total/NA  |
| Nitrate as N | 2.0    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: AC-2S

Lab Sample ID: 640-36209-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type      |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|----------------|
| Arsenic      | 0.024  |           | 0.010 |     | mg/L | 1       |   | 6010B           | Total Recovera |
| Sulfate      | 54     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA       |
| Chloride     | 7.5    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA       |
| Fluoride     | 68     |           | 5.0   |     | mg/L | 50      |   | 340.2           | Total/NA       |
| Nitrate as N | 6.2    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA       |

### Client Sample ID: DUP-2

Lab Sample ID: 640-36209-3

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type      |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|----------------|
| Arsenic      | 0.028  |           | 0.010 |     | mg/L | 1       |   | 6010B           | Total Recovera |
| Sulfate      | 48     |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA       |
| Chloride     | 5.6    |           | 1.0   |     | mg/L | 1       |   | 300.0           | Total/NA       |
| Fluoride     | 84     |           | 5.0   |     | mg/L | 50      |   | 340.2           | Total/NA       |
| Nitrate as N | 8.4    |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA       |

### Client Sample ID: AC-35D

Lab Sample ID: 640-36209-4

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 170    |           | 20    |     | mg/L | 20      |   | 300.0           | Total/NA  |
| Chloride     | 370    |           | 20    |     | mg/L | 20      |   | 300.0           | Total/NA  |
| Fluoride     | 130    |           | 10    |     | mg/L | 100     |   | 340.2           | Total/NA  |
| Nitrate as N | 11     |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: EQ Blnk-2

Lab Sample ID: 640-36209-5

| Analyte  | Result | Qualifier | RL   | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|------|-----|------|---------|---|--------|-----------|
| Chloride | 1.2    |           | 1.0  |     | mg/L | 1       |   | 300.0  | Total/NA  |
| Fluoride | 0.41   |           | 0.10 |     | mg/L | 1       |   | 340.2  | Total/NA  |

## Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

### Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: AC-2S  
Date Collected: 11/16/11 10:58  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-2  
Matrix: Water

| Analyte | Result | Qualifier | RL    | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Arsenic | 0.024  |           | 0.010 |     | mg/L |   | 11/28/11 11:02 | 11/29/11 14:52 | 1       |

Client Sample ID: DUP-2  
Date Collected: 11/16/11 00:00  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-3  
Matrix: Water

| Analyte | Result | Qualifier | RL    | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Arsenic | 0.028  |           | 0.010 |     | mg/L |   | 11/28/11 11:02 | 11/29/11 14:58 | 1       |

Client Sample ID: EQ Blnk-2  
Date Collected: 11/16/11 12:30  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-5  
Matrix: Water

| Analyte | Result | Qualifier | RL    | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Arsenic | <0.010 |           | 0.010 |     | mg/L |   | 11/28/11 11:02 | 11/29/11 15:01 | 1       |



# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

## General Chemistry

Client Sample ID: AC-2D  
Date Collected: 11/16/11 09:50  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 17     |           | 1.0   |     | mg/L |   |          | 11/23/11 17:18 | 1       |
| Chloride     | 7.6    |           | 1.0   |     | mg/L |   |          | 11/23/11 17:18 | 1       |
| Fluoride     | 2.3    |           | 0.20  |     | mg/L |   |          | 11/19/11 13:35 | 2       |
| Nitrate as N | 2.0    |           | 0.010 |     | mg/L |   |          | 12/05/11 09:25 | 1       |

Client Sample ID: AC-2S  
Date Collected: 11/16/11 10:58  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 54     |           | 1.0   |     | mg/L |   |          | 11/23/11 17:35 | 1       |
| Chloride     | 7.5    |           | 1.0   |     | mg/L |   |          | 11/23/11 17:35 | 1       |
| Fluoride     | 68     |           | 5.0   |     | mg/L |   |          | 11/19/11 13:35 | 50      |
| Nitrate as N | 6.2    |           | 0.010 |     | mg/L |   |          | 12/05/11 09:25 | 1       |

Client Sample ID: DUP-2  
Date Collected: 11/16/11 00:00  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-3  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 48     |           | 1.0   |     | mg/L |   |          | 11/23/11 17:52 | 1       |
| Chloride     | 5.6    |           | 1.0   |     | mg/L |   |          | 11/23/11 17:52 | 1       |
| Fluoride     | 84     |           | 5.0   |     | mg/L |   |          | 11/19/11 13:35 | 50      |
| Nitrate as N | 8.4    |           | 0.010 |     | mg/L |   |          | 12/05/11 09:25 | 1       |

Client Sample ID: AC-35D  
Date Collected: 11/16/11 14:23  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-4  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 170    |           | 20    |     | mg/L |   |          | 11/23/11 19:48 | 20      |
| Chloride     | 370    |           | 20    |     | mg/L |   |          | 11/23/11 19:48 | 20      |
| Fluoride     | 130    |           | 10    |     | mg/L |   |          | 11/19/11 13:35 | 100     |
| Nitrate as N | 11     |           | 0.010 |     | mg/L |   |          | 12/05/11 09:25 | 1       |

Client Sample ID: EQ Bink-2  
Date Collected: 11/16/11 12:30  
Date Received: 11/17/11 09:15

Lab Sample ID: 640-36209-5  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | <1.0   |           | 1.0   |     | mg/L |   |          | 11/23/11 13:25 | 1       |
| Chloride     | 1.2    |           | 1.0   |     | mg/L |   |          | 11/23/11 13:25 | 1       |
| Fluoride     | 0.41   |           | 0.10  |     | mg/L |   |          | 11/19/11 13:35 | 1       |
| Nitrate as N | <0.010 |           | 0.010 |     | mg/L |   |          | 12/05/11 09:25 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 640-87405/1-A  
Matrix: Water  
Analysis Batch: 87464

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 87405

| Analyte | MB<br>Result | MB<br>Qualifier | RL    | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|-------|-----|------|---|----------------|----------------|---------|
| Arsenic | <0.010       |                 | 0.010 |     | mg/L |   | 11/28/11 11:02 | 11/29/11 13:55 | 1       |

Lab Sample ID: LCS 640-87405/2-A  
Matrix: Water  
Analysis Batch: 87464

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 87405

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|---------|----------------|---------------|------------------|------|---|------|-----------------|
| Arsenic | 2.00           | 2.12          |                  | mg/L |   | 106  | 80 - 120        |

Lab Sample ID: LCSD 640-87405/3-A  
Matrix: Water  
Analysis Batch: 87464

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total Recoverable  
Prep Batch: 87405

| Analyte | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|---------|----------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| Arsenic | 2.00           | 2.06           |                   | mg/L |   | 103  | 80 - 120        | 3   | 20           |

Lab Sample ID: 640-36209-2 MS  
Matrix: Water  
Analysis Batch: 87464

Client Sample ID: AC-2S  
Prep Type: Total Recoverable  
Prep Batch: 87405

| Analyte | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|---------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|-----------------|
| Arsenic | 0.024            |                     | 2.00           | 2.20         |                 | mg/L |   | 109  | 75 - 125        |

Lab Sample ID: 640-36209-2 MSD  
Matrix: Water  
Analysis Batch: 87464

Client Sample ID: AC-2S  
Prep Type: Total Recoverable  
Prep Batch: 87405

| Analyte | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|---------|------------------|---------------------|----------------|---------------|------------------|------|---|------|-----------------|-----|--------------|
| Arsenic | 0.024            |                     | 2.00           | 2.23          |                  | mg/L |   | 110  | 75 - 125        | 2   | 20           |

Lab Sample ID: 640-36209-2 DU  
Matrix: Water  
Analysis Batch: 87464

Client Sample ID: AC-2S  
Prep Type: Total Recoverable  
Prep Batch: 87405

| Analyte | Sample<br>Result | Sample<br>Qualifier | DU<br>Result | DU<br>Qualifier | Unit | D | RPD | RPD<br>Limit |
|---------|------------------|---------------------|--------------|-----------------|------|---|-----|--------------|
| Arsenic | 0.024            |                     | 0.0191       |                 | mg/L |   | 24  | 20           |

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87418/41  
Matrix: Water  
Analysis Batch: 87418

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/23/11 12:02 | 1       |
| Chloride | <1.0         |                 | 1.0 |     | mg/L |   |          | 11/23/11 12:02 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 640-87418/43

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.2       |               | mg/L |   | 101  | 90 - 110     |
| Chloride | 6.00        | 6.05       |               | mg/L |   | 101  | 90 - 110     |

Lab Sample ID: LCSD 640-87418/44

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.6        |                | mg/L |   | 103  | 90 - 110     | 2   | 30        |
| Chloride | 6.00        | 6.16        |                | mg/L |   | 103  | 90 - 110     | 2   | 30        |

Lab Sample ID: 640-36209-3 MS

Matrix: Water

Analysis Batch: 87418

Client Sample ID: DUP-2

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Sulfate  | 48            |                  | 24.0        | 76.0      |              | mg/L |   | 117  | 80 - 120     |
| Chloride | 5.6           |                  | 6.00        | 12.3      |              | mg/L |   | 112  | 80 - 120     |

Lab Sample ID: 640-36209-5 MS

Matrix: Water

Analysis Batch: 87418

Client Sample ID: EQ Blink-2

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Sulfate  | <1.0          |                  | 24.0        | 25.0      |              | mg/L |   | 104  | 80 - 120     |
| Chloride | 1.2           |                  | 6.00        | 7.56      |              | mg/L |   | 106  | 80 - 120     |

Lab Sample ID: 640-36209-3 DU

Matrix: Water

Analysis Batch: 87418

Client Sample ID: DUP-2

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Sulfate  | 48            |                  | 55.4      |              | mg/L |   | 14  | 30        |
| Chloride | 5.6           |                  | 6.47      |              | mg/L |   | 15  | 30        |

Lab Sample ID: 640-36209-5 DU

Matrix: Water

Analysis Batch: 87418

Client Sample ID: EQ Blink-2

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Sulfate  | <1.0          |                  | <1.0      |              | mg/L |   | NC  | 30        |
| Chloride | 1.2           |                  | 1.17      |              | mg/L |   | 3   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144443/1

Matrix: Water

Analysis Batch: 144443

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/19/11 09:00 | 1       |

## QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

Lab Sample ID: LCS 400-144443/2  
Matrix: Water  
Analysis Batch: 144443

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Fluoride | 1.00           | 0.966         |                  | mg/L |   | 97   | 90 - 110        |

# QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

## Metals

### Prep Batch: 87405

| Lab Sample ID      | Client Sample ID       | Prep Type         | Matrix | Method | Prep Batch |
|--------------------|------------------------|-------------------|--------|--------|------------|
| 640-36209-2        | AC-2S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36209-2 DU     | AC-2S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36209-2 MS     | AC-2S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36209-2 MSD    | AC-2S                  | Total Recoverable | Water  | 3005A  |            |
| 640-36209-3        | DUP-2                  | Total Recoverable | Water  | 3005A  |            |
| 640-36209-5        | EQ Blnk-2              | Total Recoverable | Water  | 3005A  |            |
| LCS 640-87405/2-A  | Lab Control Sample     | Total Recoverable | Water  | 3005A  |            |
| LCSD 640-87405/3-A | Lab Control Sample Dup | Total Recoverable | Water  | 3005A  |            |
| MB 640-87405/1-A   | Method Blank           | Total Recoverable | Water  | 3005A  |            |

### Analysis Batch: 87464

| Lab Sample ID      | Client Sample ID       | Prep Type         | Matrix | Method | Prep Batch |
|--------------------|------------------------|-------------------|--------|--------|------------|
| 640-36209-2        | AC-2S                  | Total Recoverable | Water  | 6010B  | 87405      |
| 640-36209-2 DU     | AC-2S                  | Total Recoverable | Water  | 6010B  | 87405      |
| 640-36209-2 MS     | AC-2S                  | Total Recoverable | Water  | 6010B  | 87405      |
| 640-36209-2 MSD    | AC-2S                  | Total Recoverable | Water  | 6010B  | 87405      |
| 640-36209-3        | DUP-2                  | Total Recoverable | Water  | 6010B  | 87405      |
| 640-36209-5        | EQ Blnk-2              | Total Recoverable | Water  | 6010B  | 87405      |
| LCS 640-87405/2-A  | Lab Control Sample     | Total Recoverable | Water  | 6010B  | 87405      |
| LCSD 640-87405/3-A | Lab Control Sample Dup | Total Recoverable | Water  | 6010B  | 87405      |
| MB 640-87405/1-A   | Method Blank           | Total Recoverable | Water  | 6010B  | 87405      |

## General Chemistry

### Analysis Batch: 87418

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36209-1       | AC-2D                  | Total/NA  | Water  | 300.0  |            |
| 640-36209-2       | AC-2S                  | Total/NA  | Water  | 300.0  |            |
| 640-36209-3       | DUP-2                  | Total/NA  | Water  | 300.0  |            |
| 640-36209-3 DU    | DUP-2                  | Total/NA  | Water  | 300.0  |            |
| 640-36209-3 MS    | DUP-2                  | Total/NA  | Water  | 300.0  |            |
| 640-36209-4       | AC-35D                 | Total/NA  | Water  | 300.0  |            |
| 640-36209-5       | EQ Blnk-2              | Total/NA  | Water  | 300.0  |            |
| 640-36209-5 DU    | EQ Blnk-2              | Total/NA  | Water  | 300.0  |            |
| 640-36209-5 MS    | EQ Blnk-2              | Total/NA  | Water  | 300.0  |            |
| LCS 640-87418/43  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87418/44 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87418/41   | Method Blank           | Total/NA  | Water  | 300.0  |            |

### Analysis Batch: 87587

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36209-1   | AC-2D            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36209-2   | AC-2S            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36209-3   | DUP-2            | Total/NA  | Water  | Nitrate by calc |            |
| 640-36209-4   | AC-35D           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36209-5   | EQ Blnk-2        | Total/NA  | Water  | Nitrate by calc |            |

### Analysis Batch: 144443

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 640-36209-1   | AC-2D            | Total/NA  | Water  | 340.2  |            |
| 640-36209-2   | AC-2S            | Total/NA  | Water  | 340.2  |            |
| 640-36209-3   | DUP-2            | Total/NA  | Water  | 340.2  |            |

## QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

### General Chemistry (Continued)

#### Analysis Batch: 144443 (Continued)

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36209-4      | AC-35D             | Total/NA  | Water  | 340.2  |            |
| 640-36209-5      | EQ Blnk-2          | Total/NA  | Water  | 340.2  |            |
| LCS 400-144443/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144443/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |

# Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

## Client Sample ID: AC-2D

Date Collected: 11/16/11 09:50

Date Received: 11/17/11 09:15

## Lab Sample ID: 640-36209-1

Matrix: Water

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 2               | 144443       | 11/19/11 13:35       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 1               | 87418        | 11/23/11 17:18       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:25       | FFC     | TAL TAL |

## Client Sample ID: AC-2S

Date Collected: 11/16/11 10:58

Date Received: 11/17/11 09:15

## Lab Sample ID: 640-36209-2

Matrix: Water

| Prep Type         | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total Recoverable | Prep       | 3005A           |     |                 | 87405        | 11/28/11 11:02       | AJN     | TAL TAL |
| Total Recoverable | Analysis   | 6010B           |     | 1               | 87464        | 11/29/11 14:52       | AJN     | TAL TAL |
| Total/NA          | Analysis   | 340.2           |     | 50              | 144443       | 11/19/11 13:35       | ST      | TAL PEN |
| Total/NA          | Analysis   | 300.0           |     | 1               | 87418        | 11/23/11 17:35       | FFC     | TAL TAL |
| Total/NA          | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:25       | FFC     | TAL TAL |

## Client Sample ID: DUP-2

Date Collected: 11/16/11 00:00

Date Received: 11/17/11 09:15

## Lab Sample ID: 640-36209-3

Matrix: Water

| Prep Type         | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total Recoverable | Prep       | 3005A           |     |                 | 87405        | 11/28/11 11:02       | AJN     | TAL TAL |
| Total Recoverable | Analysis   | 6010B           |     | 1               | 87464        | 11/29/11 14:58       | AJN     | TAL TAL |
| Total/NA          | Analysis   | 340.2           |     | 50              | 144443       | 11/19/11 13:35       | ST      | TAL PEN |
| Total/NA          | Analysis   | 300.0           |     | 1               | 87418        | 11/23/11 17:52       | FFC     | TAL TAL |
| Total/NA          | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:25       | FFC     | TAL TAL |

## Client Sample ID: AC-35D

Date Collected: 11/16/11 14:23

Date Received: 11/17/11 09:15

## Lab Sample ID: 640-36209-4

Matrix: Water

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 100             | 144443       | 11/19/11 13:35       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 20              | 87418        | 11/23/11 19:48       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:25       | FFC     | TAL TAL |

## Client Sample ID: EQ Blink-2

Date Collected: 11/16/11 12:30

Date Received: 11/17/11 09:15

## Lab Sample ID: 640-36209-5

Matrix: Water

| Prep Type         | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total Recoverable | Prep       | 3005A        |     |                 | 87405        | 11/28/11 11:02       | AJN     | TAL TAL |
| Total Recoverable | Analysis   | 6010B        |     | 1               | 87464        | 11/29/11 15:01       | AJN     | TAL TAL |
| Total/NA          | Analysis   | 340.2        |     | 1               | 144443       | 11/19/11 13:35       | ST      | TAL PEN |

## Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

**Client Sample ID: EQ Blink-2**

**Lab Sample ID: 640-36209-5**

**Date Collected: 11/16/11 12:30**

**Matrix: Water**

**Date Received: 11/17/11 09:15**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 300.0           |     | 1               | 87418        | 11/23/11 13:25       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:25       | FFC     | TAL TAL |

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLeMore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994



# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 6010B                              | Metals (ICP)               | SW846    | TAL TAL    |
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
NONE = NONE  
SM = "Standard Methods For The Examination Of Water And Wastewater",  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001  
TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131  
TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36209-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36209-1   | AC-2D            | Water  | 11/16/11 09:50 | 11/17/11 09:15 |
| 640-36209-2   | AC-2S            | Water  | 11/16/11 10:58 | 11/17/11 09:15 |
| 640-36209-3   | DUP-2            | Water  | 11/16/11 00:00 | 11/17/11 09:15 |
| 640-36209-4   | AC-35D           | Water  | 11/16/11 14:23 | 11/17/11 09:15 |
| 640-36209-5   | EQ Blnk-2        | Water  | 11/16/11 12:30 | 11/17/11 09:15 |

Analytical Data Package Prepared For  
**TestAmerica Tallahassee**

640-36209-1

Radiochemical Analysis By

**TestAmerica**

*2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.*

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49818

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44165   |           | AC-2D (640-36209-1)           | J1K210432-1 | MN6E11AC   | 9MN6E110     | 1332129   |
|         |           | AC-2D (640-36209-1)           | J1K210432-1 | MN6E11AA   | 9MN6E110     | 1332131   |
|         |           | AC-2S (640-36209-2)           | J1K210432-2 | MN6E91AC   | 9MN6E910     | 1332129   |
|         |           | AC-2S (640-36209-2)           | J1K210432-2 | MN6E91AA   | 9MN6E910     | 1332131   |
|         |           | AC-35D (640-36209-4)          | J1K210432-4 | MN6FC1AC   | 9MN6FC10     | 1332129   |
|         |           | AC-35D (640-36209-4)          | J1K210432-4 | MN6FC1AA   | 9MN6FC10     | 1332131   |
|         |           | DUP-2 (640-36209-3)           | J1K210432-3 | MN6FA1AC   | 9MN6FA10     | 1332129   |
|         |           | DUP-2 (640-36209-3)           | J1K210432-3 | MN6FA1AA   | 9MN6FA10     | 1332131   |
|         |           | EQ BLNK-2 (640-36209-5)       | J1K210432-5 | MN6FD1AC   | 9MN6FD10     | 1332129   |
|         |           | EQ BLNK-2 (640-36209-5)       | J1K210432-5 | MN6FD1AA   | 9MN6FD10     | 1332131   |

## Certificate of Analysis

December 16, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

|                      |   |                   |
|----------------------|---|-------------------|
| Date Received by Lab | : | November 18, 2011 |
| Sample Number/Matrix | : | Five (5) Waters   |
| SDG Number           | : | 44165             |
| Project              | : | Agrico            |
| Project Number       | : | 640-36209-1       |

### CASE NARRATIVE

#### **I. Introduction**

On November 18, 2011, five water samples were received at the TestAmerica Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned the TestAmerica identification numbers as described on the cover page of the Analytical Data Package. The samples were assigned to Lot Number J1K210432.

#### **II. Sample Receipt**

The samples were received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analyses requested were:

##### **Gas Proportional Counting**

Radium 226 by method RL-RA-001

Radium 228 by method RL-RA-001

#### **IV. Quality Control**

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### **V. Comments**

##### **Liquid Scintillation**

Radium 226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Radium 228 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager

### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S-D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                      |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |



## Sample Results Summary

Date: 16-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49818

SDG No: 44165

| Client Id               |            | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | MDL   | CRDL | RER2 |
|-------------------------|------------|------------|-----------------------------|------|-------|--------------|-------|------|------|
| Batch                   | Work Order |            |                             |      |       |              |       |      |      |
| 1332129 E903.1          |            |            |                             |      |       |              |       |      |      |
| AC-2D (640-36209-1)     |            |            |                             |      |       |              |       |      |      |
|                         | MN6E11AC   | RADIUM-226 | 1.06 +- 0.36                | V    | pCi/L | 100%         | 0.245 | 1.0  |      |
| AC-2S (640-36209-2)     |            |            |                             |      |       |              |       |      |      |
|                         | MN6E91AC   | RADIUM-226 | 0.168 +- 0.14               | U    | pCi/L | 88%          | 0.228 | 1.0  |      |
| AC-35D (640-36209-4)    |            |            |                             |      |       |              |       |      |      |
|                         | MN6FC1AC   | RADIUM-226 | 1.71 +- 0.45                | V    | pCi/L | 98%          | 0.245 | 1.0  |      |
| ACSW-1(640-36230-1) DUP |            |            |                             |      |       |              |       |      |      |
|                         | MN7671AD   | RADIUM-226 | -0.00926 +- 0.21            | U    | pCi/L | 50%          | 0.459 | 1.0  | 1.5  |
| DUP-2 (640-36209-3)     |            |            |                             |      |       |              |       |      |      |
|                         | MN6FA1AC   | RADIUM-226 | 0.117 +- 0.11               | U    | pCi/L | 99%          | 0.176 | 1.0  |      |
| EQ BLNK-2 (640-36209-5) |            |            |                             |      |       |              |       |      |      |
|                         | MN6FD1AC   | RADIUM-226 | -0.0508 +- 0.14             | U    | pCi/L | 93%          | 0.311 | 1.0  |      |
| 1332131 E904.0          |            |            |                             |      |       |              |       |      |      |
| AC-2D (640-36209-1)     |            |            |                             |      |       |              |       |      |      |
|                         | MN6E11AA   | RADIUM-228 | 1.71 +- 0.46                | V    | pCi/L | 91%          | 0.745 | 1.0  |      |
| AC-2S (640-36209-2)     |            |            |                             |      |       |              |       |      |      |
|                         | MN6E91AA   | RADIUM-228 | 0.0656 +- 0.35              | U    | pCi/L | 80%          | 0.823 | 1.0  |      |
| AC-35D (640-36209-4)    |            |            |                             |      |       |              |       |      |      |
|                         | MN6FC1AA   | RADIUM-228 | 5.94 +- 0.90                | V    | pCi/L | 87%          | 0.753 | 1.0  |      |
| ACSW-1(640-36230-1) DUP |            |            |                             |      |       |              |       |      |      |
|                         | MN7671AE   | RADIUM-228 | 0.850 +- 0.55               | U    | pCi/L | 44%          | 1.08  | 1.0  | 1.5  |
| DUP-2 (640-36209-3)     |            |            |                             |      |       |              |       |      |      |
|                         | MN6FA1AA   | RADIUM-228 | 0.484 +- 0.35               | U    | pCi/L | 89%          | 0.729 | 1.0  |      |
| EQ BLNK-2 (640-36209-5) |            |            |                             |      |       |              |       |      |      |
|                         | MN6FD1AA   | RADIUM-228 | 0.236 +- 0.27               | U    | pCi/L | 84%          | 0.592 | 1.0  |      |
| No. of Results: 12      |            |            |                             |      |       |              |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio =  $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$  as defined by ICPT BOA.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

V Qual - Detected.

# QC Results Summary

Date: 16-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49818

SDG No.: 44165

| Batch                    | Work Order                    | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|-------------------------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1332129 BLANK QC,<br>MN9GW1AA | RADIUM-226 | -0.0221 +- 0.086            | U    | pCi/L | 92%          |              |      | 0.196 |
|                          | 1332129 LCS,<br>MN9GW1AC      | RADIUM-226 | 10.8 +- 2.8                 | V    | pCi/L | 93%          | 109%         | 0.1  | 0.122 |
| <b>E904.0</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1332131 BLANK QC,<br>MN9G51AA | RADIUM-228 | 0.134 +- 0.22               | U    | pCi/L | 82%          |              |      | 0.507 |
|                          | 1332131 LCS,<br>MN9G51AC      | RADIUM-228 | 9.68 +- 1.3                 | V    | pCi/L | 82%          | 99%          | 0.0  | 0.484 |
| <b>No. of Results: 4</b> |                               |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K210432-1  
Client Sample ID: AC-2D (640-36209-1)  
SDG: 44165  
Report No.: 49818  
COC No.:  
Collection Date: 11/16/2011 9:50:00 AM  
Received Date: 11/18/2011 10:30:00 AM  
Matrix: WATER W  
Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.06   | V    | 0.22                  | 0.36                  | 0.245              | pCi/L           | 100%              | (4.3)                    | 12/13/11 12:58 p       |                  | 0.9223          | ASC1HB              |
|                       |        |      |                       |                       |                    | 0.111           | 1.0               | (5.9)                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 1.71   | V    | 0.42                  | 0.46                  | 0.745              | pCi/L           | 91%               | (2.3)                    | 12/14/11 01:16 p       |                  | 0.9223          | GPC1A               |
|                       |        |      |                       |                       |                    | 0.347           | 1.0               | (7.4)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K210432-2  
Client Sample ID: AC-2S (640-36209-2)  
640-36209-1

SDG: 44165  
Report No.: 49818  
COC No.:

Collection Date: 11/16/2011 10:58:00 AM  
Received Date: 11/18/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.168  | U    | 0.13                  | 0.14                  | 0.228              | pCi/L           | 88%               | 0.74                     | 12/13/11 12:58 p       |                  | 0.8951          | ASC2RC              |
|                       |        |      |                       |                       |                    | 0.0992          | 1.0               | (2.4)                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.0656 | U    | 0.27                  | 0.35                  | 0.823              | pCi/L           | 80%               | 0.08                     | 12/14/11 01:16 p       |                  | 0.8951          | GPC1B               |
|                       |        |      |                       |                       |                    | 0.382           | 1.0               | 0.37                     |                        |                  | L               |                     |

No. of Results: 2      Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K210432-4  
Client Sample ID: AC-35D (640-36209-4)  
640-36209-1

SDG: 44165  
Report No.: 49818  
COC No.:

Collection Date: 11/16/2011 2:23:00 PM  
Received Date: 11/18/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 1.71   | V    | 0.28                  | 0.45                  | 0.245              | pCi/L           | 98%               | 9MN6FC10                 | 12/13/11 12:57 p       |                  | 0.9239          | ASC4HD              |
|                       |        |      |                       |                       |                    | 0.11            | 1.0               | (7.6)                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 5.94   | V    | 0.61                  | 0.90                  | 0.753              | pCi/L           | 87%               | 9MN6FC10                 | 12/14/11 01:16 p       |                  | 0.9239          | GPC1D               |
|                       |        |      |                       |                       |                    | 0.35            | 1.0               | (13.2)                   |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K210432-3  
Client Sample ID: DUP-2 (640-36209-3)  
640-36209-1

SDG: 44165  
Report No.: 49818  
COC No.:

Collection Date: 11/16/2011  
Received Date: 11/18/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.117  | U    | 0.10                  | 0.11                  | 0.176              | pCi/L           | 99%               | 0.67                     | 12/13/11 12:58 p       |                  | 0.9142          | ASC3RC              |
|                       |        |      |                       |                       |                    | 0.0758          | 1.0               | (2.2)                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.484  | U    | 0.34                  | 0.35                  | 0.729              | pCi/L           | 89%               | 0.66                     | 12/14/11 01:16 p       |                  | 0.9142          | GPC1C               |
|                       |        |      |                       |                       |                    | 0.338           | 1.0               | (2.8)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K210432-5  
Client Sample ID: EQ BLNK-2 (640-36209-5)  
640-36209-1

SDG: 44165  
Report No.: 49818  
COC No.:

Collection Date: 11/16/2011  
Received Date: 11/18/2011 10:30:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result  | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|---------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |         |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | -0.0508 | U    | 0.14                  | 0.14                  | 0.311              | pCi/L           | 93%               | -0.16                    | 12/13/11 12:56 p       |                  | 0.8462          | ASC5HB              |
|                       |         |      |                       |                       |                    | 0.142           | 1.0               | -0.71                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |         |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.236   | U    | 0.25                  | 0.27                  | 0.592              | pCi/L           | 84%               | 0.4                      | 12/14/11 01:32 p       |                  | 0.8462          | GPC2A               |
|                       |         |      |                       |                       |                    | 0.258           | 1.0               | (1.8)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM II

Date: 16-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K220502-1  
Client Sample ID: ACSW-1(640-36230-1) DUP

SDG: 44178  
Report No.: 49818  
COC No.: 640-47596.1

Collection Date: 11/17/2011 1:05:00 PM  
Received Date: 11/22/2011 10:00:00 AM  
Matrix: WATER W

| Parameter                                                           | Result,<br>Orig Rst | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------------------------------|---------------------|------|-----------------------|-----------------------|--------------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1                                               |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN7671AD Report DB ID: MN7671DR Orig Sa DB ID: 9MN76710 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226                                                          | -0.00926            | U    | 0.21                  | 0.21                  | 0.459              | pCi/L             | 50%   | -0.02                    | 12/13/11 12:55 p       |                  | 0.8578          | ASC7HA              |
|                                                                     | 0.204               | U    | RER2 1.5              |                       |                    | 1.0               |       | -0.09                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0                                               |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN7671AE Report DB ID: MN7671ER Orig Sa DB ID: 9MN76710 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228                                                          | 0.850               | U    | 0.53                  | 0.55                  | 1.08               | pCi/L             | 44%   | 0.78                     | 12/14/11 01:32 p       |                  | 0.8578          | GPC2D               |
|                                                                     | 0.376               | U    | RER2 1.5              |                       |                    | 1.0               |       | (3.1)                    |                        |                  | L               |                     |

No. of Results: 2 Comments:

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU)s+sq(TPUd))] as defined by ICPT BOA.

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.



FORM II

Date: 16-Dec-11

BLANK RESULTS

Lab Name: TestAmerica

SDG: 44165

Matrix: WATER

Report No. : 49818

| Parameter                                   | Result  | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDL, Lc | Rpt Unit, CRDL | Yield | Rst/MDL, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---------------------------------------------|---------|------|--------------------|--------------------|---------|----------------|-------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1332129 E903.1                       |         |      |                    |                    |         |                |       |                       |                     |               |              |                  |
| Work Order: MN9GW1AA Report DB ID: MN9GW1AB |         |      |                    |                    |         |                |       |                       |                     |               |              |                  |
| RADIUM-226                                  | -0.0221 | U    | 0.086              | 0.086              | 0.196   | pCi/L          | 92%   | -0.11                 | 12/13/11 01:21 p    |               | 1.0002       | ASC9MA           |
|                                             |         |      |                    |                    | 0.0858  | 1.0            |       | -0.51                 |                     |               | L            |                  |
| Batch: 1332131 E904.0                       |         |      |                    |                    |         |                |       |                       |                     |               |              |                  |
| Work Order: MN9G51AA Report DB ID: MN9G51AB |         |      |                    |                    |         |                |       |                       |                     |               |              |                  |
| RADIUM-228                                  | 0.134   | U    | 0.21               | 0.22               | 0.507   | pCi/L          | 82%   | 0.26                  | 12/14/11 01:17 p    |               | 1.0002       | GPC3B            |
|                                             |         |      |                    |                    | 0.224   | 1.0            |       | (1.2)                 |                     |               | L            |                  |

No. of Results: 2      Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

UptSTLRchBlank  
V5.2.18 A2002

# FORM II

Date: 16-Dec-11

## LCS RESULTS

Lab Name: TestAmerica

SDG: 44165

Matrix: WATER

Report No.: 49818

| Parameter                    | Result | Qual | Count Error ( 2 s) | Total Uncert(2 s) | MDL   | Report Unit | Yield       | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|------------------------------|--------|------|--------------------|-------------------|-------|-------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| <b>Batch: 1332129 E903.1</b> |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-226                   | 10.8   | V    | 0.60               | 2.8               | 0.122 | pCi/L       | 93%         | 9.95     | 0.1             | 109%           | 12/13/11 01:22 p    | 1.0003       | ASCASA           |
|                              |        |      |                    |                   |       |             | Rec Limits: | 70       | 130             | 0.1            |                     |              |                  |
| <b>Batch: 1332131 E904.0</b> |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-228                   | 9.68   | V    | 0.73               | 1.3               | 0.484 | pCi/L       | 82%         | 9.77     | 0.32            | 99%            | 12/14/11 01:17 p    | 1.0003       | GPC3C            |
|                              |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.0            |                     |              |                  |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

OptSTLRchLcs V Qual - Detected.

V5.2.18 A2002

Test America Laboratories, Inc.



12/16/2011

| <b>Client Information (Sub Contract Lab)</b>                                                                                                                                                                                                             |  |             |               |                              |                                         | Lab PM:<br>Snead, Laura B                                                                                                                                                                                                                                                                                   |                                             | Carrier Tracking No(s):<br>640-47566.1      |                            |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|---------------|------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------|----------------------------|
| Client Contact:<br>Shipping/Receiving                                                                                                                                                                                                                    |  |             |               |                              |                                         | Phone:                                                                                                                                                                                                                                                                                                      |                                             | Page:<br>Page 1 of 1                        |                            |                            |
| Company:<br>TestAmerica Laboratories, Inc.                                                                                                                                                                                                               |  |             |               |                              |                                         | E-Mail:<br>laura.snead@testamericalab.com                                                                                                                                                                                                                                                                   |                                             | Job #:<br>640-36209-1                       |                            |                            |
|                                                                                                                                                                                                                                                          |  |             |               |                              |                                         | <b>Analysis Requested</b>                                                                                                                                                                                                                                                                                   |                                             |                                             |                            |                            |
| Due Date Requested:<br>12/1/2011                                                                                                                                                                                                                         |  |             |               |                              |                                         | <div style="float:right; text-align:left;"> <b>Preservation Codes:</b><br/> M - Hexane<br/>N - None<br/>O - AsNaO2<br/>P - Na2O4S<br/>Q - NaHSO4<br/>R - NaOH<br/>S - H2SO4<br/>T - TSP Dodecahydrate<br/>U - Ice<br/>V - MCAA<br/>W - ph 4-5<br/>X - EDTA<br/>Z - other (specify)<br/><b>Other:</b> </div> |                                             |                                             |                            |                            |
| TAT Requested (days):                                                                                                                                                                                                                                    |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| PO #:                                                                                                                                                                                                                                                    |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| WO #:                                                                                                                                                                                                                                                    |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| Project #:<br>64000434                                                                                                                                                                                                                                   |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| SSOW#:                                                                                                                                                                                                                                                   |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| Sample Identification - Client ID (Lab ID)                                                                                                                                                                                                               |  | Sample Date | Sample Time   | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=wastewater) | Field Filtered Sample (Yes or No)                                                                                                                                                                                                                                                                           | SUBCONTRACT Rad 226-Method 903.1 (Richland) | SUBCONTRACT Rad 226-Method 904.0 (Richland) | Total Number of Containers | Special Instructions/Note: |
| AC-2D (640-36209-1)                                                                                                                                                                                                                                      |  | 11/16/11    | 09:50 Eastern | Water                        | X                                       | X                                                                                                                                                                                                                                                                                                           | X                                           | 2                                           | MNL6E1                     |                            |
| AC-2S (640-36209-2)                                                                                                                                                                                                                                      |  | 11/16/11    | 10:58 Eastern | Water                        | X                                       | X                                                                                                                                                                                                                                                                                                           | X                                           | 1                                           | MNL6EG                     |                            |
| DUP-2 (640-36209-3)                                                                                                                                                                                                                                      |  | 11/16/11    | Eastern       | Water                        | X                                       | X                                                                                                                                                                                                                                                                                                           | X                                           | 1                                           | MNL6FA                     |                            |
| AC-35D (640-36209-4)                                                                                                                                                                                                                                     |  | 11/16/11    | 14:23 Eastern | Water                        | X                                       | X                                                                                                                                                                                                                                                                                                           | X                                           | 2                                           | MNL6FL                     |                            |
| EQ Bink-2 (640-36209-5)                                                                                                                                                                                                                                  |  | 11/16/11    | 12:30 Eastern | Water                        | X                                       | X                                                                                                                                                                                                                                                                                                           | X                                           | 2                                           | MNL6FD                     |                            |
| SDG# 1111165<br>LOT# JIK210432<br>Regd#: 12/16/11                                                                                                                                                                                                        |  |             |               |                              |                                         | <br>J1K210432                                                                                                                                                                                                                                                                                               |                                             |                                             |                            |                            |
| Possible Hazard Identification<br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| Deliverable Requested: I, II, III, IV, Other (specify)                                                                                                                                                                                                   |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| Empty Kit Relinquished by:                                                                                                                                                                                                                               |  |             |               |                              |                                         |                                                                                                                                                                                                                                                                                                             |                                             |                                             |                            |                            |
| Relinquished by: E-Dep                                                                                                                                                                                                                                   |  |             |               |                              |                                         | Date/Time: 11/17/11 1730                                                                                                                                                                                                                                                                                    |                                             | Company: Company                            |                            |                            |
| Relinquished by:                                                                                                                                                                                                                                         |  |             |               |                              |                                         | Date/Time:                                                                                                                                                                                                                                                                                                  |                                             | Company: Company                            |                            |                            |
| Relinquished by:                                                                                                                                                                                                                                         |  |             |               |                              |                                         | Date/Time:                                                                                                                                                                                                                                                                                                  |                                             | Company: Company                            |                            |                            |
| Custody Seals Intact:<br>A Yes A No                                                                                                                                                                                                                      |  |             |               |                              |                                         | Cooler Temperature(s) °C and Other Remarks:                                                                                                                                                                                                                                                                 |                                             | Custody Seal No.:                           |                            |                            |

**Sample Check-in List**

Date/Time Received: 11-18-11/1030 Container GM Screen Result: (Airlock) 04 Initials BB  
Sample GM Screen Result (Sample Receiving) 00 Initials BB  
Client: STES 872T SDG #: 441165 NA [ ] SAF #: NA4V

Lot Number: JIK210432

Chain of Custody # 640-47566.1

Shipping Container ID: NA4V Air Bill Number: NA4V

Samples received inside shipping container/cooler/box Yes BB Continue with 1 through 4. Initial appropriate response.  
No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [ ] No [ ] No Custody Seal BB
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal BB
3. Cooler temperature: \_\_\_\_\_ °C NA BB
4. Vermiculite/packing materials is NA [ ] Wet BB Dry [ ]  
Ice

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes BB No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 5
7. Containers received: 10x4

8. Sample holding times exceeded? NA [ ] Yes [ ] No BB

9. Samples have:  
\_\_\_\_\_ tape BB hazard labels  
\_\_\_\_\_ custody seals BB appropriate sample labels

10. Matrix:  
\_\_\_\_\_ A (FLT, Wipe, Solid, Soil) BB I (Water)  
\_\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
BB are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_\_ Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes BB No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used: \_\_\_\_\_

13. Were any anomalies identified in sample receipt? Yes BB No [ ]

14. Description of anomalies (include sample numbers): NA [ ] COC states only 1 sample for AC-25 + DUP2, but 2 bottles of ea sample were sent.

16. Additional Information: \_\_\_\_\_

Sample Custodian: John Bate Date: 11-18-91

Project Manager Emil K. Smith Date 11/23/11

J1K210432

**TestAmerica**

2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Phone (850) 878-3994 Fax (850) 878-9504

[illegible]

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36209-1

Login Number: 36209

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Mitchell, Travis X

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36209-1

**Login Number: 36209**

**List Source: TestAmerica Pensacola**

**List Number: 1**

**List Creation: 11/19/11 10:51 AM**

**Creator: Chea, Vanda**

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   | 0.7°C   |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
Tel: (850)878-3994

TestAmerica Job ID: 640-36230-1

Client Project/Site: Agrico Annual

For:

URS Corporation  
1625 Summit Lake Drive  
Suite 200  
Tallahassee, Florida 32317

Attn: Mr. Jeff Wagner



Authorized for release by:  
12/16/2011 8:12:09 PM

Laura Snead  
Project Manager II  
[laura.snead@testamericainc.com](mailto:laura.snead@testamericainc.com)

### LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                |
|----------------|------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                 |
| %R             | Percent Recovery                                                                                           |
| CNF            | Contains no Free Liquid                                                                                    |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL            | Estimated Detection Limit                                                                                  |
| EPA            | United States Environmental Protection Agency                                                              |
| MDL            | Method Detection Limit                                                                                     |
| ML             | Minimum Level (Dioxin)                                                                                     |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)                                               |
| PQL            | Practical Quantitation Limit                                                                               |
| RL             | Reporting Limit                                                                                            |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                       |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                        |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                      |

## Case Narrative

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

**Job ID: 640-36230-1**

**Laboratory: TestAmerica Tallahassee**

### Narrative

#### Job Narrative 640-36230-1

#### Comments

Sample, ACSW-1, was analyzed outside the recommended holdtime criteria for nitrite due to a laboratory oversight. Pertaining data was used for the calculation of nitrate concentration in this sample.

#### Receipt

All samples were received in good condition within temperature requirements.

#### General Chemistry

Method 300.0: Closing continuing calibration blank (CCB) in batch 640-87510 had a detect greater than the reporting limit (RL) for chloride. The sample results for ACSW-1 and ACSW-2 were > 10 times the amount in the CCB, therefore samples are reported without qualification.

Method 353.2: Nitrate analysis was performed on preserved samples extending the recommended analytical holdtime to 28 days.

No other analytical or quality issues were noted.

#### Subcontract Sister

See attached TestAmerica Richland Lot No. J1K220502 for the radium 226 and radium 228 results. In the radium 228 analysis the achieved MDA for the duplicate of ACSW-1 is slightly above the CRDL due to low but acceptable tracer yields caused by probable matrix interference.

## Detection Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

### Client Sample ID: ACSW-1

### Lab Sample ID: 640-36230-1

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 1700   |           | 50    |     | mg/L | 50      |   | 300.0           | Total/NA  |
| Chloride     | 12000  |           | 500   |     | mg/L | 500     |   | 300.0           | Total/NA  |
| Fluoride     | 0.78   |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 0.23   |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: ACSW-2

### Lab Sample ID: 640-36230-2

| Analyte      | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method          | Prep Type |
|--------------|--------|-----------|-------|-----|------|---------|---|-----------------|-----------|
| Sulfate      | 730    |           | 20    |     | mg/L | 20      |   | 300.0           | Total/NA  |
| Chloride     | 13000  |           | 500   |     | mg/L | 500     |   | 300.0           | Total/NA  |
| Fluoride     | 0.73   |           | 0.10  |     | mg/L | 1       |   | 340.2           | Total/NA  |
| Nitrate as N | 0.17   |           | 0.010 |     | mg/L | 1       |   | Nitrate by calc | Total/NA  |

### Client Sample ID: BT-127

### Lab Sample ID: 640-36230-3

| Analyte  | Result | Qualifier | RL   | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|------|-----|------|---------|---|--------|-----------|
| Fluoride | 0.81   |           | 0.10 |     | mg/L | 1       |   | 340.2  | Total/NA  |

### Client Sample ID: BT-107

### Lab Sample ID: 640-36230-4

| Analyte  | Result | Qualifier | RL   | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|------|-----|------|---------|---|--------|-----------|
| Fluoride | 0.81   |           | 0.10 |     | mg/L | 1       |   | 340.2  | Total/NA  |

### Client Sample ID: BT-02

### Lab Sample ID: 640-36230-5

| Analyte  | Result | Qualifier | RL   | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|------|-----|------|---------|---|--------|-----------|
| Fluoride | 0.77   |           | 0.10 |     | mg/L | 1       |   | 340.2  | Total/NA  |

# Client Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

## General Chemistry

Client Sample ID: ACSW-1  
Date Collected: 11/17/11 13:05  
Date Received: 11/18/11 09:15

Lab Sample ID: 640-36230-1  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 1700   |           | 50    |     | mg/L |   |          | 11/23/11 20:38 | 50      |
| Chloride     | 12000  |           | 500   |     | mg/L |   |          | 11/29/11 19:58 | 500     |
| Fluoride     | 0.78   |           | 0.10  |     | mg/L |   |          | 11/22/11 15:00 | 1       |
| Nitrate as N | 0.23   |           | 0.010 |     | mg/L |   |          | 12/05/11 09:34 | 1       |

Client Sample ID: ACSW-2  
Date Collected: 11/17/11 14:31  
Date Received: 11/18/11 09:15

Lab Sample ID: 640-36230-2  
Matrix: Water

| Analyte      | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Sulfate      | 730    |           | 20    |     | mg/L |   |          | 11/23/11 21:12 | 20      |
| Chloride     | 13000  |           | 500   |     | mg/L |   |          | 11/29/11 20:32 | 500     |
| Fluoride     | 0.73   |           | 0.10  |     | mg/L |   |          | 11/22/11 15:00 | 1       |
| Nitrate as N | 0.17   |           | 0.010 |     | mg/L |   |          | 12/05/11 09:25 | 1       |

Client Sample ID: BT-127  
Date Collected: 11/17/11 13:35  
Date Received: 11/18/11 09:15

Lab Sample ID: 640-36230-3  
Matrix: Water

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Fluoride | 0.81   |           | 0.10 |     | mg/L |   |          | 11/22/11 15:00 | 1       |

Client Sample ID: BT-107  
Date Collected: 11/17/11 13:48  
Date Received: 11/18/11 09:15

Lab Sample ID: 640-36230-4  
Matrix: Water

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Fluoride | 0.81   |           | 0.10 |     | mg/L |   |          | 11/22/11 15:00 | 1       |

Client Sample ID: BT-02  
Date Collected: 11/17/11 14:09  
Date Received: 11/18/11 09:15

Lab Sample ID: 640-36230-5  
Matrix: Water

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Fluoride | 0.77   |           | 0.10 |     | mg/L |   |          | 11/22/11 15:00 | 1       |

# QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 640-87418/41

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/23/11 12:02 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/23/11 12:02 | 1       |

Lab Sample ID: LCS 640-87418/43

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.2       |               | mg/L |   | 101  | 90 - 110     |
| Chloride | 6.00        | 6.05       |               | mg/L |   | 101  | 90 - 110     |

Lab Sample ID: LCSD 640-87418/44

Matrix: Water

Analysis Batch: 87418

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.6        |                | mg/L |   | 103  | 90 - 110     | 2   | 30        |
| Chloride | 6.00        | 6.16        |                | mg/L |   | 103  | 90 - 110     | 2   | 30        |

Lab Sample ID: MB 640-87510/31

Matrix: Water

Analysis Batch: 87510

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Sulfate  | <1.0      |              | 1.0 |     | mg/L |   |          | 11/29/11 14:58 | 1       |
| Chloride | <1.0      |              | 1.0 |     | mg/L |   |          | 11/29/11 14:58 | 1       |

Lab Sample ID: LCS 640-87510/24

Matrix: Water

Analysis Batch: 87510

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Sulfate  | 24.0        | 24.5       |               | mg/L |   | 102  | 90 - 110     |
| Chloride | 6.00        | 6.11       |               | mg/L |   | 102  | 90 - 110     |

Lab Sample ID: LCSD 640-87510/1

Matrix: Water

Analysis Batch: 87510

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Sulfate  | 24.0        | 24.1        |                | mg/L |   | 100  | 90 - 110     | 2   | 30        |
| Chloride | 6.00        | 6.03        |                | mg/L |   | 101  | 90 - 110     | 1   | 30        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 400-144556/1

Matrix: Water

Analysis Batch: 144556

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Fluoride | <0.10     |              | 0.10 |     | mg/L |   |          | 11/22/11 15:00 | 1       |

## QC Sample Results

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

Lab Sample ID: LCS 400-144556/2  
Matrix: Water  
Analysis Batch: 144556

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Fluoride | 1.00        | 1.07       |               | mg/L |   | 107  | 90 - 110     |

Lab Sample ID: 640-36230-1 DU  
Matrix: Water  
Analysis Batch: 144556

Client Sample ID: ACSW-1  
Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Fluoride | 0.78          |                  | 0.771     |              | mg/L |   | 2   | 4         |



## QC Association Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

### General Chemistry

#### Analysis Batch: 87418

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 640-36230-1       | ACSW-1                 | Total/NA  | Water  | 300.0  |            |
| 640-36230-2       | ACSW-2                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87418/43  | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87418/44 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87418/41   | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87510

| Lab Sample ID    | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------------|-----------|--------|--------|------------|
| 640-36230-1      | ACSW-1                 | Total/NA  | Water  | 300.0  |            |
| 640-36230-2      | ACSW-2                 | Total/NA  | Water  | 300.0  |            |
| LCS 640-87510/24 | Lab Control Sample     | Total/NA  | Water  | 300.0  |            |
| LCSD 640-87510/1 | Lab Control Sample Dup | Total/NA  | Water  | 300.0  |            |
| MB 640-87510/31  | Method Blank           | Total/NA  | Water  | 300.0  |            |

#### Analysis Batch: 87587

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method          | Prep Batch |
|---------------|------------------|-----------|--------|-----------------|------------|
| 640-36230-1   | ACSW-1           | Total/NA  | Water  | Nitrate by calc |            |
| 640-36230-2   | ACSW-2           | Total/NA  | Water  | Nitrate by calc |            |

#### Analysis Batch: 144556

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 640-36230-1      | ACSW-1             | Total/NA  | Water  | 340.2  |            |
| 640-36230-1 DU   | ACSW-1             | Total/NA  | Water  | 340.2  |            |
| 640-36230-2      | ACSW-2             | Total/NA  | Water  | 340.2  |            |
| 640-36230-3      | BT-127             | Total/NA  | Water  | 340.2  |            |
| 640-36230-4      | BT-107             | Total/NA  | Water  | 340.2  |            |
| 640-36230-5      | BT-02              | Total/NA  | Water  | 340.2  |            |
| LCS 400-144556/2 | Lab Control Sample | Total/NA  | Water  | 340.2  |            |
| MB 400-144556/1  | Method Blank       | Total/NA  | Water  | 340.2  |            |

# Lab Chronicle

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

**Client Sample ID: ACSW-1**

**Date Collected: 11/17/11 13:05**

**Date Received: 11/18/11 09:15**

**Lab Sample ID: 640-36230-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144556       | 11/22/11 15:00       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 50              | 87418        | 11/23/11 20:38       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 500             | 87510        | 11/29/11 19:58       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:34       | FFC     | TAL TAL |

**Client Sample ID: ACSW-2**

**Date Collected: 11/17/11 14:31**

**Date Received: 11/18/11 09:15**

**Lab Sample ID: 640-36230-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method    | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2           |     | 1               | 144556       | 11/22/11 15:00       | ST      | TAL PEN |
| Total/NA  | Analysis   | 300.0           |     | 20              | 87418        | 11/23/11 21:12       | FFC     | TAL TAL |
| Total/NA  | Analysis   | 300.0           |     | 500             | 87510        | 11/29/11 20:32       | FFC     | TAL TAL |
| Total/NA  | Analysis   | Nitrate by calc |     | 1               | 87587        | 12/05/11 09:25       | FFC     | TAL TAL |

**Client Sample ID: BT-127**

**Date Collected: 11/17/11 13:35**

**Date Received: 11/18/11 09:15**

**Lab Sample ID: 640-36230-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2        |     | 1               | 144556       | 11/22/11 15:00       | ST      | TAL PEN |

**Client Sample ID: BT-107**

**Date Collected: 11/17/11 13:48**

**Date Received: 11/18/11 09:15**

**Lab Sample ID: 640-36230-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2        |     | 1               | 144556       | 11/22/11 15:00       | ST      | TAL PEN |

**Client Sample ID: BT-02**

**Date Collected: 11/17/11 14:09**

**Date Received: 11/18/11 09:15**

**Lab Sample ID: 640-36230-5**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 340.2        |     | 1               | 144556       | 11/22/11 15:00       | ST      | TAL PEN |

## Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

# Certification Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

| Laboratory              | Authority      | Program             | EPA Region | Certification ID |
|-------------------------|----------------|---------------------|------------|------------------|
| TestAmerica Tallahassee | Florida        | NELAC               | 4          | E81005           |
| TestAmerica Tallahassee | Louisiana      | NELAC               | 6          | 30663            |
| TestAmerica Tallahassee | New Jersey     | NELAC               | 2          | FL012            |
| TestAmerica Tallahassee | Oklahoma       | State Program       | 6          | 9986             |
| TestAmerica Tallahassee | Texas          | NELAC               | 6          | T104704459-11-2  |
| TestAmerica Tallahassee | USDA           | USDA                |            | P330-08-00158    |
| TestAmerica Pensacola   | Alabama        | State Program       | 4          | 40150            |
| TestAmerica Pensacola   | Arizona        | State Program       | 9          | AZ0710           |
| TestAmerica Pensacola   | Arkansas       | State Program       | 6          | 88-0689          |
| TestAmerica Pensacola   | Florida        | NELAC               | 4          | E81010           |
| TestAmerica Pensacola   | Georgia        | Georgia EPD         | 4          | N/A              |
| TestAmerica Pensacola   | Illinois       | NELAC               | 5          | 200041           |
| TestAmerica Pensacola   | Iowa           | State Program       | 7          | 367              |
| TestAmerica Pensacola   | Kansas         | NELAC               | 7          | E-10253          |
| TestAmerica Pensacola   | Kentucky       | Kentucky UST        | 4          | 53               |
| TestAmerica Pensacola   | Louisiana      | NELAC               | 6          | 30976            |
| TestAmerica Pensacola   | Maryland       | State Program       | 3          | 233              |
| TestAmerica Pensacola   | Massachusetts  | State Program       | 1          | M-FL094          |
| TestAmerica Pensacola   | Michigan       | State Program       | 5          | 9912             |
| TestAmerica Pensacola   | New Hampshire  | NELAC               | 1          | 2505             |
| TestAmerica Pensacola   | New Jersey     | NELAC               | 2          | FL006            |
| TestAmerica Pensacola   | North Carolina | North Carolina DENR | 4          | 314              |
| TestAmerica Pensacola   | Oklahoma       | State Program       | 6          | 9810             |
| TestAmerica Pensacola   | Pennsylvania   | NELAC               | 3          | 68-00467         |
| TestAmerica Pensacola   | Rhode Island   | State Program       | 1          | LAO00307         |
| TestAmerica Pensacola   | South Carolina | State Program       | 4          | 96026            |
| TestAmerica Pensacola   | Tennessee      | State Program       | 4          | TN02907          |
| TestAmerica Pensacola   | Texas          | NELAC               | 6          | T104704286-11-3  |
| TestAmerica Pensacola   | USDA           | USDA                |            | P330-10-00407    |
| TestAmerica Pensacola   | Virginia       | NELAC               | 3          | 918              |
| TestAmerica Pensacola   | Washington     | State Program       | 10         | C915             |
| TestAmerica Pensacola   | West Virginia  | West Virginia DEP   | 3          | 136              |
| TestAmerica Richland    | AIHA - LAP     | IHLAP               |            | 187436           |
| TestAmerica Richland    | Arizona        | State Program       | 9          | AZ0709           |
| TestAmerica Richland    | California     | State Program       | 9          | 2425             |
| TestAmerica Richland    | Colorado       | State Program       | 8          | N/A              |
| TestAmerica Richland    | Florida        | State Program       | 4          | E87829           |
| TestAmerica Richland    | Hawaii         | State Program       | 9          | N/A              |
| TestAmerica Richland    | L-A-B          | DoD ELAP            |            | L2291            |
| TestAmerica Richland    | L-A-B          | ISO/IEC 17025       |            | L2291            |
| TestAmerica Richland    | Nevada         | State Program       | 9          | WA00023          |
| TestAmerica Richland    | Oregon         | NELAC               | 10         | WA100002         |
| TestAmerica Richland    | Pennsylvania   | State Program       | 3          | 68-04849         |
| TestAmerica Richland    | Tennessee      | State Program       | 4          | 4011             |
| TestAmerica Richland    | Texas          | NELAC               | 6          | T104704493-10-1  |
| TestAmerica Richland    | USDA           | USDA                |            | P330-11-00043    |
| TestAmerica Richland    | Utah           | State Program       | 8          | QUAN8            |
| TestAmerica Richland    | Virginia       | State Program       | 3          | 100              |
| TestAmerica Richland    | Washington     | State Program       | 10         | C1245            |
| TestAmerica Richland    | Washington     | WA DOH              | 10         | 50D0661626       |

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

| Method                             | Method Description         | Protocol | Laboratory |
|------------------------------------|----------------------------|----------|------------|
| 300.0                              | Anions, Ion Chromatography | MCAWW    | TAL TAL    |
| 340.2                              | Fluoride                   | MCAWW    | TAL PEN    |
| Nitrate by calc                    | Nitrogen, Nitrate-Nitrite  | SM       | TAL TAL    |
| Rad 226-Method<br>903.1 (Richland) | RAD-226 (RCH)              | NONE     | TAL RCH    |
| Rad 228-Method<br>904.0 (Richland) | RAD-228 (RCH)              | NONE     | TAL RCH    |

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

## Sample Summary

Client: URS Corporation  
Project/Site: Agrico Annual

TestAmerica Job ID: 640-36230-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 640-36230-1   | ACSW-1           | Water  | 11/17/11 13:05 | 11/18/11 09:15 |
| 640-36230-2   | ACSW-2           | Water  | 11/17/11 14:31 | 11/18/11 09:15 |
| 640-36230-3   | BT-127           | Water  | 11/17/11 13:35 | 11/18/11 09:15 |
| 640-36230-4   | BT-107           | Water  | 11/17/11 13:48 | 11/18/11 09:15 |
| 640-36230-5   | BT-02            | Water  | 11/17/11 14:09 | 11/18/11 09:15 |

Analytical Data Package Prepared For  
**TestAmerica Tallahassee**

640-36230-1

Radiochemical Analysis By

**TestAmerica**

**2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.**

Assigned Laboratory Code: TARL

Data Package Contains \_\_\_\_\_ Pages

Report No.: 49817

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No.  | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| 44178   |           | ACSW-1(640-36230-1)           | J1K220502-1 | MN7671AA   | 9MN76710     | 1332129   |
|         |           | ACSW-1(640-36230-1)           | J1K220502-1 | MN7671AC   | 9MN76710     | 1332131   |
|         |           | ACSW-2(640-36230-2)           | J1K220502-2 | MN7691AA   | 9MN76910     | 1332129   |
|         |           | ACSW-2(640-36230-2)           | J1K220502-2 | MN7691AC   | 9MN76910     | 1332131   |

## Certificate of Analysis

December 16, 2011

TestAmerica Tallahassee  
2846 Industrial Plaza Drive  
Tallahassee, FL 32301

Attention: Laura Snead

|                      |   |                   |
|----------------------|---|-------------------|
| Date Received by Lab | : | November 21, 2011 |
| Sample Number/Matrix | : | Two (2) Waters    |
| SDG Number           | : | 44178             |
| Project              | : | Agrico            |
| Project Number       | : | 640-36230-1       |

### CASE NARRATIVE

#### **I. Introduction**

On November 21, 2011, two water samples were received at the TestAmerica Richland laboratory for radiochemical analysis. Upon receipt, the samples were assigned the TestAmerica identification numbers as described on the cover page of the Analytical Data Package. The samples were assigned to Lot Number J1K220502.

#### **II. Sample Receipt**

The samples were received in good condition and no anomalies were noted during check-in.

#### **III. Analytical Results/Methodology**

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analyses requested were:

##### **Gas Proportional Counting**

Radium 226 by method RL-RA-001

Radium 228 by method RL-RA-001

#### IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

#### V. Comments

##### Liquid Scintillation

###### Radium 226 by method RL-RA-001:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

###### Radium 228 by method RL-RA-001:

The achieved MDA for the duplicate of sample ACSW-1 is slightly above the CRDL due to low but acceptable tracer yields caused by probable matrix interference. Except as noted the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

---

Emily Benti  
Project Manager



### Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES |                               |                                |
|---------------------------------------------|-------------------------------|--------------------------------|
| Referenced Method                           | Isotope(s)                    | TestAmerica Richland's SOP No. |
| EPA 901.1                                   | Cs-134, I-131                 | RL-GAM-001                     |
| EPA 900.0                                   | Alpha & Beta                  | RL-GPC-001                     |
| EPA 00-02                                   | Gross Alpha (Coprecipitation) | RL-GPC-002                     |
| EPA 903.0                                   | Total Alpha Radium (Ra-226)   | RL-RA-002                      |
| EPA 903.1                                   | Ra-226                        | RL-RA-001                      |
| EPA 904.0                                   | Ra-228                        | RL-RA-001                      |
| EPA 905.0                                   | Sr-89/90                      | RL-GPC-003                     |
| ASTM D5174                                  | Uranium                       | RL-KPA-003                     |
| EPA 906.0                                   | Tritium                       | RL-LSC-005                     |
|                                             |                               |                                |
|                                             |                               |                                |

**Results in this report relate only to the sample(s) analyzed.**

### Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship,  $R = \text{constants} * f(x,y,z,...)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Action Lev</b>                                                             | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.                                                                                                                                                                                                                                                                       |
| <b>Batch</b>                                                                  | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.                                                                                                                                                                                                                                                                                                                                      |
| <b>Bias</b>                                                                   | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>COC No</b>                                                                 | Chain of Custody Number assigned by the Client or TestAmerica.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Count Error (#s)</b>                                                       | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.                                                                                                                                                                                                                                      |
| <b>Total Uncert (#s)<br/><i>u<sub>c</sub> - Combined<br/>Uncertainty.</i></b> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.                                                                                                                                                                          |
| <b>(#s), Coverage<br/>Factor</b>                                              | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.                                                                                                                                                                                                                                                                                                                                                             |
| <b>CRDL (RL)</b>                                                              | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)                                                                                                                                                                                                                                                                               |
| <b>Lc</b>                                                                     | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| <b>Lot-Sample No</b>                                                          | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.                                                                                                                                                                                                                                                                          |
| <b>MDC MDA</b>                                                                | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$ . For LSC methods the batch blank is used as a measure of the background variability.                                                                |
| <b>Primary Detector</b>                                                       | The instrument identifier associated with the analysis of the sample aliquot.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ratio U-234/U-238</b>                                                      | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.                                                                                                                                                                                                                                                                                                                                          |
| <b>Rst/MDC</b>                                                                | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                                                                                                                                               |
| <b>Rst/TotUcert</b>                                                           | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.                                                                           |
| <b>Report DB No</b>                                                           | Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.                                                                                                                                                                                                                                                                                                                                 |
| <b>RER</b>                                                                    | The equation Replicate Error Ratio = $(S - D) / [\sqrt{TPUs^2 + TPUD^2}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.                                                                                                                                                                    |
| <b>SDG</b>                                                                    | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sum Rpt Alpha<br/>Spec Rst(s)</b>                                          | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.                                                                                                                                                                                                                                                                                                        |
| <b>Work Order</b>                                                             | The LIMS software assign test specific identifier.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Yield</b>                                                                  | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.                                                                                                                                                                                                                                                                                                                                                              |

# Sample Results Summary

Date: 16-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 49817

SDG No: 44178

| Batch             | Client Id<br>Work Order | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer<br>Yield | MDL   | CRDL | RER2 |
|-------------------|-------------------------|------------|-----------------------------|------|-------|-----------------|-------|------|------|
| 1332129           | E903.1                  |            |                             |      |       |                 |       |      |      |
|                   | ACSW-1(640-36230-1)     |            |                             |      |       |                 |       |      |      |
|                   | MN7671AA                | RADIUM-226 | 0.204 +- 0.18               | U    | pCi/L | 81%             | 0.3   | 1.0  |      |
|                   | ACSW-1(640-36230-1) DUP |            |                             |      |       |                 |       |      |      |
|                   | MN7671AD                | RADIUM-226 | -0.00926 +- 0.21            | U    | pCi/L | 50%             | 0.459 | 1.0  | 1.5  |
|                   | ACSW-2(640-36230-2)     |            |                             |      |       |                 |       |      |      |
|                   | MN7691AA                | RADIUM-226 | 0.478 +- 0.21               | J    | pCi/L | 97%             | 0.28  | 1.0  |      |
| 1332131           | E904.0                  |            |                             |      |       |                 |       |      |      |
|                   | ACSW-1(640-36230-1)     |            |                             |      |       |                 |       |      |      |
|                   | MN7671AC                | RADIUM-228 | 0.376 +- 0.35               | U    | pCi/L | 72%             | 0.758 | 1.0  |      |
|                   | ACSW-1(640-36230-1) DUP |            |                             |      |       |                 |       |      |      |
|                   | MN7671AE                | RADIUM-228 | 0.850 +- 0.55               | U    | pCi/L | 44%             | 1.08  | 1.0  | 1.5  |
|                   | ACSW-2(640-36230-2)     |            |                             |      |       |                 |       |      |      |
|                   | MN7691AC                | RADIUM-228 | 0.799 +- 0.33               | J    | pCi/L | 86%             | 0.584 | 1.0  |      |
| No. of Results: 6 |                         |            |                             |      |       |                 |       |      |      |

TestAmerica  
rptSTLRchSaSum  
mary2 V5.2.18  
A2002

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.

J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

# QC Results Summary

Date: 16-Dec-11

## TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 49817

SDG No.: 44165

| Batch                    | Work Order                    | Parameter  | Result +- Uncertainty ( 2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDL   |
|--------------------------|-------------------------------|------------|-----------------------------|------|-------|--------------|--------------|------|-------|
| <b>E903.1</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1332129 BLANK QC,<br>MN9GW1AA | RADIUM-226 | -0.0221 +- 0.086            | U    | pCi/L | 92%          |              |      | 0.196 |
|                          | 1332129 LCS,<br>MN9GW1AC      | RADIUM-226 | 10.8 +- 2.8                 | V    | pCi/L | 93%          | 109%         | 0.1  | 0.122 |
| <b>E904.0</b>            |                               |            |                             |      |       |              |              |      |       |
|                          | 1332131 BLANK QC,<br>MN9G51AA | RADIUM-228 | 0.134 +- 0.22               | U    | pCi/L | 82%          |              |      | 0.507 |
|                          | 1332131 LCS,<br>MN9G51AC      | RADIUM-228 | 9.68 +- 1.3                 | V    | pCi/L | 82%          | 99%          | 0.0  | 0.484 |
| <b>No. of Results: 4</b> |                               |            |                             |      |       |              |              |      |       |

TestAmerica  
rptSTLRchQcSummary V5.2.18  
A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K220502-1  
Client Sample ID: ACSW-1(640-36230-1)  
640-36230-1

SDG: 44178  
Report No.: 49817  
COC No.: 640-47596.1

Collection Date: 11/17/2011 1:05:00 PM  
Received Date: 11/22/2011 10:00:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.204  | U    | 0.17                  | 0.18                  | 0.3                | pCi/L           | 81%               | 0.68                     | 12/13/11 01:00 p       |                  | 0.8366          | ASC6RA              |
|                       |        |      |                       |                       |                    | 0.134           | 1.0               | (2.3)                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.376  | U    | 0.34                  | 0.35                  | 0.758              | pCi/L           | 72%               | 0.5                      | 12/14/11 01:32 p       |                  | 0.8366          | GPC2C               |
|                       |        |      |                       |                       |                    | 0.335           | 1.0               | (2.1)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.18 A2002 V Qual - Detected.

## FORM I

Date: 16-Dec-11

## SAMPLE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K220502-2  
Client Sample ID: ACSW-2(640-36230-2)  
640-36230-1

SDG: 44178  
Report No.: 49817  
COC No.: 640-47596.1

Collection Date: 11/17/2011 2:31:00 PM  
Received Date: 11/22/2011 10:00:00 AM  
Matrix: WATER W

Ordered by Client Sample ID, Batch No.

| Parameter             | Result | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>Lc | Yield<br>CRDL(RL) | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|-----------------------|--------|------|-----------------------|-----------------------|--------------------|-----------------|-------------------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-226            | 0.478  | J    | 0.19                  | 0.21                  | 0.28               | pCi/L           | 97%               | (1.7)                    | 12/13/11 12:52 p       |                  | 0.8249          | ASC8HA              |
|                       |        |      |                       |                       |                    | 0.127           | 1.0               | (4.5)                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0 |        |      |                       |                       |                    |                 |                   |                          |                        |                  |                 |                     |
| RADIUM-228            | 0.799  | J    | 0.32                  | 0.33                  | 0.584              | pCi/L           | 86%               | (1.4)                    | 12/14/11 01:17 p       |                  | 0.8249          | GPC3A               |
|                       |        |      |                       |                       |                    | 0.257           | 1.0               | (4.8)                    |                        |                  | L               |                     |

No. of Results: 2

Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V Qual - Detected.

## FORM II

Date: 16-Dec-11

## DUPLICATE RESULTS

Lab Name: TestAmerica  
Lot-Sample No.: J1K220502-1  
Client Sample ID: ACSW-1(640-36230-1) DUP

SDG: 44178  
Report No.: 49817  
COC No.: 640-47596.1

Collection Date: 11/17/2011 1:05:00 PM  
Received Date: 11/22/2011 10:00:00 AM  
Matrix: WATER W

| Parameter                                                           | Result,<br>Orig Rst | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Action Lev | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------------------------------|---------------------|------|-----------------------|-----------------------|--------------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1                                               |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN7671AD Report DB ID: MN7671DR Orig Sa DB ID: 9MN76710 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226                                                          | -0.00926            | U    | 0.21                  | 0.21                  | 0.459              | pCi/L             | 50%   | -0.02                    | 12/13/11 12:55 p       |                  | 0.8578          | ASC7HA              |
|                                                                     | 0.204               | U    | RER2 1.5              |                       |                    | 1.0               |       | -0.09                    |                        |                  | L               |                     |
| Batch: 1332131 E904.0                                               |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| Work Order: MN7671AE Report DB ID: MN7671ER Orig Sa DB ID: 9MN76710 |                     |      |                       |                       |                    |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228                                                          | 0.850               | U    | 0.53                  | 0.55                  | 1.08               | pCi/L             | 44%   | 0.78                     | 12/14/11 01:32 p       |                  | 0.8578          | GPC2D               |
|                                                                     | 0.376               | U    | RER2 1.5              |                       |                    | 1.0               |       | (3.1)                    |                        |                  | L               |                     |

No. of Results: 2 Comments:

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU<sub>s</sub>)+sq(TPU<sub>d</sub>))] as defined by ICPT BOA.  
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 16-Dec-11

BLANK RESULTS

Lab Name: TestAmerica  
Matrix: WATER

SDG: 44165  
Report No. : 49817

| Parameter                                   | Result  | Qual | Count<br>Error ( 2 s) | Total<br>Uncert( 2 s) | MDL,<br>Lc | Rpt Unit,<br>CRDL | Yield | Rst/MDL,<br>Rst/TotUcert | Analysis,<br>Prep Date | Total Sa<br>Size | Aliquot<br>Size | Primary<br>Detector |
|---------------------------------------------|---------|------|-----------------------|-----------------------|------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1332129 E903.1                       |         |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-226                                  |         |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
|                                             | -0.0221 | U    | 0.086                 | 0.086                 | 0.196      | pCi/L             | 92%   | -0.11                    | 12/13/11 01:21 p       |                  | 1.0002          | ASC9MA              |
|                                             |         |      |                       |                       | 0.0858     | 1.0               |       | -0.51                    |                        |                  | L               |                     |
| Work Order: MN9GW1AA Report DB ID: MN9GW1AB |         |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| Batch: 1332131 E904.0                       |         |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
| RADIUM-228                                  |         |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |
|                                             | 0.134   | U    | 0.21                  | 0.22                  | 0.507      | pCi/L             | 82%   | 0.26                     | 12/14/11 01:17 p       |                  | 1.0002          | GPC3B               |
|                                             |         |      |                       |                       | 0.224      | 1.0               |       | (1.2)                    |                        |                  | L               |                     |
| Work Order: MN9G51AA Report DB ID: MN9G51AB |         |      |                       |                       |            |                   |       |                          |                        |                  |                 |                     |

No. of Results: 2      Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

UptSTLRchBlank  
V5.2.18 A2002



FORM II

Date: 16-Dec-11

LCS RESULTS

Lab Name: TestAmerica  
Matrix: WATER

SDG: 44165  
Report No.: 49817

| Parameter                                   | Result | Qual | Count Error ( 2 s) | Total Uncert(2 s) | MDL   | Report Unit | Yield       | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---------------------------------------------|--------|------|--------------------|-------------------|-------|-------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| Batch: 1332129 E903.1                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN9GW1AC Report DB ID: MN9GW1CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-226                                  | 10.8   | V    | 0.60               | 2.8               | 0.122 | pCi/L       | 93%         | 9.95     | 0.1             | 109%           | 12/13/11 01:22 p    | 1.0003       | ASCASA           |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 70       | 130             | 0.1            |                     |              |                  |
| Batch: 1332131 E904.0                       |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| Work Order: MN9G51AC Report DB ID: MN9G51CS |        |      |                    |                   |       |             |             |          |                 |                |                     |              |                  |
| RADIUM-228                                  | 9.68   | V    | 0.73               | 1.3               | 0.484 | pCi/L       | 82%         | 9.77     | 0.32            | 99%            | 12/14/11 01:17 p    | 1.0003       | GPC3C            |
|                                             |        |      |                    |                   |       |             | Rec Limits: | 75       | 125             | 0.0            |                     |              |                  |

No. of Results: 2      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
rptSTLRchLcs V Qual - Detected.  
V5.2.18 A2002

Test America Laboratories, Inc.

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**Sample Check-in List**

Date/Time Received: 11-21-11 1000 Container GM Screen Result: (Airlock) 004 Initials CK  
Sample GM Screen Result (Sample Receiving) 006 Initials JB

Client: STL-T SDG #: 44174 NA [ ] SAF #: NA

Lot Number: J11L220502

Chain of Custody # L640-47596.1

Shipping Container ID: 6014 NA [ ] Air Bill Number: NA

Samples received inside shipping container/cooler/box Yes ☒ Continue with 1 through 4. Initial appropriate response.  
No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes ☒ No [ ] No Custody Seal [ ]

2. Custody Seals dated and signed? Yes [ ] No ☒ No Custody Seal [ ]

3. Cooler temperature: \_\_\_\_\_ °C NA ☒

4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry ☒

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes ☒ No [ ]

6. Number of samples received (Each sample may contain multiple bottles): 2

7. Containers received: 4X / LP

8. Sample holding times exceeded? NA [ ] Yes [ ] No ☒

9. Samples have:  
\_\_\_\_\_ tape ☒ hazard labels  
\_\_\_\_\_ custody seals ☒ appropriate sample labels

10. Matrix:  
\_\_\_\_\_ A (FLT, Wipe, Solid, Soil) ☒ I (Water)  
\_\_\_\_\_ S (Air, Niosh 7400) \_\_\_\_\_ T (Biological, Ni-63)

11. Samples:  
☒ are in good condition \_\_\_\_\_ are leaking  
\_\_\_\_\_ are broken \_\_\_\_\_ have air bubbles (Only for samples requiring no head space)  
\_\_\_\_\_ Other \_\_\_\_\_

12. Sample pH appropriate for analysis requested Yes ☒ No [ ] NA [ ]  
(If acidification is necessary, then document sample ID, initial pH, amount of HNO<sub>3</sub> added and pH after addition on table overleaf)

RPL ID # of preservative used: \_\_\_\_\_

13. Were any anomalies identified in sample receipt? Yes [ ] No ☒

14. Description of anomalies (include sample numbers): NA

Yes [☒] No [☐]

☐ Client/Courier denied temperature check.

Client/Courier unpack cooler.

Sample Custodian: [Signature] Date: 11-21-11

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person contacted \_\_\_\_\_

☒ No action necessary; process as is

Project Manager Erik Smith Date 11/23/11

LS-023, Rev. 15, 07/11

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- 15

## Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

THE UNIVERSITY OF CHICAGO

[illegible]

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36230-1

Login Number: 36230

List Source: TestAmerica Tallahassee

List Number: 1

Creator: Mitchell, Travis X

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | N/A    |         |
| Residual Chlorine Checked.                                                       | N/A    |         |

## Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 640-36230-1

Login Number: 36230

List Number: 1

Creator: Chea, Vanda

List Source: TestAmerica Pensacola

List Creation: 11/19/11 03:01 PM

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   | 0.0°C   |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time.                                        | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified.                                                    | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | N/A    |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.                                                       | True   |         |