

RESOURCE CONTROLS

The proven solution to your
environmental needs.

March 9, 2006

Mr. Tony Sulfaro
122 Drake Road
Burlington, MA 01803

RECEIVED
D.E.M. / O.W.M.

2006 AUG 17 A 11: 02

SUBJECT: **Arsenic Background Evaluation**
390 Pine Street, Pawtucket, RI

Dear Mr. Sulfaro:

Resource Control Associates, Inc. (Resource Controls) has prepared this letter report to summarize activities conducted and conclusions reached relative to the arsenic background evaluation completed at the above referenced Site. Characterization activities were conducted under guidance established in Section 12.0 of the RIDEM Remediation Regulations. According to Section 12.02 B of the RIDEM Remediation Regulations the approximately 3-acre Site requires a minimum of 16 samples to adequately evaluate Site conditions against the standard for arsenic.

On December 12, 2005, Resource Controls completed an ASTM Phase II Environmental Site Assessment Report, which summarized the collection and analysis of soil samples for RCRA 8 metals. The collection of RCRA 8 metals was conducted to evaluate the Site impacts associated with historic urban filling activities and historic textile industry use; no specific area of concern was identified at the Site. Arsenic was identified above RIDEM Method 1 Direct Exposure Criteria (7.0 ppm) in one (1) of the five (5) samples analyzed. The one exceedence was identified in soil collected from 14-feet below grade in native soil.

On February 8, 2006, to appropriately complete the arsenic background evaluation, eleven (11) additional soil samples were submitted for laboratory analysis of arsenic by EPA Method 6010B. Arsenic was identified above RIDEM Method 1 Direct Exposure Criteria (7.0 ppm) in one (1) of the eleven (11) additional samples analyzed.

The sixteen (16) soil samples analyzed for arsenic were collected from various locations, depth intervals, and soil types. A Site Plan depicting soil sample locations is attached as Figure 2. No individual sample result from the data set exceeded 15.0 ppm and the average of the data set was 3.25 ppm. A summary of the complete data set is included as Table 1; laboratory reports are also attached to this evaluation.

The evaluation conducted has determined that Site conditions meet the intent of Section 12.0 of the Remediation Regulations. Resource Controls requests that the RIDEM conclude arsenic is non-jurisdictional at the Site.

474 Broadway
Pawtucket, RI 02860-1377
401 728-6860
Fax 401 727-1849

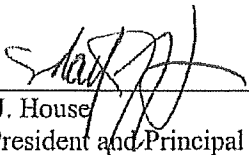
www.resourcecontrols.com

The proven solution to your
environmental needs.

If you have any questions, please contact the undersigned at (401) 728-6860.

Very truly yours,

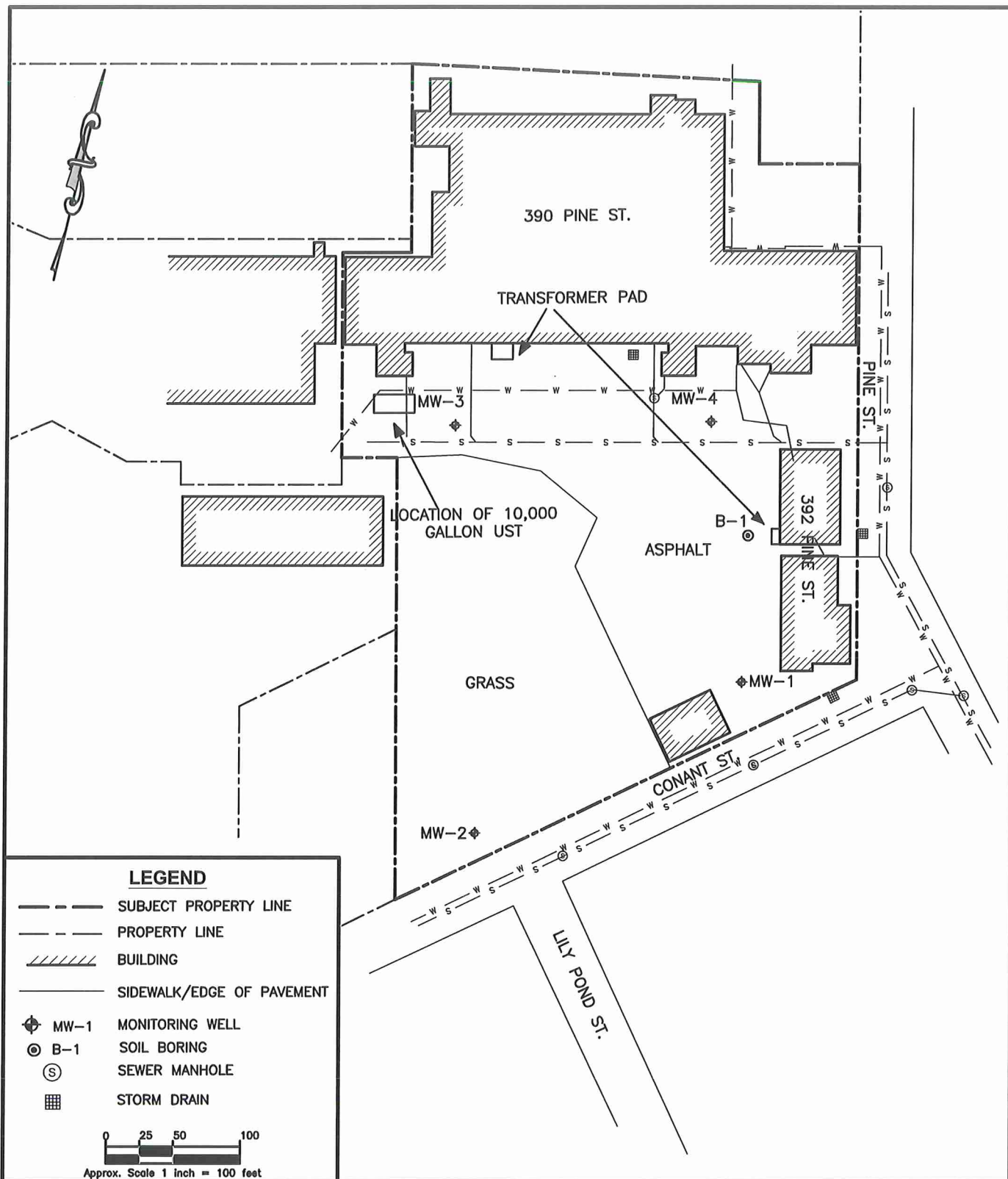
RESOURCE CONTROL ASSOCIATES, INC.



Mark J. House
Vice President and Principal Scientist

JLL:lap

Attachments: Figure 2 – Site Plan
Table 1 – Soil Analytical Results
Laboratory Analytical Reports (#90057 & #91446)



SITE PLAN

390-392 PINE ST
PAWTUCKET, RI



**RESOURCE
CONTROLS**

474 Broadway • Pawtucket, RI 02860

DRAWN BY

PROJECT

PRINT DATE

FIGURE

WFP

A6705

12/20/2005

2

TABLE 1
SOIL LABORATORY ANALYTICAL RESULTS

390-392 PINE STREET
PAWTUCKET, RHODE ISLAND

| Sample Identification Depth Sampled (feet) Date Sampled | B-1 | | MW-1 | | | MW-2 | | | MW-3 | | | | MW-4 | | | | Average Concentration | RIDEM Soil Criteria | | |
|---|------------|-------|------------|---------|---------|------------|-------|-------|------------|---------|-------|-------|------------|---------|---------|-------|--------------------------|--------------------------|-----------------|-----------------------|
| | 5-7 | 10-12 | 10-12 | 14-15.2 | 15.2-16 | 0-2 | 10-12 | 14-16 | 5-7 | 10-12 | 15-16 | 16-17 | 5-7 | 10-12 | 15-15.5 | 16-17 | | Direct Exposure Criteria | | Leachability Criteria |
| | 12/12/2005 | | 12/12/2005 | | | 12/12/2005 | | | 12/12/2005 | | | | 12/12/2005 | | | | | Residential | I/C | GB |
| TRACE METALS by EPA Method 6010B and 7471A (mg/kg) | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 1.3 | 2.3 | 3 | 7.2 | 6.7 | 2.5 | 7.2 | 3.3 | <1 | 2 | 6.2 | 1.6 | <1.1 | 1.3 | 2.2 | 4.1 | 3.25 | 7 | 7 | NS |
| Barium | < 21 | -- | 64 | -- | -- | -- | 38 | -- | -- | < 23 | -- | -- | -- | < 22 | -- | -- | -- | 5,500 | 10,000 | NS |
| Cadmium | < 0.52 | -- | < 0.55 | -- | -- | -- | 0.89 | -- | -- | < 0.56 | -- | -- | -- | < 0.56 | -- | -- | -- | 39 | 1,000 | NS |
| Chromium | < 10 | -- | 14 | -- | -- | -- | 14 | -- | -- | < 11 | -- | -- | -- | < 11 | -- | -- | -- | 1,400/390** | 10,000/10,000** | NS |
| Lead | < 10 | -- | < 11 | -- | -- | -- | 110 | -- | -- | < 11 | -- | -- | -- | < 11 | -- | -- | -- | 150 | 500 | NS |
| Mercury | < 0.035 | -- | < 0.035 | -- | -- | -- | 0.15 | -- | -- | < 0.037 | -- | -- | -- | < 0.037 | -- | -- | -- | 23 | 610 | NS |
| Selenium | < 10 | -- | < 11 | -- | -- | -- | < 11 | -- | -- | < 11 | -- | -- | -- | < 11 | -- | -- | -- | 390 | 10,000 | NS |
| Silver | < 5.2 | -- | < 5.5 | -- | -- | -- | < 5.5 | -- | -- | < 5.6 | -- | -- | -- | < 5.6 | -- | -- | -- | 200 | 10,000 | NS |
| TOTAL PETROLEUM HYDROCARBONS by EPA Method 8015B (Modified) (mg/kg) | | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons | < 60 | -- | -- | -- | -- | -- | < 64 | -- | -- | 110 | -- | -- | -- | < 66 | -- | -- | -- | 500/1,000 | 2,500 | 2,500 |
| POLYCHLORINATED BIPHENYLS by EPA Method 8082 (ug/kg) | | | | | | | | | | | | | | | | | | | | |
| Aroclor 1016 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| Aroclor 1221 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| Aroclor 1232 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| Aroclor 1242 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| Aroclor 1248 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| Aroclor 1254 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| Aroclor 1260 | < 82 | -- | -- | -- | -- | -- | -- | -- | -- | < 87 | -- | -- | -- | -- | -- | -- | -- | 10,000* | 10,000* | 10,000* |
| NOTES: mg/kg = milligrams per liter (parts per million). ug/kg = micrograms per liter (parts per billion). Bold concentrations exceed RIDEM Residential and/or Industrial/Commerical Direct Exposure Soil Criteria. * Leachability Criteria are for total PCBs. ** Direct exposure criteria for chromium are based on Chromium (III)/Chromium (VI) results. | | | | | | | | | | | | | | | | | | | | |

February 21, 2006

Mr. Mark House
Resource Control Associates
474 Broadway
Pawtucket, RI 02860

LABORATORY REPORT

Project: **Artist Res/A6705**
Lab ID: **91446**
Received: **02-06-06**

Dear Mark:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Jonathan R. Sanford
President

JRS/kal
Enclosures

Sample Receipt Report

Project: **Artist Res/A6705**
 Client: **Resource Control Associates**
 Lab ID: **91446**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **02-06-06**

Temperature: **2°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-1 | B-1 10-12' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717652 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-2 | MW-1 14-16' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717659 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|---------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-3 | MW-1 14-15.2' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717653 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-4 | MW-2 14-16' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717658 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-5 | MW-2 0-2' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717646 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-6 | MW-3 15-16' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717647 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-7 | MW-3 5-7' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717641 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-8 | MW-3 16-17' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717640 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|---------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-9 | MW-4 16-17' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717651 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|----------|---------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-10 | MW-4 15-15.5' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717657 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | Notes |
|----------|--------------|-----------|---------|---------------|--------------------|------|----------|-------|
| 91446-11 | MW-4 5-7' | | Soil | 12/13/05 0:00 | EPA 6010B As Total | | | |
| Con ID | Container | Vendor | QC Lot | Preserv | QC Lot | Prep | Ship | |
| C717656 | 250 mL Glass | Greenwood | BX19208 | None | n/a | n/a | 12-14-05 | |

Trace Metals

Field ID: **B-1 10-12'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**
Percent Solids: **90**

Laboratory ID: **91446-01**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 2.3 | | mg/Kg | 1.1 | 1 | 02-08-06 13:30 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **MW-1 14-16'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**
Percent Solids: **92**

Laboratory ID: **91446-02**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 6.7 | | mg/Kg | 1.1 | 1 | 02-08-06 13:39 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **MW-1 14-15.2'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**
Percent Solids: **90**

Laboratory ID: **91446-03**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 7.2 | | mg/Kg | 1.1 | 1 | 02-08-06 13:42 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **MW-2 14-16'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**
Percent Solids: **93**

Laboratory ID: **91446-04**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 3.3 | | mg/Kg | 1.1 | 1 | 02-08-06 13:46 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: MW-2 0-2'
Project: Artist Res/A6705
Client: Resource Control Associates

Matrix: Soil
Container: 250 mL Glass
Preservation: Cool
Percent Solids: 96

Laboratory ID: 91446-05
Sampled: 12-13-05 00:00
Received: 02-06-06 18:15

| Analysis Method | QC Batch ID | Prep Method | Prepared | Sample Weight | Instrument ID | Analyst |
|------------------------|-------------|-------------|----------------|---------------|---------------|---------|
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 2.5 | | mg/Kg | 1.1 | 1 | 02-08-06 13:55 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **MW-3 15-16'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**

Laboratory ID: **91446-06**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

Percent Solids: **87**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 6.2 | | mg/Kg | 1.1 | 1 | 02-08-06 13:58 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: MW-3 5-7'
Project: Artist Res/A6705
Client: Resource Control Associates

Matrix: Soil
Container: 250 mL Glass
Preservation: Cool
Percent Solids: 97

Laboratory ID: 91446-07
Sampled: 12-13-05 00:00
Received: 02-06-06 18:15

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | | BRL | mg/Kg | 1 | 1 | 02-08-06 14:02 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **MW-3 16-17'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**
Percent Solids: **87**

Laboratory ID: **91446-08**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 1.6 | | mg/Kg | 1.1 | 1 | 02-08-06 14:05 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: MW-4 16-17'
Project: Artist Res/A6705
Client: Resource Control Associates

Matrix: Soil
Container: 250 mL Glass
Preservation: Cool
Percent Solids: 94

Laboratory ID: 91446-09
Sampled: 12-13-05 00:00
Received: 02-06-06 18:15

| Analysis Method | QC Batch ID | Prep Method | Prepared | Sample Weight | Instrument ID | Analyst |
|------------------------|-------------|-------------|----------------|---------------|---------------|---------|
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 4.1 | | mg/Kg | 1 | 1 | 02-08-06 14:08 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **MW-4 15-15.5'**
Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Matrix: **Soil**
Container: **250 mL Glass**
Preservation: **Cool**
Percent Solids: **83**

Laboratory ID: **91446-10**
Sampled: **12-13-05 00:00**
Received: **02-06-06 18:15**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | 2.2 | | mg/Kg | 1.2 | 1 | 02-08-06 14:17 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: MW-4 5-7'
Project: Artist Res/A6705
Client: Resource Control Associates

Matrix: Soil
Container: 250 mL Glass
Preservation: Cool
Percent Solids: 96

Laboratory ID: 91446-11
Sampled: 12-13-05 00:00
Received: 02-06-06 18:15

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Weight</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B ¹ | MB-0788-S | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|----------------|---------------|-------|-------|-----------------|----|----------------|------------------------|
| 7440-38-2 | Arsenic, Total | BRL | | mg/Kg | 1.1 | 1 | 02-08-06 14:21 | EPA 6010B ¹ |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Project Narrative

Project: **Artist Res/A6705**
Client: **Resource Control Associates**

Lab ID: **91446**
Received: **02-06-06 18:15**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . No method modifications, non-conformances or analytical issues were noted.

GROUNDWATER ANALYTICAL

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Burlington, MA 01803
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www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

No 206938

| | | | |
|--|--|---|--|
| Project Name: ACTIST EES | | Firm: E. C. A. | |
| Project Number: 46705 | | Address: 444 Broadway | |
| Sampler Name: JACK LAMARINE | | City/State/Zip: Pawtucket, RI 02840 | |
| Project Manager: MACE J. HOUSE | | Telephone: 401 728 6860 | |

INSTRUCTIONS: Use separate line for each container (except replicates).

| Sampling | DATE | TIME | SAMPLE IDENTIFICATION | Matrix | | Type | | Container(s) | | Preservation | | Filtered | LABORATORY NUMBER (Lab Use Only) |
|----------|---------|------|-----------------------|-------------|------------|-------|------|--------------|--------|--------------|-------------|----------|----------------------------------|
| | | | | GROUNDWATER | WASTEWATER | OTHER | SOIL | SLURRY | NUMBER | TYPE | TEMPERATURE | | |
| | 2-13-05 | | B-1 10-12' | | | | | | | | | | |
| | | | MW-1 14-16' | | | | | | | | | | |
| | | | MW-1 14-15.2' | | | | | | | | | | |
| | | | MW-2 14-16' | | | | | | | | | | |
| | | | MW-2 0-2' | | | | | | | | | | |
| | | | MW-3 15-16' | | | | | | | | | | |
| | | | MW-3 5-7' | | | | | | | | | | |
| | | | MW-3 16-17' | | | | | | | | | | |
| | | | MW-4 16-17' | | | | | | | | | | |
| | | | MW-4 15-15.5' | | | | | | | | | | |
| | | | MW-4 5-7' | | | | | | | | | | |

ANALYSIS REQUEST

TURNAROUND

☒ STANDARD (10 Business Days)

☐ PRIORITY (5 Business Days)

☐ RUSH (RAN: Rush requires Rush Authorization Number)

☒ Please Email to: _____

☐ Please FAX to: _____

BILLING

☐ Purchase Order No.: _____

☐ Third Party Billing: _____

☐ GWA Quote: _____

Options: ☐ SOVA ☐ NPES ☐ REPAYZIE

Matrix: ☐ Solid ☐ Liquid ☐ Gas ☐ Other

Containers: ☐ 100 mL ☐ 250 mL ☐ 500 mL ☐ 1 L ☐ 2 L ☐ 4 L ☐ 6 L ☐ 10 L

Preservation: ☐ None ☐ 4°C ☐ 10°C ☐ 20°C ☐ 30°C ☐ 40°C ☐ 50°C ☐ 60°C ☐ 70°C ☐ 80°C ☐ 90°C ☐ 100°C

Analysis: ☐ Volatiles ☐ Semivolatiles ☐ Metals ☐ Inorganics ☐ Organics ☐ Other

DATA QUALITY OBJECTIVES

Regulatory Program

☐ State ☐ Federal

☐ CT ☐ ME ☐ MA ☐ NH ☐ NY ☐ RI ☐ VT

☐ Wastewater ☐ Drinking Water ☐ Wastewater ☐ Drinking Water

☐ Wastewater ☐ Drinking Water ☐ Wastewater ☐ Drinking Water

☐ Wastewater ☐ Drinking Water ☐ Wastewater ☐ Drinking Water

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required

☐ Sample Duplicate ☐ Matrix Spike ☐ Matrix Spike Duplicate

Selection of QC Sample

☐ Phase use sample: _____

REMARKS / SPECIAL INSTRUCTIONS

MA DEP MCP Data Enhancement Affirmation

☐ YES (NO MCP Data Certification required.)

☐ YES (NO MCP Drinking Water Sample included. (require collection of contingent duplicate sample. Tip blank are also required, if VOA sample collected).)

Signature: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Requisitioned by: _____ Date: 2-3-05 Time: 2:00 PM

Received by: _____ Date: 2-3-05 Time: 2:00 PM

Requisitioned by: _____ Date: 2-3-05 Time: 2:00 PM

Received by: _____ Date: 2-3-05 Time: 2:00 PM

Method of Shipment: ☐ GWA Courier ☐ Express Mail ☐ Federal Express

☐ UPS ☐ Hand

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Samples**

Category: **Metals**

Matrix: **Soil**

Units: **mg/Kg**

| <u>Sample Type</u> | <u>Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Analyzed</u> | <u>Instrument ID</u> | <u>Analyst</u> |
|--------------------|---------------|--------------------|--------------------|-----------------|-----------------|----------------------|----------------|
| LCS | EPA 6010B | MB-0788-SL | EPA 3050B | 02-08-06 08:00 | 02-08-06 13:23 | ICP-1 PE 3000 | MFP |
| LCSD | EPA 6010B | MB-0788-SL | EPA 3050B | 02-08-06 08:00 | 02-08-06 13:26 | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | | Method |
|------------|---------|--------|----------|----------|---------------|----------|----------|-----|-----------|------|-----------|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | LCS | RPD | |
| 7440-38-2 | Arsenic | 110 | 110 | 98% | 110 | 110 | 98% | 0 % | 80-120 % | 30 % | EPA 6010B |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Soil**

| | | | | | | |
|------------------------|--------------------|--------------------|-----------------|----------------------|----------------------|----------------|
| <u>Analysis Method</u> | <u>QC Batch ID</u> | <u>Prep Method</u> | <u>Prepared</u> | <u>Sample Volume</u> | <u>Instrument ID</u> | <u>Analyst</u> |
| EPA 6010B | MB-0788-SB | EPA 3050B | 02-08-06 08:00 | 0.5 g | ICP-1 PE 3000 | MFP |

| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit | DF | Analyzed | Method |
|------------|---------|---------------|-------|-------|-----------------|----|----------------|-----------|
| 7440-38-2 | Arsenic | BRL | | mg/Kg | 1 | 1 | 02-08-06 13:20 | EPA 6010B |

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT, Department of Health Services, PH-0586

Categories: Potable Water, Wastewater, Solid Waste and Soil
http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm

FLORIDA, Department of Health, Bureau of Laboratories, E87643

Categories: SDWA, CWA, RCRA/CERCLA
<http://www.floridadep.org/labs/qa/dohforms.htm>

MAINE, Department of Human Services, MA103

Categories: Drinking Water and Wastewater
<http://www.state.me.us/dhs/eng/water/Compliance.htm>

MASSACHUSETTS, Department of Environmental Protection, M-MA-103

Categories: Potable Water and Non-Potable Water
<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

NEW HAMPSHIRE, Department of Environmental Services, 202703

Categories: Drinking Water and Wastewater
<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

NEW YORK, Department of Health, 11754

Categories: Potable Water, Non-Potable Water and Solid Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

PENNSYLVANIA, Department of Environmental Protection, 68-665

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)
<http://www.dep.state.pa.us/Labs/Registered/>

RHODE ISLAND, Department of Health, 54

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage
http://www.healthri.org/labs/labsCT_MA.htm

U.S. Department of Agriculture, Soil Permit, S-53921

Foreign soil import permit

VERMONT, Department of Environmental Conservation, Water Supply Division

Category: Drinking Water
<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>