

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Phoenix

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Tel: (602)437-3340

TestAmerica Job ID: 550-82024-1

TestAmerica SDG: Nautilus Elementary School

Client Project/Site: Pb in DW / Lake Havasu Unified District

For:

Arizona Dept of Environmental Quality

1110 W. Washington St., MC5415B-1

Phoenix, Arizona 85007

Attn: David A Burchard



Authorized for release by:

5/12/2017 1:16:34 PM

Sarah Murphy, Project Manager I

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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: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|----------------|---|
| α | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| 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: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Job ID: 550-82024-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative 550-82024-1

Comments

No additional comments.

Receipt

The samples were received on 5/2/2017 11:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 23.6° C.

Receipt Exceptions

The following samples for metals were received unpreserved and were preserved upon receipt to the laboratory: 1001-1 (550-82024-1) and 1001-2 (550-82024-2). Regulatory documents require a 24-hour waiting period from the time of the addition of the acid preservative to the time of digestion.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| 550-82024-1 | 1001-1 | Water | 04/29/17 07:36 | 05/02/17 11:10 |
| 550-82024-2 | 1001-2 | Water | 04/29/17 07:40 | 05/02/17 11:10 |

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Detection Summary

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Client Sample ID: 1001-1

Lab Sample ID: 550-82024-1

| Analyte | Result | Qualifier | RL | Unit | Dil Fac | D | Method | Prep Type |
|---------|--------|-----------|------|------|---------|---|--------|-----------|
| Lead | 0.82 | | 0.50 | ppb | 1 | | 200.8 | Total/NA |

Client Sample ID: 1001-2

Lab Sample ID: 550-82024-2

| Analyte | Result | Qualifier | RL | Unit | Dil Fac | D | Method | Prep Type |
|---------|--------|-----------|------|------|---------|---|--------|-----------|
| Lead | 0.72 | | 0.50 | ppb | 1 | | 200.8 | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Client Sample ID: 1001-1

Date Collected: 04/29/17 07:36

Date Received: 05/02/17 11:10

Lab Sample ID: 550-82024-1

Matrix: Water

Method: 200.8 - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|------|---|----------------|----------------|---------|
| Lead | 0.82 | | 0.50 | ppb | | 05/03/17 07:00 | 05/11/17 14:41 | 1 |

Client Sample ID: 1001-2

Date Collected: 04/29/17 07:40

Date Received: 05/02/17 11:10

Lab Sample ID: 550-82024-2

Matrix: Water

Method: 200.8 - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|------|---|----------------|----------------|---------|
| Lead | 0.72 | | 0.50 | ppb | | 05/03/17 07:00 | 05/11/17 14:47 | 1 |

QC Sample Results

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 550-116398/1-A
Matrix: Water
Analysis Batch: 117189

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 116398

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|-----------|--------------|------|------|---|----------------|----------------|---------|
| Lead | ND | | 0.50 | ppb | | 05/03/17 07:00 | 05/11/17 14:19 | 1 |

Lab Sample ID: LCS 550-116398/3-A
Matrix: Water
Analysis Batch: 117189

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 116398

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------|-------------|------------|---------------|------|---|------|--------------|
| Lead | 100 | 97.8 | | ppb | | 98 | 85 - 115 |

Lab Sample ID: LCSD 550-116398/4-A
Matrix: Water
Analysis Batch: 117189

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 116398

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | Limit |
|---------|-------------|-------------|----------------|------|---|------|--------------|-----|-------|
| Lead | 100 | 97.3 | | ppb | | 97 | 85 - 115 | 0 | 20 |

Lab Sample ID: 550-81916-G-1-B MS
Matrix: Water
Analysis Batch: 117189

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 116398

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Lead | 3.4 | | 100 | 97.3 | | ppb | | 94 | 70 - 130 |

Lab Sample ID: 550-81916-G-1-C MSD
Matrix: Water
Analysis Batch: 117189

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 116398

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | Limit |
|---------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-------|
| Lead | 3.4 | | 100 | 98.9 | | ppb | | 96 | 70 - 130 | 2 | 20 |

QC Association Summary

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Metals

Prep Batch: 116398

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 550-82024-1 | 1001-1 | Total/NA | Water | 200.8 | |
| 550-82024-2 | 1001-2 | Total/NA | Water | 200.8 | |
| MB 550-116398/1-A | Method Blank | Total/NA | Water | 200.8 | |
| LCS 550-116398/3-A | Lab Control Sample | Total/NA | Water | 200.8 | |
| LCSD 550-116398/4-A | Lab Control Sample Dup | Total/NA | Water | 200.8 | |
| 550-81916-G-1-B MS | Matrix Spike | Total/NA | Water | 200.8 | |
| 550-81916-G-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | 200.8 | |

Analysis Batch: 117189

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 550-82024-1 | 1001-1 | Total/NA | Water | 200.8 | 116398 |
| 550-82024-2 | 1001-2 | Total/NA | Water | 200.8 | 116398 |
| MB 550-116398/1-A | Method Blank | Total/NA | Water | 200.8 | 116398 |
| LCS 550-116398/3-A | Lab Control Sample | Total/NA | Water | 200.8 | 116398 |
| LCSD 550-116398/4-A | Lab Control Sample Dup | Total/NA | Water | 200.8 | 116398 |
| 550-81916-G-1-B MS | Matrix Spike | Total/NA | Water | 200.8 | 116398 |
| 550-81916-G-1-C MSD | Matrix Spike Duplicate | Total/NA | Water | 200.8 | 116398 |

Lab Chronicle

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Client Sample ID: 1001-1

Date Collected: 04/29/17 07:36

Date Received: 05/02/17 11:10

Lab Sample ID: 550-82024-1

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 200.8 | | | 116398 | 05/03/17 07:00 | SGO | TAL PHX |
| Total/NA | Analysis | 200.8 | | 1 | 117189 | 05/11/17 14:41 | TEK | TAL PHX |

Client Sample ID: 1001-2

Date Collected: 04/29/17 07:40

Date Received: 05/02/17 11:10

Lab Sample ID: 550-82024-2

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 200.8 | | | 116398 | 05/03/17 07:00 | SGO | TAL PHX |
| Total/NA | Analysis | 200.8 | | 1 | 117189 | 05/11/17 14:47 | TEK | TAL PHX |

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

Laboratory: TestAmerica Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | EPA Region | Identification Number | Expiration Date |
|-----------|---------------|------------|-----------------------|-----------------|
| Arizona | State Program | 9 | AZ0728 | 06-09-17 * |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Phoenix

Method Summary

Client: Arizona Dept of Environmental Quality
Project/Site: Pb in DW / Lake Havasu Unified District

TestAmerica Job ID: 550-82024-1
SDG: Nautilus Elementary School

| Method | Method Description | Protocol | Laboratory |
|--------|--------------------|----------|------------|
| 200.8 | Metals (ICP/MS) | EPA | TAL PHX |

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

82024

Collection Log
for experienced sample collectors

Complete copy of this form for each sample collected. Your drinking water sample cannot be tested unless a copy of this form is shipped to the lab with each sample. In addition, the sample cannot be tested unless the Sample Identification Number matches the number on the sample container label.

- ☒ Check this box to confirm that water had not been used at this tap or other taps in the area for 6 hours and no flushing was done prior to sampling

| | |
|---|-------------------------------|
| Name of School District | LHUSD |
| School Name | NAUTILUS |
| Building (name/number) | 1001 |
| Type of Fixture (tap, drinking fountain etc.) | DRINKING FOUNTAIN |
| Location of Fixture (example, room number) | BETWEEN ROOM 119 AND ROOM 121 |
| Sample Identification Number (<u>Write the number here and on sample container</u>) | 1001-1 |
| Date of Collection | 4-29-17 |
| Time of Collection | 7:36 AM |
| Printed Name of Sample Collector | CHRIS PROULX |
| Signature Sample Collector | <i>Chris Proulx</i> |

550-82024 Chain of Custody



Notes Sample collector:

| | |
|---|--|
| For Lab use only | |
| Analyze this drinking water sample for lead | |
| Date and Time Lab received | |
| Signature | |
| Notes: | |

For relinquishing samples upon delivery to labs only

Relinquished date and signature

[Signature] 11:10 5/2/17 (23.6°) no ice


These samples were collected for lead screening purposes only and cannot be used for compliance.

Collection Log

for experienced sample collectors

Complete copy of this form for each sample collected. Your drinking water sample cannot be tested unless a copy of this form is shipped to the lab with each sample. In addition, the sample cannot be tested unless the Sample Identification Number matches the number on the sample container label.

- ☒ Check this box to confirm that water had not been used at this tap or other taps in the area for 6 hours and no flushing was done prior to sampling

| | |
|---|--|
| Name of School District | LIVEST |
| School Name | NAUTICUS |
| Building (name/number) | 1001 |
| Type of Fixture (tap, drinking fountain etc.) | FOUNTAIN |
| Location of Fixture (example, room number) | BETWEEN ROOM 606 AND 605 |
| Sample Identification Number (<u>Write the number here and on sample container</u>) | 1001-2 |
| Date of Collection | 4-29-17 |
| Time of Collection | 7:40 |
| Printed Name of Sample Collector | CHRIS |
| Signature Sample Collector |  |

| |
|-------------------------|
| Notes Sample collector: |
|-------------------------|

| | |
|---|--|
| For Lab use only | |
| Analyze this drinking water sample for lead | |
| Date and Time Lab received | |
| Signature | |
| Notes: | |

For relinquishing samples upon delivery to labs only

Relinquished date and signature _____

These samples were collected for lead screening purposes only and cannot be used for compliance.

Login Sample Receipt Checklist

Client: Arizona Dept of Environmental Quality

Job Number: 550-82024-1

SDG Number: Nautilus Elementary School

Login Number: 82024

List Number: 1

Creator: Vilaboy, Monica

List Source: TestAmerica Phoenix

| Question | Answer | Comment |
|--|--------|---|
| Radioactivity wasn't checked or is \leq background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | False | Thermal preservation not required. |
| 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 containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | 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 | |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | Check done at department level as required. |