| | |
|---|---|
| **From:** | Rolfes, Sarah |
| **To:** | sfinley@ecps.org |
| **Cc:** | Pope, Janet |
| **Subject:** | Carrie Gosch Follow-up |
| **Date:** | Wednesday, October 31, 2018 9:32:00 AM |
| **Attachments:** | Scan Oct 31, 2018 at 9.30 AM.PDF |

---

Ms. Finley,

As discussed yesterday, EPA sampled the Carrie Gosch property in 2015. The results of the soil sampling indicate that one quadrant of the property is above EPA's cleanup standards for lead. That quadrant is noted as QC on the attached map and is located in the southeast portion of the property. EPA sampled in six inch intervals and identified the 18-24 inch layer of soil as above our cleanup standards. The top 18 inches of soil in quadrant QC are below are cleanup standards. EPA is evaluating the future use of the school facility and determining the proper response action. I will plan to follow-up with you next week. Please let me know if you have any questions.

Thanks,

Sarah Rolfes
Remedial Project Manager
Superfund Division
USEPA Region 5
Email: rolfes.sarah@epa.gov
Phone: 312-886-6551

**From:** Rolfes, Sarah
**To:** Paige McNulty
**Cc:** Pope, Janet
**Subject:** Former Carrie Gosch: Future Use/Remediation
**Date:** Monday, March 19, 2018 5:42:00 PM

---

Dr. McNulty,
When we met briefly a couple of weeks ago concerning possible office space for EPA for the 2018 construction season, we mentioned setting up a meeting to discuss the future use of the former Carrie Gosch school. Please let me know what your availability is in the next couple of weeks and Janet and myself will plan to come out and discuss future land use.
Thanks very much,
Sarah Rolfes
Remedial Project Manager
Superfund Division
USEPA Region 5
Email: rolfes.sarah@epa.gov
Phone: 312-886-6551

| | |
|---|---|
| **From:** | Rolfes, Sarah |
| **To:** | lfranciski@ecps.org |
| **Cc:** | Drexler, Timothy |
| **Subject:** | FW: Planned use of the Carrie Gosch Grade School Property |
| **Date:** | Wednesday, December 13, 2017 11:13:00 AM |
| **Attachments:** | USS_Lead_Carrie_Gosch_ltr_120717.pdf |

---

Lenny,
As discussed, please find the letter to Dr. McNulty attached. Please also let us know the status of the board approval for the future use plans for the school. Feel free to contact me with any questions.
Thank you very much!
Sarah Rolfes
Remedial Project Manager
Superfund Division
USEPA Region 5
Email: rolfes.sarah@epa.gov
Phone: 312-886-6551

---

**From:** Drexler, Timothy
**Sent:** Thursday, December 7, 2017 5:20 PM
**To:** 'pmcnulty@ecps.org' <pmcnulty@ecps.org>
**Cc:** Rolfes, Sarah <Rolfes.Sarah@epa.gov>
**Subject:** Planned use of the Carrie Gosch Grade School Property
Dr. McNulty: Following up on our discussion in November, attached is a letter from EPA signifying that we agree with the school district planned use of the Carrie Gosch Grade School and that EPA will not need to excavate soil. A hard copy will follow.
Please contact me if you have any questions.
Sincerely,
Tim Drexler

**From:** Rolfes, Sarah
**To:** Paige McNulty
**Cc:** Pope, Janet
**Subject:** RE: Former Carrie Gosch: Future Use/Remediation
**Date:** Tuesday, April 10, 2018 11:12:00 AM

---

Good morning Dr. McNulty,
When we met briefly a couple of weeks ago concerning possible office space for EPA for the 2018 construction season, we mentioned setting up a meeting to discuss the future use of the former Carrie Gosch school. Please let me know what your availability is in the next couple of weeks and Janet and myself will plan to come out and discuss future land use.
Thanks very much,
Sarah Rolfes
Remedial Project Manager
Superfund Division
USEPA Region 5
Email: rolfes.sarah@epa.gov
Phone: 312-886-6551

**From:** Rolfes, Sarah
**To:** Paige McNulty
**Cc:** Drexler, Timothy; Alcamo, Thomas; Pope, Janet
**Subject:** RE: Planned use of the Carrie Gosch Grade School Property
**Date:** Monday, February 12, 2018 10:51:00 AM

---

Good morning Dr. McNulty,
I wanted to touch base with you following our meeting in January concerning the planned use of the Carrie Gosch Grade School Property. During the meeting, we had discussed having an additional meeting towards the end of February concerning the design plans. Do you have any potential dates in mind or any progress information to share?
Please let me know if you have any questions.
Thanks so much!
Sarah Rolfes
Remedial Project Manager
Superfund Division
USEPA Region 5
Email: rolfes.sarah@epa.gov
Phone: 312-886-6551

---

**From:** Paige McNulty [mailto:pmcnulty@ecps.org]
**Sent:** Monday, January 22, 2018 1:06 PM
**To:** Rolfes, Sarah <Rolfes.Sarah@epa.gov>
**Cc:** Drexler, Timothy <drexler.timothy@epa.gov>; Alcamo, Thomas <alcamo.thomas@epa.gov>
**Subject:** Re: Planned use of the Carrie Gosch Grade School Property
Great, thx

Sent from my iPhone

On Jan 22, 2018, at 12:56 PM, Rolfes, Sarah <Rolfes.Sarah@epa.gov> wrote:

> Paige,
> We are still on for this week, as EPA has been directed to continue work as usual for the remainder of the week. Tom and I will see you Thursday.
> Thanks,
> Sarah
>
> ---
>
> **From:** Paige McNulty [mailto:pmcnulty@ecps.org]
> **Sent:** Monday, January 22, 2018 12:53 PM
> **To:** Rolfes, Sarah <Rolfes.Sarah@epa.gov>
> **Cc:** Drexler, Timothy <drexler.timothy@epa.gov>; Alcamo, Thomas <alcamo.thomas@epa.gov>
> **Subject:** Re: Planned use of the Carrie Gosch Grade School Property
> Are we still on for this week? Just checking because of the shut down.
> Thx,
> Paige Mcnulty
>
> Sent from my iPhone

On Jan 19, 2018, at 8:27 AM, Rolfes, Sarah <Rolfes.Sarah@epa.gov> wrote:

> Paige,
> We will see you then.
> Thanks,
> Sarah
>
> ---
>
> **From:** Paige McNulty [mailto:pmcnulty@ecps.org]
> **Sent:** Thursday, January 18, 2018 6:24 PM
> **To:** Rolfes, Sarah <Rolfes.Sarah@epa.gov>
> **Cc:** Drexler, Timothy <drexler.timothy@epa.gov>; Alcamo, Thomas <alcamo.thomas@epa.gov>
> **Subject:** Re: Planned use of the Carrie Gosch Grade School Property
> Hello,
> We can meet the 25th at 12:30 in my office.
> Thank you,
> Paige Mcnulty
>
> Sent from my iPhone
>
> On Jan 17, 2018, at 2:20 PM, Rolfes, Sarah <Rolfes.Sarah@epa.gov> wrote:
>
>> Hi Paige,
>> Tom Alcamo and I will be available next Thursday, January 25 for a meeting. We are currently available any time during the day. Please let us know what time will work best.
>> Thanks,
>> Sarah Rolfes
>> Remedial Project Manager
>> Superfund Division
>> USEPA Region 5
>> Email: rolfes.sarah@epa.gov
>> Phone: 312-886-6551
>>
>> ---
>>
>> **From:** Paige McNulty [mailto:pmcnulty@ecps.org]
>> **Sent:** Wednesday, January 17, 2018 12:36 PM
>> **To:** Drexler, Timothy <drexler.timothy@epa.gov>
>> **Cc:** Rolfes, Sarah <Rolfes.Sarah@epa.gov>
>> **Subject:** RE: Planned use of the Carrie Gosch Grade School Property
>> Hello,
>> I need to set up a meeting in the near future with my bus barn construction management team. They have some questions in regards to the lead that I am unable to answer. Please contact me at 219-218-0751.

Thank you,
Paige McNulty

---

**From:** Drexler, Timothy [mailto:drexler.timothy@epa.gov]
**Sent:** Thursday, December 07, 2017 5:20 PM
**To:** Paige McNulty
**Cc:** Rolfes, Sarah
**Subject:** Planned use of the Carrie Gosch Grade School Property

Dr. McNulty: Following up on our discussion in November, attached is a letter from EPA signifying that we agree with the school district planned use of the Carrie Gosch Grade School and that EPA will not need to excavate soil. A hard copy will follow.

Please contact me if you have any questions.

Sincerely,

Tim Drexler

**From:** Pope, Janet
**To:** Paige McNulty; Rolfes, Sarah; Rodriguez, Charles
**Subject:** RE: Upcoming remediation of Carrie Gosch Property
**Date:** Tuesday, May 21, 2019 11:41:59 AM

---

Hi Paige,
We will have the flyer ready next week. We will go door to door informing residents a couple of weeks before remediation starts. I will forward you a copy of the flyer when it is done.
Janet L. Pope
Community Involvement Coordinator
US EPA, Region 5
312-353-0628

---

**From:** Paige McNulty <pmcnulty@ecps.org>
**Sent:** Tuesday, May 21, 2019 11:31 AM
**To:** Pope, Janet <Pope.Janet@epa.gov>
**Subject:** Re: Upcoming remediation of Carrie Gosch Property

Hi Janet,

Have you had a chance to get the flyer done for the church and the school regarding the remediation of old carrie gosch?

Thanks,

Paige McNulty

---

**From:** Pope, Janet <Pope.Janet@epa.gov>
**Sent:** Tuesday, May 7, 2019 1:04:02 PM
**To:** Paige McNulty
**Cc:** Rolfes, Sarah; Shaunna D. Finley; Vince Balbo
**Subject:** RE: Upcoming remediation of Carrie Gosch Property

****CAUTION** EXTERNAL EMAIL:** This email originated from outside of SCEC. Do not click links, open attachments, or reply unless you recognize the sender and know the content is safe.

Thank you see you then.
Janet L. Pope
Community Involvement Coordinator
US EPA, Region 5
312-353-0628

---

**From:** Paige McNulty <pmcnulty@ecps.org>
**Sent:** Tuesday, May 07, 2019 12:38 PM
**To:** Pope, Janet <Pope.Janet@epa.gov>
**Cc:** Rolfes, Sarah <Rolfes.Sarah@epa.gov>; Shaunna D. Finley <sfinley@ecps.org>; Vince Balbo <vbalbo@ecps.org>
**Subject:** Re: Upcoming remediation of Carrie Gosch Property
I am available at 11:00 on Thursday.
Thx,

Paige McNulty

Sent from my iPhone

On May 7, 2019, at 12:05 PM, Pope, Janet <Pope.Janet@epa.gov> wrote:

> ****CAUTION** EXTERNAL EMAIL:** This email originated from outside of SCEC. Do not click links, open attachments, or reply unless you recognize the sender and know the content is safe.
>
> Hi Paige,
> We would like to set up a meeting with you this Thursday to discuss the upcoming sampling and to notify you that the remediation at the Carrie Gosch property will take place this summer but a pre-con meeting at the site needs to occur before remediation.
>
> Please let us know what time you are available on Thursday, May 9th, to meet. Again, we will need to meet at the Former Carrie Gosch Elementary School.
> If you have any questions please call me at the number below or Sarah Rolfes at 312-886-6551.
> Janet L. Pope
> Community Involvement Coordinator
> US EPA, Region 5
> 312-353-0628

**From:** Drexler, Timothy
**To:** Jamila Jalouga; Lenny Franciski
**Cc:** Rolfes, Sarah
**Subject:** RE: USS Lead Site: Remediation of Carrie Gosch Grade School
**Date:** Tuesday, August 08, 2017 2:21:03 PM

---

Thanks, Ms. Jalouga: We will be conducting a "pre-bid" meeting with prospective subcontractors at Carrie Gosch School tomorrow at noon in the parking lot, which is near the work area. No one from the City school system needs to be there unless they would like to witness the meeting. The meeting gives subcontractors an opportunity to see and walk the remediation area before they bid on the project. Once a subcontractor is selected, probably sometime in September, we would like to set up a meeting with school system representatives to go over how work will be conducted and to discuss how you would like the property restored. We are currently assuming that, at the conclusion of work, sod will be placed on the excavated areas, all of the existing trees will be retained, and any bushes removed will be replaced with like bushes.
We may still be able to perform work this year. If not, the work will be conducted in the Spring when weather permits. Please let me know if you have any questions in the meantime. I will keep you updated on our progress.
-Tim Drexler

---

**From:** Jamila Jalouga [mailto:jjalouga@ecps.org]
**Sent:** Tuesday, August 08, 2017 12:50 PM
**To:** Drexler, Timothy <drexler.timothy@epa.gov>
**Cc:** Lenny Franciski <lfranciski@ecps.org>
**Subject:** RE: USS Lead Site: Remediation of Carrie Gosch Grade School
**Importance:** High
Hello Mr. Drexler,
The people of contact for this remediation will be Superintendent Dr. McNulty and Mr. Lenny Franciski the Director of Facilities. Mr. Franciski is copied in this email. Please let me know if I can be of further assistance.
Thank you,
Jamie Jalouga
Administrative Assistant to the Superintendent
School City of East Chicago
1401 E. 144th Street
East Chicago, IN 46312
Phone: 219-391-4100 Ext. 12334
Fax: 219-391-4126
www.scec.k12.in.us

---

**From:** Drexler, Timothy [mailto:drexler.timothy@epa.gov]
**Sent:** Tuesday, August 08, 2017 8:43 AM
**To:** Jamila Jalouga
**Cc:** Rolfes, Sarah
**Subject:** USS Lead Site: Remediation of Carrie Gosch Grade School
Hi Ms. Jalouga: EPA is targeting soil remediation of the Carrie Gosch Grade School for this Fall, if possible. We will be excavating to a depth of 24 inches in the SE portion of the school adjacent to the parking lot. I'd like to have the contact information for representatives that we would work with for the restoration of the property. Could you please put me in contact with those folks?

Thanks for your help,
-Tim Drexler,
Remedial Project Manager

## nal Design

## ample Data (concentrations shown in milligrams per kilogram - mg/kg)

455 E 148th St

| epth | Front - Lead | Front - Arsenic | QA - Lead | QA - Arsenic | QB - Lead | QB - Arsenic | QC - Lead | QC - Arsenic | QD - Lead | QD - Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|
| -6 in | 75 | 10 U | 72 | 11 U | 44 | 9 U | 350 | 11 | 62 | 11 U |
| 12 in | 43 | 9 U | 73 | 15 | 71 | 10 U | 230 | 8 | 87 | 11 U |
| -18 in | Native Sand (NS) | Native Sand (NS) | 56 | 9 U | 85 | 12 U | 236 | 17 U | 40 | 9 U |
| -24 in | Native Sand (NS) | Native Sand (NS) | 47 | 9 U | 78 | 11 U | 810 J | 11 | Native Sand (NS) | Native Sand (NS) |
| -30 in | Native Sand (NS) | Native Sand (NS) | 51 | 9 U | 478 | 55 | 282 | 20 U | Native Sand (NS) | Native Sand (NS) |

Estimated / U - Non-Detect / NS - Not Sampled

## Notes

### Sampling Notes

QA: 1: native sand @ 11" 2: native sand @ 12" 3: native sand @ 10" 4: 30"+ 5: native sand @ 20"
QB: 1: native sand @ 16" 2: native sand @ 26" 3: native sand @ 9" 4: refusal @ 20" 5: refusal @ 28"
QC: 1: native sand @ 9" 2: native sand @ 13" 3: 30"+ 4: refusal @ 24" 5: refusal @ 21"
QD: 1: native sand @ 13" 2: native sand @ 10" 3: refusal @ 18" 4: native sand @ 12" 5: native sand @ 18"
Front: 1: native sand @ 12" 2: native sand @ 11" 3: native sand @ 10" 4: native sand @ 11" 5: native sand @ 12"

### Design Notes

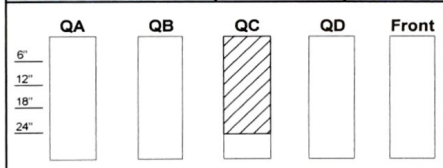
Quadrant A requires no remediation.
Quadrant B requires no remediation.
Excavation depth is 24 inches for quadrant C.
Quadrant D requires no remediation.
Front yard requires no remediation.

**Property Zoning Category:**
**Residential**

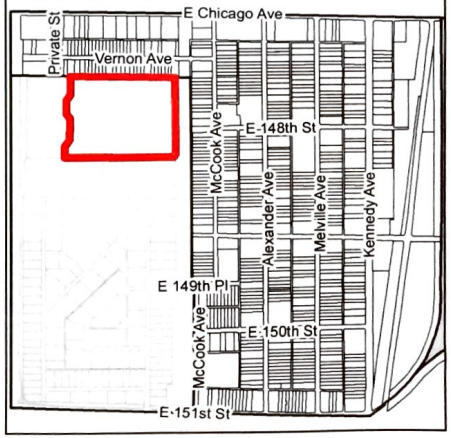
Data from samples collected at other locations at the site suggest soils with lead concentrations greater than 2,000 mg/kg may exceed TCLP criteria.

Date of Aerial Image: February, 2013

## Cross Sections (not to scale)




## Zone 2 - Property Location Map




## Design Information

**Access agreement:**

**Date sampled:**
QA: 5/1/2015 9:15:00 AM
QB: 5/1/2015 9:45:00 AM
QC: 5/1/2015 11:0
QD: 5/1/2015 8:30:
Front: 8/19/2015

**Restoration agreement:**

### Quantities

**Total Mechanical Excavation Volume:** 354
**Total Manual Excavation Volume:** 7

| Type | Units | QA | QB | QC | QD |
|---|---|---|---|---|---|
| Mechanical Excav. Vol. | cu yd | 0 | 0 | 3,549 | 0 |
| Manual Excav. Vol. | cu yd | 0 | 0 | 71 | 0 |
| Compacted Backfill Vol. | cu yd | 0 | 0 | 2,662 | 0 |
| Compacted Topsoil Vol. | cu yd | 0 | 0 | 958 | 0 |
| Sod Area | sq yd | 0 | 0 | 5,961 | 0 |
| Basal Barrier Needed | | No | No | No | No |

## Legend

- Property Boundary
- Yard Boundary
- Area to be Remediated
- Tree (Trunk Diameter in Inches)
- Tree Canopy
- Bushes
- Utility Pole / Fire Hydrant

## Revisions/Review

| # | Date | Drawn By | QC'd By | Date |
|---|---|---|---|---|
| | | | | |

US SMELTER & LEAD REFINERY
LAKE COUNTY, EAST CHICAGO, INDIANA

455 E 148th St
Parcel # 450328351043000024
Property ID: 84

EPA REGION 5 RAC 2 | Date Created: 3/1/2017 | Drawing #:

SulTRAC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

December 7, 2017

Dr. Paige McNulty
Superintendent, School City of East Chicago
1401 East 144th Street
East Chicago, IN 46312

Dear Dr. McNulty:

Thank you for meeting with Sarah Rolfes and me on Monday, November 13, 2017, to discuss your district's proposed re-use plans for the former Carrie Gosch School property at 455 East 148th Street, East Chicago, Indiana. As you described to us, the planned future uses of the school, if approved by your Board, will include a bus barn, a 911 call-in center, and other similar commercial or municipal uses. You also stated that, if approved, you would like to begin construction of the bus barn in March 2018. This letter acknowledges that EPA does not object to these proposed future uses of the former Carrie Gosch School property and should the board approve these planned future uses of the property, EPA will not require any further soil remediation at the property.

As you may know, EPA has been remediating adjacent residential properties at the USS Lead Superfund site since 2016. We had also planned to remediate a portion of the former Carrie Gosch School property in Spring 2018, assuming a future residential use of the property, because lead concentrations at an 18-inch depth exceeded our residential cleanup value. However, since all of the future uses planned for the school property are now commercial/industrial, our planned remediation of the property is now not required. EPA arrived at this decision because the concentrations of lead and arsenic in the top two feet of soil at the school are at or below levels that would require remediation of a commercial/industrial property. EPA may require that the School District place institutional controls on the property to ensure that any future uses of the property remain protective of human health and the environment.

I trust that this decision will eliminate any scheduling conflicts and associated delays for your planned construction projects. If you have any questions, please feel free to contact Sarah Rolfes at (312) 886-6551 or myself at (312) 353-4367.

Sincerely,

Timothy Drexler
Remedial Project Manager

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (100% Post Consumer)

August 18, 2016

Kristina Behnke
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois

**Subject:** **Data Validation Report**
**USS Lead Indoor Dust**
**EPA Contract No. EP-S5-13-01**
**Technical Direction Document No. S05-0014-1608-003**
**Document Tracking No. 1026**

Dear Ms. Behnke:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for four dust samples collected at the USS Lead Indoor Dust site. The samples were collected August 12, 2016 and were analyzed for course and fine fractions of arsenic and lead and total lead by calculation by ALS Environmental Laboratories. Tetra Tech received the data on August 17, 2016.

Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

No rejection or qualification of results was required for this data set. The data is usable as reported by the laboratory.

If you have any questions regarding this data validation report, please call me at (662) 681-5727.

Sincerely,

Jessica A. Vickers

Jessica A. Vickers
START Chemist

Enclosure
cc: Kevin Scott, Tetra Tech Program Manager
Robert Kondreck, Tetra Tech Project Manager
TDD File

Tetra Tech, Inc.
1 South Wacker Dr. Suite 3700, Chicago, IL 60606
Tel 312.201.7479 | Fax 312.201.0031
www.tetratech.com

# ATTACHMENT 1

# DATA VALIDATION REPORT
# ALS REPORT NO. 1608797

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1026 | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers August 18, 2016 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III 18 August 2016 |
| **Laboratory Report No.** | 1608797 | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Four dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data set. The data is usable as reported by the laboratory.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | The method blank contained the course fraction of lead below the reporting limit (RL); however, no qualifications were applied because the associated results were greater than ten times the blank value. |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | All four samples were analyzed at 10-fold dilutions for the coarse fractions of arsenic and lead. |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Results between the method detection limit and the RL were qualified as estimated (J) by the laboratory. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 1608797

| Lab_Location_ID | Analyte | result | Lab_qual | Result_units | MDL | RL | Val_result | Val_qual |
|---|---|---|---|---|---|---|---|---|
| USSL-CGS-FE-081216 | Lead (total - calculated) | 25 | | mg/Kg-dry | 0.006 | 0.75 | 25 | |
| USSL-CGS-FE-081216 | Arsenic (coarse fraction) | 3.9 | | mg/Kg-dry | 0.037 | 3.9 | 3.9 | |
| USSL-CGS-FE-081216 | Lead (coarse fraction) | 18 | | mg/Kg-dry | 0.004 | 3.9 | 18 | |
| USSL-CGS-FE-081216 | Arsenic (fine fraction) | 4.2 | | mg/Kg-dry | 0.037 | 2.4 | 4.2 | |
| USSL-CGS-FE-081216 | Lead (fine fraction) | 68 | | mg/Kg-dry | 0.004 | 2.4 | 68 | |
| USSL-CGS-FES-081216 | Lead (total - calculated) | 17 | | mg/Kg-dry | 0.006 | 0.75 | 17 | |
| USSL-CGS-FES-081216 | Arsenic (coarse fraction) | 5.7 | J | mg/Kg-dry | 0.037 | 6.1 | 5.7 | J |
| USSL-CGS-FES-081216 | Lead (coarse fraction) | 12 | | mg/Kg-dry | 0.004 | 6.1 | 12 | |
| USSL-CGS-FES-081216 | Arsenic (fine fraction) | 4 | | mg/Kg-dry | 0.037 | 3.1 | 4.0 | |
| USSL-CGS-FES-081216 | Lead (fine fraction) | 39 | | mg/Kg-dry | 0.004 | 3.1 | 39 | |
| USSL-CGS-Other1-081216 | Lead (total - calculated) | 140 | | mg/Kg-dry | 0.006 | 0.75 | 140 | |
| USSL-CGS-Other1-081216 | Arsenic (coarse fraction) | 2.9 | J | mg/Kg-dry | 0.037 | 12 | 2.9 | J |
| USSL-CGS-Other1-081216 | Lead (coarse fraction) | 180 | | mg/Kg-dry | 0.004 | 12 | 180 | |
| USSL-CGS-Other1-081216 | Arsenic (fine fraction) | 4.2 | | mg/Kg-dry | 0.037 | 1.5 | 4.2 | |
| USSL-CGS-Other1-081216 | Lead (fine fraction) | 87 | | mg/Kg-dry | 0.004 | 1.5 | 87 | |
| USSL-CGS-RES-081216 | Lead (total - calculated) | 51 | | mg/Kg-dry | 0.006 | 0.75 | 51 | |
| USSL-CGS-RES-081216 | Arsenic (coarse fraction) | 3.9 | J | mg/Kg-dry | 0.037 | 8.3 | 3.9 | J |
| USSL-CGS-RES-081216 | Lead (coarse fraction) | 43 | | mg/Kg-dry | 0.004 | 8.3 | 43 | |
| USSL-CGS-RES-081216 | Arsenic (fine fraction) | 3.5 | J | mg/Kg-dry | 0.037 | 5.6 | 3.5 | J |
| USSL-CGS-RES-081216 | Lead (fine fraction) | 110 | | mg/Kg-dry | 0.004 | 5.6 | 110 | |

September 1, 2016

Kristina Behnke
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois

**Subject:** **Data Validation Reports**
**USS Lead Indoor Dust**
**EPA Contract No. EP-S5-13-01**
**Technical Direction Document No. S05-0014-1608-003**
**Document Tracking No. 1052**

Dear Ms. Behnke:

Tetra Tech Inc. (Tetra Tech) is submitting these Data Validation Reports for 46 dust samples collected at the USS Lead Indoor Dust site. The samples were collected on August 23 through 25, 2016 and were analyzed for course and fine fractions of arsenic and lead and total lead by calculation by ALS Environmental Laboratories. Tetra Tech received the data on August 31, 2016.

Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

If you have any questions regarding these data validation reports, please call me at (662) 681-5727.

Sincerely,

Jessica A. Vickers
START Chemist

Enclosure
cc: Kevin Scott, Tetra Tech Program Manager
Robert Kondreck, Tetra Tech Project Manager
TDD File

Tetra Tech, Inc.
1 South Wacker Dr. Suite 3700, Chicago, IL 60606
Tel 312.201.7479 | Fax 312.201.0031
www.tetratech.com

# ATTACHMENT 1

# DATA VALIDATION REPORTS
# ALS REPORT NOS. [redacted] AND 16081488

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1052A | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers August 31, 2016 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III 1 September 2016 |
| **Laboratory Report No.** | [redacted] | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Sixteen dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16081329

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16081329

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16081329

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1052B | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers August 31, 2016 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III 1 September 2016 |
| **Laboratory Report No.** | [redacted] | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Fourteen dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY

ALS ENVIRONMENTAL REPORT NO. 16081411

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
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| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
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USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16081411

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USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16081411

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
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# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1052C | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers August 31, 2016 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III 1 September 2016 |
| **Laboratory Report No.** | 16081488 | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Sixteen dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | Continuing calibration and method blanks contained the fine fraction of lead below the reporting limit (RL); however, no qualifications were applied because the associated results were greater than ten times the blank value. |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Note: The NFG limits of 70 to 130 percent were used in lieu of the laboratory limits of 80 to 120 percent.<br>One LCSD recovery was below the acceptance limit for the coarse fraction of arsenic; however, no qualification was applied because the other LCSD recovery and both LCS recoveries with within criteria. |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted]<br>USSL-CGS-MO-082516, and USSL-CGS-SO-082516 were analyzed at 10-fold dilutions for the coarse fractions of arsenic and lead.<br>USSL-CGS-AE-082516 was analyzed at 10-fold dilutions for the coarse and fine fractions of arsenic and lead. |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Results between the method detection limit and the RL were qualified as estimated (J) by the laboratory. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY

ALS ENVIRONMENTAL REPORT NO. 16081488

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| USSL-CGS-AE-082516 | Lead (total - calculated) | 78 | | mg/Kg-dry | 0.006 | 0.75 | 78 | |
| USSL-CGS-AE-082516 | Arsenic (coarse fraction) | 2.4 | J | mg/Kg-dry | 0.037 | 3.7 | 2.4 | J |
| USSL-CGS-AE-082516 | Lead (coarse fraction) | 63 | | mg/Kg-dry | 0.004 | 3.7 | 63 | |
| USSL-CGS-AE-082516 | Arsenic (fine fraction) | 3.6 | J | mg/Kg-dry | 0.037 | 7.8 | 3.6 | J |
| USSL-CGS-AE-082516 | Lead (fine fraction) | 110 | | mg/Kg-dry | 0.004 | 7.8 | 110 | |
| USSL-CGS-CE-082516 | Lead (total - calculated) | 4.6 | | mg/Kg-dry | 0.006 | 0.75 | 4.6 | |
| USSL-CGS-CE-082516 | Arsenic (coarse fraction) | 1 | J | mg/Kg-dry | 0.037 | 1.5 | 1.0 | J |
| USSL-CGS-CE-082516 | Lead (coarse fraction) | 3.6 | | mg/Kg-dry | 0.004 | 1.5 | 3.6 | |
| USSL-CGS-CE-082516 | Arsenic (fine fraction) | 5.9 | J | mg/Kg-dry | 0.037 | 68 | 5.9 | J |
| USSL-CGS-CE-082516 | Lead (fine fraction) | 52 | J | mg/Kg-dry | 0.004 | 68 | 52 | J |
| USSL-CGS-MO-082516 | Lead (total - calculated) | 9 | | mg/Kg-dry | 0.006 | 0.75 | 9.0 | |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16081488

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | result | result_qualifier |
|---|---|---|---|---|---|---|---|---|
| USSL-CGS-MO-082516 | Arsenic (coarse fraction) | 2.2 | J | mg/Kg-dry | 0.037 | 20 | 2.2 | J |
| USSL-CGS-MO-082516 | Lead (coarse fraction) | 5.2 | J | mg/Kg-dry | 0.004 | 20 | 5.2 | J |
| USSL-CGS-MO-082516 | Arsenic (fine fraction) | 2.8 | J | mg/Kg-dry | 0.037 | 5 | 2.8 | J |
| USSL-CGS-MO-082516 | Lead (fine fraction) | 19 | | mg/Kg-dry | 0.004 | 5 | 19 | |
| USSL-CGS-SHE-082516 | Lead (total - calculated) | 16 | | mg/Kg-dry | 0.006 | 0.75 | 16 | |
| USSL-CGS-SHE-082516 | Arsenic (coarse fraction) | 1.4 | J | mg/Kg-dry | 0.037 | 5.9 | 1.4 | J |
| USSL-CGS-SHE-082516 | Lead (coarse fraction) | 13 | | mg/Kg-dry | 0.004 | 5.9 | 13 | |
| USSL-CGS-SHE-082516 | Arsenic (fine fraction) | 3.7 | J | mg/Kg-dry | 0.037 | 34 | 3.7 | J |
| USSL-CGS-SHE-082516 | Lead (fine fraction) | 35 | | mg/Kg-dry | 0.004 | 34 | 35 | |
| USSL-CGS-SO-082516 | Lead (total - calculated) | 79 | | mg/Kg-dry | 0.006 | 0.75 | 79 | |
| USSL-CGS-SO-082516 | Arsenic (coarse fraction) | 21 | J | mg/Kg-dry | 0.037 | 160 | 21 | J |
| USSL-CGS-SO-082516 | Lead (coarse fraction) | 100 | J | mg/Kg-dry | 0.004 | 160 | 100 | J |
| USSL-CGS-SO-082516 | Arsenic (fine fraction) | 5.1 | J | mg/Kg-dry | 0.037 | 16 | 5.1 | J |
| USSL-CGS-SO-082516 | Lead (fine fraction) | 54 | | mg/Kg-dry | 0.004 | 16 | 54 | |

October 13, 2016

Kristina Behnke
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois

**Subject:** **Data Validation Reports**
**USS Lead Indoor Dust**
**EPA Contract No. EP-S5-13-01**
**Technical Direction Document No. S05-0014-1608-003**
**Document Tracking No. 1124-R**

Dear Ms. Behnke:

Tetra Tech Inc. (Tetra Tech) is re-submitting these Data Validation Reports for 37 dust samples collected at the USS Lead Indoor Dust site. These Data Validation Reports were originally submitted on October 11, 2016 as Document Tracking No. 1124. This re-submission is due to the revision of ALS Environmental Laboratories Report No. 16091606, which was revised to make corrections to two sample identifiers. No changes were made to the qualifications or overall assessment of the data. Except for the change in sample numbers, the attached reports are identical to the ones that Tetra Tech originally submitted.

If you have any questions regarding these data validation reports, please call me at (662) 681-5727.

Sincerely,

Jessica A. Vickers
START Chemist

Enclosure
cc: Kevin Scott, Tetra Tech Program Manager
Robert Kondreck, Tetra Tech Project Manager
TDD File

Tetra Tech, Inc.
1 South Wacker Dr. Suite 3700, Chicago, IL 60606
Tel 312.201.7479 | Fax 312.201.0031
www.tetratech.com

# ATTACHMENT 1

# DATA VALIDATION REPORTS
# ALS REPORT NOS. [redacted] AND 16091606

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1124A | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers<br>October 11, 2016 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III<br>11 October 2016 |
| **Laboratory Report No.** | [redacted] | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Fourteen dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY

ALS ENVIRONMENTAL REPORT NO. 16091431

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY

ALS ENVIRONMENTAL REPORT NO. 16091431

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16091431

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1124B | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers<br>October 11, 2016<br>Revised October 13, 2016 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III<br>11 October 2016 |
| **Laboratory Report No.** | 16091606 | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | 23 dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort. [redacted]

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted]. |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted]<br>[redacted]<br>USSL-CGS-MO-092716: The percent differences for the coarse fraction of arsenic and the fine fractions of arsenic and lead exceeded the acceptance limits; therefore, the associated results were qualified as estimated (J). |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Note: The NFG limits of 70 to 130 percent were used in lieu of the laboratory limits of 80 to 120 percent. |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] USSL-CGS-AE-092716, and USSL-CGS-SHE-092716 were analyzed at 10-fold dilutions for the coarse fraction of arsenic and lead. [redacted] |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Results between the method detection limit and the RL were qualified as estimated (J) by the laboratory. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16091606

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
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USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16091606

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | | [redacted] | |
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USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16091606

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
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| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| USSL-CGS-AE-092716 | Lead (total - calculated) | 54 | | mg/Kg-dry | 0.006 | 0.75 | 54 | |
| USSL-CGS-AE-092716 | Arsenic (coarse fraction) | 3.7 | J | mg/Kg-dry | 0.037 | 14 | 3.7 | J |
| USSL-CGS-AE-092716 | Lead (coarse fraction) | 46 | | mg/Kg-dry | 0.004 | 14 | 46 | |
| USSL-CGS-AE-092716 | Arsenic (fine fraction) | 3.3 | J | mg/Kg-dry | 0.037 | 6.2 | 3.3 | J |
| USSL-CGS-AE-092716 | Lead (fine fraction) | 87 | | mg/Kg-dry | 0.004 | 6.2 | 87 | |
| USSL-CGS-CE-092716 | Lead (total - calculated) | 24 | | mg/Kg-dry | 0.006 | 0.75 | 24 | |
| USSL-CGS-CE-092716 | Arsenic (coarse fraction) | 1.4 | J | mg/Kg-dry | 0.037 | 4.4 | 1.4 | J |
| USSL-CGS-CE-092716 | Lead (coarse fraction) | 22 | | mg/Kg-dry | 0.004 | 4.4 | 22 | |
| USSL-CGS-CE-092716 | Arsenic (fine fraction) | 2 | J | mg/Kg-dry | 0.037 | 38 | 2 | J |
| USSL-CGS-CE-092716 | Lead (fine fraction) | 40 | | mg/Kg-dry | 0.004 | 38 | 40 | |
| USSL-CGS-MO-092716 | Lead (total - calculated) | 30 | | mg/Kg-dry | 0.006 | 0.75 | 30 | |
| USSL-CGS-MO-092716 | Arsenic (coarse fraction) | 2.2 | J | mg/Kg-dry | 0.037 | 11 | 2.2 | J |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16091606

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| USSL-CGS-MO-092716 | Lead (coarse fraction) | 22 | | mg/Kg-dry | 0.004 | 11 | 22 | |
| USSL-CGS-MO-092716 | Arsenic (fine fraction) | 6.3 | J | mg/Kg-dry | 0.037 | 75 | 6.3 | J |
| USSL-CGS-MO-092716 | Lead (fine fraction) | 84 | | mg/Kg-dry | 0.004 | 75 | 84 | J |
| USSL-CGS-SHE-092716 | Lead (total - calculated) | 23 | | mg/Kg-dry | 0.006 | 0.75 | 23 | |
| USSL-CGS-SHE-092716 | Arsenic (coarse fraction) | 5.3 | J | mg/Kg-dry | 0.037 | 39 | 5.3 | J |
| USSL-CGS-SHE-092716 | Lead (coarse fraction) | 22 | J | mg/Kg-dry | 0.004 | 39 | 22 | J |
| USSL-CGS-SHE-092716 | Arsenic (fine fraction) | 8.7 | J | mg/Kg-dry | 0.037 | 150 | 8.7 | J |
| USSL-CGS-SHE-092716 | Lead (fine fraction) | 48 | J | mg/Kg-dry | 0.004 | 150 | 48 | J |
| USSL-CGS-SO-092716 | Lead (total - calculated) | 22 | | mg/Kg-dry | 0.006 | 0.75 | 22 | |
| USSL-CGS-SO-092716 | Arsenic (coarse fraction) | 1.4 | J | mg/Kg-dry | 0.037 | 6.2 | 1.4 | J |
| USSL-CGS-SO-092716 | Lead (coarse fraction) | 21 | | mg/Kg-dry | 0.004 | 6.2 | 21 | |
| USSL-CGS-SO-092716 | Arsenic (fine fraction) | 3.7 | U | mg/Kg-dry | 0.037 | 75 | 75 | U |
| USSL-CGS-SO-092716 | Lead (fine fraction) | 37 | J | mg/Kg-dry | 0.004 | 75 | 37 | J |

November 22, 2016

Kristina Behnke
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois

**Subject:** **Data Validation Reports**
**USS Lead Indoor Dust**
**EPA Contract No. EP-S5-13-01**
**Technical Direction Document No. S05-0014-1608-003**
**Document Tracking No. 1297**

Dear Ms. Behnke:

Tetra Tech Inc. (Tetra Tech) is submitting these Data Validation Reports for eleven dust samples collected at the USS Lead Indoor Dust site. The samples were collected on October 28 and 31, 2016, and were analyzed for course and fine fractions of arsenic and lead and total lead by calculation by ALS Environmental Laboratories. Tetra Tech received the last of the data on November 21, 2016.

Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

If you have any questions regarding these data validation reports, please call me at (662) 681-5727.

Sincerely,

Jessica A. Vickers

Jessica A. Vickers
START Chemist

Enclosure
cc: Kevin Scott, Tetra Tech Program Manager
Robert Kondreck, Tetra Tech Project Manager
TDD File

Tetra Tech, Inc.
1 South Wacker Dr. Suite 3700, Chicago, IL 60606
Tel 312.201.7479 | Fax 312.201.0031
www.tetratech.com

# ATTACHMENT 1

# DATA VALIDATION REPORTS
# ALS REPORT NOS. 16101952 AND [redacted]

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1297A | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers November 22, 2016 | | **QC Reviewer (signature and date)** | John Ruiz November 22, 2016 |
| **Laboratory Report No.** | 16101952 | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Seven dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | A method blank contained the coarse fraction of lead below the reporting limit (RL); however, no qualifications were applied because the associated results were greater than ten times the blank value. |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Note: The NFG limits of 70 to 130 percent were used in lieu of the laboratory limits of 80 to 120 percent. |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | USSL-84-FE-102816, USSL-84-FES-102816, USSL-84-SO-102816, and [redacted] were analyzed at 10-fold dilutions for the coarse fraction of arsenic and lead.<br>[redacted] |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Results between the method detection limit and the RL were qualified as estimated (J) by the laboratory. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16101952

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | | | | | | | | |
| USSL-84-FE-102816 | Lead (total - calculated) | 42 | | mg/Kg-dry | 0.006 | 0.75 | 42 | |
| USSL-84-FE-102816 | Arsenic (coarse fraction) | 3.6 | J | mg/Kg-dry | 0.037 | 16 | 3.6 | J |
| USSL-84-FE-102816 | Lead (coarse fraction) | 24 | | mg/Kg-dry | 0.004 | 16 | 24 | |
| USSL-84-FE-102816 | Arsenic (fine fraction) | 5.3 | | mg/Kg-dry | 0.037 | 4.3 | 5.3 | |
| USSL-84-FE-102816 | Lead (fine fraction) | 48 | | mg/Kg-dry | 0.004 | 4.3 | 48 | |
| USSL-84-FES-102816 | Lead (total - calculated) | 59 | | mg/Kg-dry | 0.006 | 0.75 | 59 | |
| USSL-84-FES-102816 | Arsenic (coarse fraction) | 4 | J | mg/Kg-dry | 0.037 | 10 | 4 | J |
| USSL-84-FES-102816 | Lead (coarse fraction) | 73 | | mg/Kg-dry | 0.004 | 10 | 73 | |
| USSL-84-FES-102816 | Arsenic (fine fraction) | 2.8 | | mg/Kg-dry | 0.037 | 1.8 | 2.8 | |
| USSL-84-FES-102816 | Lead (fine fraction) | 51 | | mg/Kg-dry | 0.004 | 1.8 | 51 | |
| USSL-84-MO-102816 | Lead (total - calculated) | 62 | | mg/Kg-dry | 0.006 | 0.75 | 62 | |
| USSL-84-MO-102816 | Arsenic (coarse fraction) | 1.9 | J | mg/Kg-dry | 0.037 | 4.6 | 1.9 | J |
| USSL-84-MO-102816 | Lead (coarse fraction) | 16 | | mg/Kg-dry | 0.004 | 4.6 | 16 | |
| USSL-84-MO-102816 | Arsenic (fine fraction) | 2.2 | J | mg/Kg-dry | 0.037 | 29 | 2.2 | J |
| USSL-84-MO-102816 | Lead (fine fraction) | 69 | | mg/Kg-dry | 0.004 | 29 | 69 | |
| USSL-84-SHE-102816 | Lead (total - calculated) | 67 | | mg/Kg-dry | 0.006 | 0.75 | 67 | |
| USSL-84-SHE-102816 | Arsenic (coarse fraction) | 1.7 | J | mg/Kg-dry | 0.037 | 8.3 | 1.7 | J |
| USSL-84-SHE-102816 | Lead (coarse fraction) | 24 | | mg/Kg-dry | 0.004 | 8.3 | 24 | |
| USSL-84-SHE-102816 | Arsenic (fine fraction) | 5.5 | J | mg/Kg-dry | 0.037 | 50 | 5.5 | J |
| USSL-84-SHE-102816 | Lead (fine fraction) | 74 | | mg/Kg-dry | 0.004 | 50 | 74 | |
| USSL-84-SO-102816 | Lead (total - calculated) | 26 | | mg/Kg-dry | 0.006 | 0.75 | 26 | |
| USSL-84-SO-102816 | Arsenic (coarse fraction) | 0.93 | J | mg/Kg-dry | 0.037 | 13 | 0.93 | J |
| USSL-84-SO-102816 | Lead (coarse fraction) | 6.8 | J | mg/Kg-dry | 0.004 | 13 | 6.8 | J |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 16101952

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| USSL-84-SO-102816 | Arsenic (fine fraction) | 3.6 | J | mg/Kg-dry | 0.037 | 42 | 3.6 | J |
| USSL-84-SO-102816 | Lead (fine fraction) | 27 | J | mg/Kg-dry | 0.004 | 42 | 27 | J |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1297B | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers November 22, 2016 | | **QC Reviewer (signature and date)** | John Ruiz November 22, 20116 |
| **Laboratory Report No.** | [redacted] | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Four dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data set. The data is usable as reported by the laboratory.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | [redacted] |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | [redacted] |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | [redacted] |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | [redacted] |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 1611051

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | | [redacted] | [redacted] | [redacted] | [redacted] | |

January 4, 2017

Kristina Behnke
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois

**Subject:** **Data Validation Report**
**USS Lead Indoor Dust**
**EPA Contract No. EP-S5-13-01**
**Technical Direction Document No. S05-0014-1608-003**
**Document Tracking No. 1407**

Dear Ms. Behnke:

Tetra Tech, Inc. (Tetra Tech) is submitting this Data Validation Report for six dust samples collected at the USS Lead Indoor Dust site. The samples were collected on December 9, 2016, and were analyzed for course and fine fractions of arsenic and lead and total lead by calculation by ALS Environmental Laboratories. Tetra Tech received the data on December 22, 2016.

Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

If you have any questions regarding this data validation report, please call me at (662) 681-5727.

Sincerely,

Jessica A. Vickers
START Chemist

Enclosure
cc: Kevin Scott, Tetra Tech Program Manager
Andrew Kleist, Tetra Tech Project Manager
TDD File

Tetra Tech, Inc.
1 South Wacker Dr. Suite 3700, Chicago, IL 60606
Tel 312.201.7479 | Fax 312.201.0031
www.tetratech.com

# ATTACHMENT 1

# DATA VALIDATION REPORT
# ALS REPORT NO. 1612646

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

| | | | | |
|---|---|---|---|---|
| **Site Name** | USS Lead Indoor Dust | | **TDD No.** | S05-0014-1608-003 |
| **Document Tracking No.** | 1407 | | | |
| **Data Reviewer (signature and date)** | Jessica A. Vickers January 4, 2017 | | **Technical Reviewer (signature and date)** | Harry N. Ellis III 4 January 2017 |
| **Laboratory Report No.** | 1612646 | | **Laboratory** | ALS Environmental/Holland, MI |
| **Analyses** | Arsenic and lead by SW-846 Method 6020A | | | |
| **Samples and Matrix** | Six dust samples | | | |
| **Field Duplicate Pairs** | None | | | |
| **Field Blanks** | None | | | |

**INTRODUCTION**

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

No rejection of results was required for this data set. The data is usable as qualified based on the findings of this validation effort.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Instrument Performance Checks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Initial Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Continuing Calibration:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Calibration Verification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | A method blank contained the fine fraction of lead below the reporting limit (RL); however, no qualifications were applied because the associated results were greater than ten times the blank value. |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Interference Check Samples (ICS) (ICP metals only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Post digestion spikes:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | Post digestion spikes performed on non-project samples were not evaluated. |

**Serial dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | Serial dilutions performed on non-project samples were not evaluated. |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**LCSs/LCSDs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| N | Note: The NFG limits of 70 to 130 percent were used in lieu of the laboratory limits of 80 to 120 percent.<br>A recovery was below the NFG limit for the fine fraction of arsenic; therefore, the associated results were qualified as estimated with a possible low bias (J-). |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | USSL-84-FE-120916 and USSL-84-FES-120916 were analyzed at 10-fold dilutions for the coarse and fine fractions of arsenic and lead.<br>USSL-84-MO-120916 and USSL-84-SRS-120916 were analyzed at 10-fold dilutions for the coarse fraction of arsenic and lead. |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Second column confirmation (GC and HPLC analyses only):**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Internal Standards:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Target analyte identification:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**Analyte quantitation and MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | Results between the method detection limit and the RL were qualified as estimated (J) by the laboratory. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

**System performance and instrument stability:**

| Within Criteria | Exceedance/Notes |
|---|---|
| Y | |

**Other [specify]:**

| Within Criteria | Exceedance/Notes |
|---|---|
| NA | |

# DATA VALIDATION CHECKLIST – STAGE 4
# EPA REGION 5 START CONTRACT

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

| | |
|---|---|
| J | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high. |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample. |
| R | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample. |
| U | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

USS LEAD INDOOR DUST ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. 1612646

| Lab_Location_ID | Analyte | result | Lab_qualifier | Result_units | MDL | RL | Val_result | Val_qualifier |
|---|---|---|---|---|---|---|---|---|
| USSL-84-FE-120916 | Lead (total - calculated) | 54 | | mg/Kg-dry | 0.006 | 0.75 | 54 | |
| USSL-84-FE-120916 | Arsenic (coarse fraction) | 4.7 | J | mg/Kg-dry | 0.037 | 6.8 | 4.7 | J |
| USSL-84-FE-120916 | Lead (coarse fraction) | 42 | | mg/Kg-dry | 0.004 | 6.8 | 42 | |
| USSL-84-FE-120916 | Arsenic (fine fraction) | 4.5 | J | mg/Kg-dry | 0.037 | 21 | 4.5 | J- |
| USSL-84-FE-120916 | Lead (fine fraction) | 92 | | mg/Kg-dry | 0.004 | 21 | 92 | |
| USSL-84-FES-120916 | Lead (total - calculated) | 44 | | mg/Kg-dry | 0.006 | 0.75 | 44 | |
| USSL-84-FES-120916 | Arsenic (coarse fraction) | 1.8 | J | mg/Kg-dry | 0.037 | 7.3 | 1.8 | J |
| USSL-84-FES-120916 | Lead (coarse fraction) | 30 | | mg/Kg-dry | 0.004 | 7.3 | 30 | |
| USSL-84-FES-120916 | Arsenic (fine fraction) | 3.9 | J | mg/Kg-dry | 0.037 | 16 | 3.9 | J- |
| USSL-84-FES-120916 | Lead (fine fraction) | 75 | | mg/Kg-dry | 0.004 | 16 | 75 | |
| USSL-84-MO-120916 | Lead (total - calculated) | 27 | | mg/Kg-dry | 0.006 | 0.75 | 27 | |
| USSL-84-MO-120916 | Arsenic (coarse fraction) | 4 | J | mg/Kg-dry | 0.037 | 10 | 4 | J |
| USSL-84-MO-120916 | Lead (coarse fraction) | 22 | | mg/Kg-dry | 0.004 | 10 | 22 | |
| USSL-84-MO-120916 | Arsenic (fine fraction) | 4.4 | J | mg/Kg-dry | 0.037 | 5 | 4.4 | J- |
| USSL-84-MO-120916 | Lead (fine fraction) | 53 | | mg/Kg-dry | 0.004 | 5 | 53 | |
| USSL-84-SHE-120916 | Lead (total - calculated) | 120 | | mg/Kg-dry | 0.006 | 0.75 | 120 | |
| USSL-84-SHE-120916 | Arsenic (coarse fraction) | 3.6 | J | mg/Kg-dry | 0.037 | 9.7 | 3.6 | J |
| USSL-84-SHE-120916 | Lead (coarse fraction) | 110 | | mg/Kg-dry | 0.004 | 9.7 | 110 | |
| USSL-84-SHE-120916 | Arsenic (fine fraction) | 9.2 | J | mg/Kg-dry | 0.037 | 34 | 9.2 | J- |
| USSL-84-SHE-120916 | Lead (fine fraction) | 150 | | mg/Kg-dry | 0.004 | 34 | 150 | |
| USSL-84-SO-120916 | Lead (total - calculated) | 28 | | mg/Kg-dry | 0.006 | 0.75 | 28 | |
| USSL-84-SO-120916 | Arsenic (coarse fraction) | 1.2 | J | mg/Kg-dry | 0.037 | 9.9 | 1.2 | J |
| USSL-84-SO-120916 | Lead (coarse fraction) | 18 | | mg/Kg-dry | 0.004 | 9.9 | 18 | |
| USSL-84-SO-120916 | Arsenic (fine fraction) | 2.2 | J | mg/Kg-dry | 0.037 | 33 | 2.2 | J- |
| USSL-84-SO-120916 | Lead (fine fraction) | 59 | | mg/Kg-dry | 0.004 | 33 | 59 | |
| USSL-84-SRS-120916 | Lead (total - calculated) | 62 | | mg/Kg-dry | 0.006 | 0.75 | 62 | |
| USSL-84-SRS-120916 | Arsenic (coarse fraction) | 2.6 | J | mg/Kg-dry | 0.037 | 19 | 2.6 | J |
| USSL-84-SRS-120916 | Lead (coarse fraction) | 45 | | mg/Kg-dry | 0.004 | 19 | 45 | |
| USSL-84-SRS-120916 | Arsenic (fine fraction) | 5.8 | J | mg/Kg-dry | 0.037 | 5.9 | 5.8 | J- |
| USSL-84-SRS-120916 | Lead (fine fraction) | 120 | | mg/Kg-dry | 0.004 | 5.9 | 120 | |

| | |
|---|---|
| **From:** | Haag, Daniel |
| **To:** | John Behrens; Mark Han; Vince Balbo |
| **Cc:** | Hassan, Jacob |
| **Subject:** | RE: Old Carrie Gosch: 455 E. 148th St: Closeout Walk Through |
| **Date:** | Wednesday, February 22, 2017 8:23:00 AM |
| **Attachments:** | USS Lead- Carrie Gosch School Dust Sampling Results Table.pdf<br>DVR - USS Lead_DTN 1026.pdf<br>DVR - USS Lead_DTN 1052.pdf<br>DVR - USS Lead_DTN 1124-R.PDF<br>DVR - USS Lead_DTN 1297.pdf<br>DVR - USS Lead_DTN 1407.pdf |

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Gents,

Please find attached a sample results table for all indoor dust samples collected at Carrie Gosch School between August 2016 and December 2016. U.S. EPA sent all dust samples to a laboratory for analysis. The levels of lead and arsenic found at each location during each sampling event are found in the sample results table. The results show lead and arsenic concentrations in the fine dust fraction. We are most concerned about the exposure of young children to the fine dust fraction, so those values are compared to the U.S. EPA's health screening level. The lead screening level in fine dust is 316 parts per million (ppm), and the arsenic screening level in fine dust is 26 ppm. The concentrations detected at Carrie Gosch School are below the U.S. EPA's health screening level for dust.

Please note in the sample results table that the arsenic result for sample ID # USSL-CGS-SO-092716 is reported as 75ppm with a U-qualifier. The U-qualifier means that arsenic was not detected at or above the associated value/reporting limit, which can be attributed to a small sample volume or mass. When this occurs, our data validation guidance is to conservatively report the result as the reporting limit, 75 ppm in this case. Subsequent samples collected from this location (Security Office) in October 2016 and December 2016 show that arsenic in the fine dust fraction is below the U.S. EPA health screening level.

Also attached are the associated data validation reports (DVRs) for each sampling event. Please note that some of the information contained within the DVRs has been redacted as 3 of the 5 DVRs contained laboratory reports which also included results from residential indoor sampling from Zone 2 & 3 of the USS Lead Superfund Site. The residential results are the items that have been redacted in the DVRs.

Regards,

Dan

**Dan Haag, CHMM**
On-Scene Coordinator
U.S. EPA, Region 5
Superfund Emergency Response Branch
77 West Jackson Blvd (SE-5J)
Chicago, IL 60604
(o) 312.886.6906
haag.daniel@epa.gov

**From:** John Behrens [mailto:j.behrens@erllc.com]
**Sent:** Thursday, December 15, 2016 11:46 AM
**To:** Mark Han <mhan@ecps.org>; Haag, Daniel <Haag.Daniel@epa.gov>; Vince Balbo <vbalbo@ecps.org>
**Subject:** RE: Old Carrie Gosch: 455 E. 148th St: Closeout Walk Through

Mark,

We are going to send you a complete package of the analytical once we receive the validated results from the most recent (exit) sampling event. This will mostly likely be available in early January. I viewed the video we took prior to occupancy and the carpeting in the office next to the principal's office was bunched up as was the carpeting in the kitchen/breakroom. Also, the video shows that the door in the "social worker" office was off the track. The office in the corner, next to the social worker office, was locked at the time we filmed so I cannot determine if the closet door was off the track. We have turned over all of the keys we had and most of the magnetic door cards. If we gather any additional cards, I will mail them to Vince.

Sincerely,

John Behrens
Response Manager
Environmental Restoration, LLC.
16660 Canal Street
South Holland, Illinois 60473
(708) 333-9915 office
(636) 680-2553 direct fax
NON RESPONSIVE [redacted] cell
http://www.erllc.com
J.Behrens@erllc.com

---

**From:** Mark Han [mailto:mhan@ecps.org]
**Sent:** Friday, December 09, 2016 5:04 PM
**To:** haag.daniel@epa.gov; John Behrens <j.behrens@erllc.com>; Vince Balbo <vbalbo@ecps.org>
**Subject:** Old Carrie Gosch: 455 E. 148th St: Closeout Walk Through

Thanks for your support in taking up temporary tenancy at our location during a tumultuous period of School City of East City. Your presence not only provided financial assistance but a stability towards transitioning ourselves into the next chapter of this current crisis. We hope to see you back in the Spring as your work gravitates a need for more space again.

If you can provide us with the things discussed as a form of final exit punch list;

- Any and All EPA lead clearance reports (QCQA?) regarding the overall building coverage and the areas used
- The 2 carpeted office areas, if you can just check your video
- The closet doors in the corner office
- Keys drop off
- Alert Alarm codes termination

It was a pleasure meeting you Dan. And Dan and John, I look forward to talking to you again in the Spring. Happy Holidays to you.

Thanks,

**M**ark **H**an
*Director of Facilities*
**School City of East Chicago**
211 E. Columbus Drive
East Chicago, IN 46312
t: 219-391-4059
f: 219-391-4202

NON RESPONSIVE

"If you go as far as you can see, you will then see enough to go even farther"
- *John Wooden*

Confidentiality Warning: This e-mail and any attachments contain information intended only for the use of the individual or entity named above. If the reader of this e-mail is not the intended recipient or the employee or agent responsible for delivering it to the intended recipient, any dissemination, publication or copying of this e-mail is strictly prohibited. Although this email has been scanned for malware, the sender does not accept any responsibility for any loss, disruption or damage to your data or computer system that may occur while using data contained in, or transmitted with, this e-mail. If you have received this e-mail in error, please immediately notify by return e-mail. Thank you.

**USS Lead**
**Carrie Gosch School Sampling Results**
**1/4/17**

| Unit ID | Sample Date | Sample ID | Location | Units | Arsenic (Coarse Fraction) | | Arsenic (Fine Fraction) | | Lead (Coarse Fraction) | | Lead (Fine Fraction) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | 8/12/2016 | USSL-CGS-FE-081216 | Front Entrance | mg/Kg-dry | 3.9 | | 4.2 | | 18 | | 68 | |
| 84 | 8/12/2016 | USSL-CGS-FES-081216 | Front Entrance -- South | mg/Kg-dry | 5.7 | J | 4 | | 12 | | 39 | |
| 84 | 8/12/2016 | USSL-CGS-RES-081216 | Rear Entrance -- South | mg/Kg-dry | 3.9 | J | 3.5 | J | 43 | | 110 | |
| 84 | 8/12/2016 | USSL-CGS-Other1-081216 | Resource Center | mg/Kg-dry | 2.9 | J | 4.2 | | 180 | | 87 | |
| 84 | 8/25/2016 | USSL-CGS-AE-082516 | Auditoreum Entry | mg/Kg-dry | 2.4 | J | 3.6 | J | 63 | | 110 | |
| 84 | 8/25/2016 | USSL-CGS-CE-082516 | Cafetorium Entry | mg/Kg-dry | 1 | J | 5.9 | J | 3.6 | | 52 | J |
| 84 | 8/25/2016 | USSL-CGS-MO-082516 | Main Office | mg/Kg-dry | 2.2 | J | 2.8 | J | 5.2 | J | 19 | |
| 84 | 8/25/2016 | USSL-CGS-SO-082516 | Security Office | mg/Kg-dry | 21 | J | 5.1 | J | 100 | J | 54 | |
| 84 | 8/25/2016 | USSL-CGS-SHE-082516 | South Hallway Entrance | mg/Kg-dry | 1.4 | J | 3.7 | J | 13 | | 35 | |
| 84 | 9/27/2016 | USSL-CGS-AE-092716 | Auditoreum Entry | mg/Kg-dry | 3.7 | J | 3.3 | J | 46 | | 87 | |
| 84 | 9/27/2016 | USSL-CGS-CE-092716 | Cafetorium Entry | mg/Kg-dry | 1.4 | J | 2 | J | 22 | | 40 | |
| 84 | 9/27/2016 | USSL-CGS-MO-092716 | Main Office | mg/Kg-dry | 2.2 | J | 6.3 | J | 22 | | 84 | |
| 84 | 9/27/2016 | USSL-CGS-SO-092716 | Security Office | mg/Kg-dry | 1.4 | J | 75 | U | 21 | | 37 | J |
| 84 | 9/27/2016 | USSL-CGS-SHE-092716 | South Hallway Entrance | mg/Kg-dry | 5.3 | J | 8.7 | J | 22 | J | 48 | J |
| 84 | 10/28/2016 | USSL-84-FE-102816 | Front Entrance | mg/Kg-dry | 3.6 | J | 5.3 | | 24 | | 48 | |
| 84 | 10/28/2016 | USSL-84-FES-102816 | Front Entrance -- South | mg/Kg-dry | 4 | J | 2.8 | | 73 | | 51 | |
| 84 | 10/28/2016 | USSL-84-MO-102816 | Main Office | mg/Kg-dry | 1.9 | J | 2.2 | J | 16 | | 69 | |
| 84 | 10/28/2016 | USSL-84-SO-102816 | Security Office | mg/Kg-dry | 0.93 | J | 3.6 | J | 6.8 | J | 27 | J |
| 84 | 10/28/2016 | USSL-84-SHE-102816 | South Hallway Entrance | mg/Kg-dry | 1.7 | J | 5.5 | J | 24 | | 74 | |
| 84 | 12/9/2016 | USSL-84-SRS-120916 | Kindergarten Classroom (Used by SRS) | mg/Kg-dry | 2.6 | J | 5.8 | J | 45 | | 120 | |
| 84 | 12/9/2016 | USSL-84-FE-120916 | Front Entrance | mg/Kg-dry | 4.7 | J | 4.5 | J | 42 | | 92 | |
| 84 | 12/9/2016 | USSL-84-FES-120916 | Front Entrance -- South | mg/Kg-dry | 1.8 | J | 3.9 | J | 30 | | 75 | |
| 84 | 12/9/2016 | USSL-84-MO-120916 | Main Office | mg/Kg-dry | 4 | J | 4.4 | J | 22 | | 53 | |
| 84 | 12/9/2016 | USSL-84-SO-120916 | Security Office | mg/Kg-dry | 1.2 | J | 2.2 | J | 18 | | 59 | |
| 84 | 12/9/2016 | USSL-84-SHE-120916 | South Hallway Entrance | mg/Kg-dry | 3.6 | J | 9.2 | J | 110 | | 150 | |

Notes:

| | |
|---|---|
| * | Totals based on a weighted average |
| NA | Not available |
| J | The analyte was positively identified; the associated value is the approximate concentration |
| J- | The analyte was positively identified; the associated value is the approximate concentration and may be biased low |
| U | The analyte was analyzed for; but was not detected at or above the associated value (reporting limit) |

| | |
|---|---|
| | Lead (fine fraction) detected at a concentration 316-500 mg/Kg |
| | Lead (fine fraction) detected at a concentration 500-1000 mg/Kg |
| | Lead (fine fraction) detected at a concentration >1000 mg/Kg |
| | Arsenic (fine fraction) detected at a concentration >26 mg/kg |

| | |
|---|---|
| 25 | total pre-cleaning samples taken at Carrie Gosch School |
| 0 | total samples above 316 mg/Kg Lead |
| 0 | total samples above 26 mg/Kg Arsenic |