SCI ENGINEERING, INC.
EARTH • SCIENCE • SOLUTIONS
GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

October 30, 2019

Ms. Lori Ann Knutson
First Assistant Attorney General for Treasurer
Colorado Department of the Treasury
200 East Colfax Avenue
140 State Capitol
Denver, Colorado 80203

RE: Limited Phase Two Environmental Site Assessment Report
West Park Elementary (Lake County R-1)
130 West 12th Street
Leadville, Colorado
SCI No. 2017-2022.21 Task 002

Dear Ms. Knutson:

INTRODUCTION

SCI Engineering, Inc. (SCI) is pleased to submit this summary of Limited Phase Two Environmental Site Assessment (Limited Phase Two) of the West Park Elementary School addressed at 130 West 12th Street in Leadville, Colorado (subject site or site). A Vicinity and Topographic Map, Figure 1, of the subject site is enclosed.

SCI previously conducted a Phase One Environmental Site Assessment, dated October 11, 2019, for the subject site that identified the following recognized environmental conditions (RECs):

- The site is part of the California Gulch National Priority Listing (a.k.a. California Gulch Superfund Site). Former mining operations contributed to metals contamination in surface water, groundwater, soil, and sediment across the area.

- The site utilized an 8,000-gallon heating oil UST. The UST was reportedly closed in place. However, a closure report and soil/groundwater sampling data were not available for review. This also represents a pVEC.

The purpose of our Limited Phase Two was to evaluate for the presence of widespread impact to the soil or groundwater on the subject site as a result of these RECs. Details of SCI's activities, which were completed in accordance with our proposal, dated September 19, 2019, are outlined herein.

SCOPE OF SERVICE

Drilling Activities

On September 30, 2019 and October 1, 2019, a hollow-stem auger rig was utilized to advance borings at four locations on site. Specifically, borings B-1, B-2, B-3, and B-4 were advanced to the south, west, east, and north of the on-site UST, respectively. The borings were advanced to refusal at 6 feet in B-1, 5 feet in B-2, 15 feet at B-3, and 14 feet at B-4. Groundwater was not encountered in any of the boring locations at the time of drilling. A Boring Location Map is enclosed as Figure 2.

Soil samples were continuously collected using a 30-inch split spoon. Soil samples were screened on approximate 2-foot vertical intervals using a photo-ionization detector (PID) which is capable of detecting variations in concentrations of various organic trace gases. This sampling protocol and subsequent screening process aided in determining if soil impact was present. No PID readings were observed in B-1, B-2, or B-4. Therefore, the deepest sample from each boring was collected for analytical testing at these locations. A PID reading of 2.1 parts per million (ppm) was observed at the B-3 location. Therefore, the sample near the highest PID reading (6 to 8 feet bgs) was collected for analytical testing. Each soil sample was placed into laboratory provided containers and transported under proper chain-of-custody procedures to the laboratory in chilled containers.

Three of the borings (B-1, B-2, and B-3) consisted of gravelly sand from the surface to refusal on rock. The fourth boring (B-4) consisted of sandy lean clay from the surface to refusal on rock. Boring Logs are enclosed as Appendix A.

Following soil sampling, temporary piezometers were set in borings B-3 and B-4 in an attempt to collect groundwater samples. The temporary piezometers were constructed of Schedule 40 slotted (0.010-inch) PVC (polyvinyl chloride) for the bottom 10 feet of the piezometers with a Schedule 40 PVC riser installed above the screen to within 2 inches of the ground surface. The piezometers were dry at the time of installation. The piezometers were checked after 24 hours. However, the piezometers were still dry and were abandoned. The PVC screens and risers were removed; the boreholes were then filled with bentonite chips; and the surface was patched, as needed, at each location.

Shallow Soil Sampling

Prior to the fieldwork, SCI utilized a plan view of the subject site to place a grid across the property with the cells of the grid sized to approximately 100 feet by 100 feet. The cells over the school building or in the area of the adjoining playground which was previously sampled were excluded. The remaining cells were then labeled with numbers. SCI then utilized a random number generator to select 10 cells for sample collection. The random sampling was completed to evaluate for metals contamination due to the location of the site within the California Gulch Superfund Site. A Shallow Soil Sample Location Map is enclosed as Figure 3.

On October 2, 2019, shallow soil samples were collected from the 10 selected cells. Each sample consisted of a combination of five aliquots which were collected from the top six inches at various location across each cell. For each cell, the aliquots were mixed in a stainless-steel bowl prior to placing into laboratory provided containers. The samples were transported under proper chain-of-custody procedures to the laboratory in chilled containers. Figure 3 shows each of the aliquot locations and the overall cells from which samples were collected.

Decontamination procedures consisted of washing all sampling equipment in a solution of tap water and laboratory grade detergent (liquinox) followed by tap water rinse and double rinse with distilled water.

Analytical Testing – UST Borings

Soil samples from borings B-1 through B-4 were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by US EPA method 8260; and total petroleum hydrocarbon (TPH)-diesel range organics (DRO). Complete laboratory results from the soil samples as well as the associated chain-of-custody documentation are contained in Appendix B. No detectable concentrations of BTEX, MTBE, or TPH-DRO were identified within any of the soil samples collected from near the UST.

Analytical Testing – Shallow Soil Samples

The shallow soil samples were analyzed for total RCRA metals plus manganese by U.S. EPA method 6010. Laboratory results of detected constituents are summarized and compared to the United States Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for resident soil and composite worker in the enclosed analytical table, Table 1 – Detected Analytical Results for Soil. The lead, cadmium, and arsenic concentrations were also compared to the acceptable concentrations established for the California Gulch Superfund Site. Complete laboratory results from the soil samples as well as the associated chain-of-custody documentation are contained in Appendix B.

As indicated on Table 1, several metals were identified at detectable concentrations. However, the concentrations were below the EPA RSLs for resident soil except for arsenic, lead, and manganese. The arsenic concentrations ranged from 9.20 milligrams per kilogram (mg/kg) at Cell 20 to 99.1 mg/kg at Cell 3 which all exceed the EPA RSL for both resident soil of 0.68 mg/kg and composite worker of 3.0 mg/kg. However, the concentrations are below the acceptable range of arsenic in soil for the California Gulch Superfund Site of 120 mg/kg to 340 mg/kg as provided in the Best Management Practices for Managing Lead, Arsenic, and Cadmium Containing Soil in Lake County, Colorado.

The lead concentrations ranged from 122 mg/kg in Cell 20 to 3,190 mg/kg in Cell 3. The identified concentrations in five of the samples (Cells 3, 5, 7, 25, and 27) were above the EPA RSL for both resident soil of 400 mg/kg and composite worker of 800 mg/kg. However, the identified concentrations were below the acceptable residential concentration of 3,500 mg/kg in soil which has been established for the California Gulch Superfund Site.

The manganese concentrations ranged from 398 mg/kg in Cell 36 to 6,960 mg/kg in Cell 3. The identified concentrations in five of the samples (Cells 3, 5, 7, 25, and 27) were above the EPA RSL for resident soil of 1,800 mg/kg. However, all identified concentrations were below the EPA RSL for composite worker of 26,000 mg/kg. An acceptable residential concentration of manganese has not been established for the California Gulch Superfund Site.

QUALITY ASSURANCE/QUALITY CONTROL

SCI reviewed the QA/QC qualifiers of the analytical report supplied by Teklab, Inc. (Teklab) for this Phase Two. No qualifiers were identified for the samples associated with the borings near the UST. However, some of the surficial soil samples which were analyzed for metals had matrix spikes outside of the control limits due to due to sample compositions. Additionally, the RPD was outside the control limits for lead. However, the matrix spike control limits for lead were not applicable due to high sample to spike ratio. Although some qualifiers were noted within the reports, SCI did not identify anything

which would have significantly altered the findings of the reports and considers the laboratory results to be in accurate representation of current site conditions.

CONCLUSIONS AND RECOMMENDATIONS

Based upon review of the analytical results, SCI makes the following conclusions:

- No detectable concentrations of BTEX, MTBE, or TPH-DRO were identified within any of the soil samples collected from near the UST.

- Several metals were identified at detectable concentrations within the shallow soil samples. However, the concentrations were below the EPA RSLs for resident soil except for arsenic, lead, and manganese.

- The identified arsenic concentrations in all the shallow soil samples were above the EPA RSL for both resident soil of 0.68 mg/kg and composite worker of 3.0 mg/kg. However, the concentrations are below the acceptable range of arsenic in residential soil for the California Gulch Superfund Site of 120 mg/kg to 340 mg/kg.

- The identified lead concentrations in five of the samples (Cells 3, 5, 7, 25, and 27) were above the EPA RSL for both resident soil of 400 mg/kg and composite worker of 800 mg/kg. However, the identified concentrations were below the acceptable residential concentration of 3,500 mg/kg in soil which has been established for the California Gulch Superfund Site.

- The identified manganese concentrations in five of the samples (Cells 3, 5, 7, 25, and 27) were above the EPA RSL for resident soil of 1,800 mg/kg. However, all identified concentrations were below the EPA RSL for composite worker of 26,000 mg/kg. An acceptable residential concentration of manganese has not been established for the California Gulch Superfund Site.

Although the identified concentrations for lead and arsenic are within the acceptable range established for the California Gulch Superfund Site, the manganese concentrations exceeded the EPA RSL for residential soil. Therefore, SCI recommends utilizing a Soil Management Plan during construction to control the potential for impacts to the construction workers and surrounding community. Furthermore, SCI recommends utilizing methods identified by the EPA to manage the contaminated soils such as the utilization of barriers/caps or removal and replacement with clean fill. It should be noted that Lake County has an established soil repository which can be utilized to dispose of impacted soil. The management of impacted soil is further discussed within the Best Management Practices for Managing Lead, Arsenic, and Cadmium Containing Soils in Lake County, Colorado which is attached to this report.

LIMITATIONS

This report has been prepared for the exclusive use of State of Colorado Department of the Treasury and Lake County R-1 School District. SCI is not responsible for independent conclusions or recommendations made by others. The services performed and opinions expressed herein are consistent with other environmental consulting firms in this geographic area. The findings of this report are valid as of the present date of the assessment.

Changes in surface and subsurface conditions of a property can occur with the passage of time, whether due to natural processes or the works of man on this or adjacent properties. In addition, changes in

applicable or appropriate standards may occur, whether they result from legislation, the broadening of knowledge, or other reasons. Accordingly, the findings of this report may be invalidated in whole or in part by changes outside our control.

No subsurface exploration can completely reveal conditions below the ground surface. Depending upon the sample spacing and frequency, every soil and groundwater condition may not be observed and some materials, stratums, or conditions present in the subsurface may not be observed. Furthermore, changes in groundwater elevation can result in changed in dissolved concentrations.

SCI should be contacted with any known or suspected variations from the conditions described herein. If further development of this site indicates the presence of hazardous, toxic, or petroleum materials, or other concerns of an environmental nature, SCI should be notified to perform a re-evaluation of the environmental conditions.

SCI appreciates the opportunity to be of continued service to you on your project. If you have any questions or require further clarification, please contact Travis Clayton at (618) 206-3049.

Respectfully,

SCI ENGINEERING, INC.

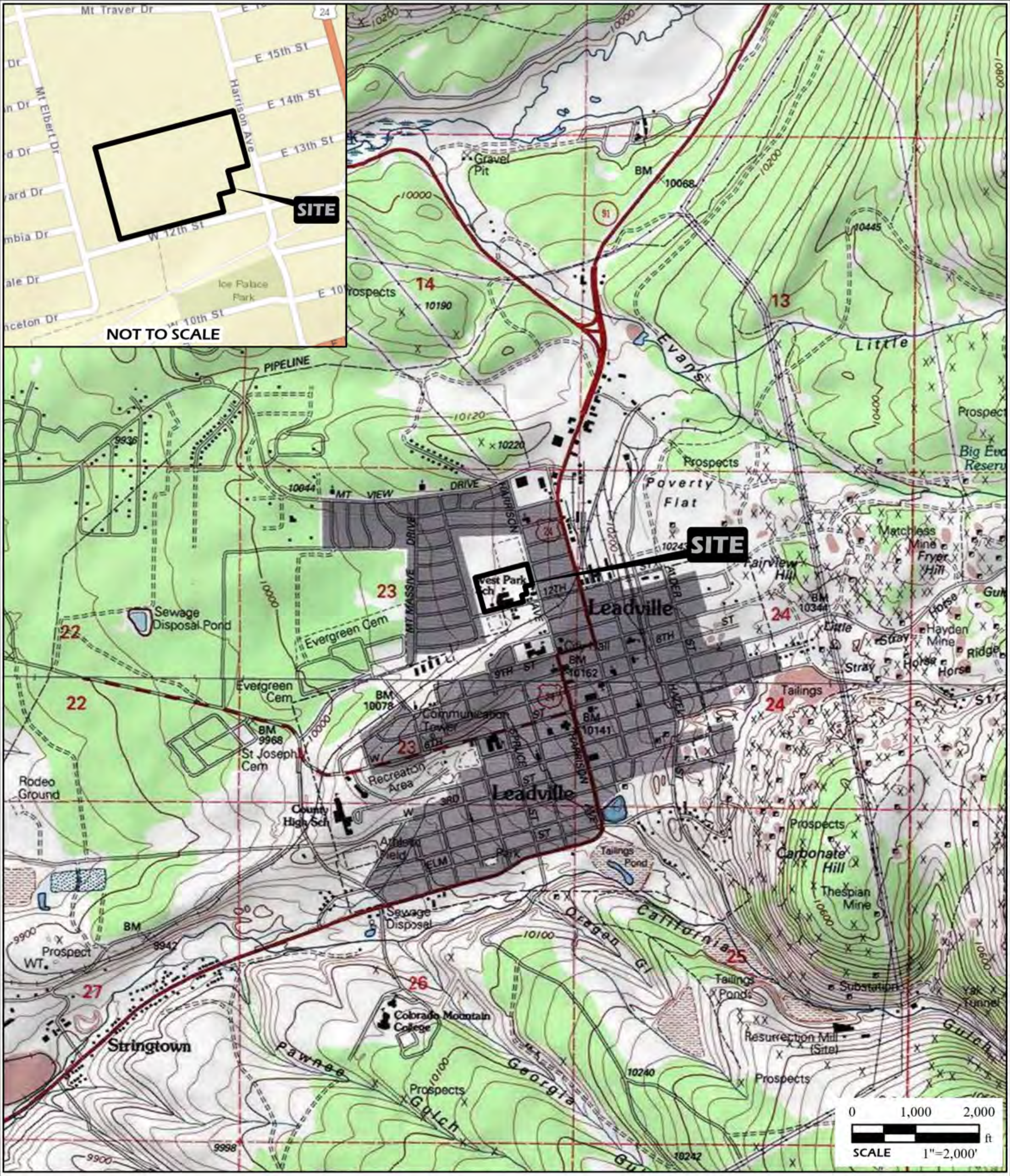
Michelle L. Eaton, P.E.
Senior Engineer

MLE/lf

Enclosures
Figures
Appendix A - Boring logs
Appendix B - Laboratory test results

Electronic version submitted

Mr. Xan Serocki, Colorado Department of Law

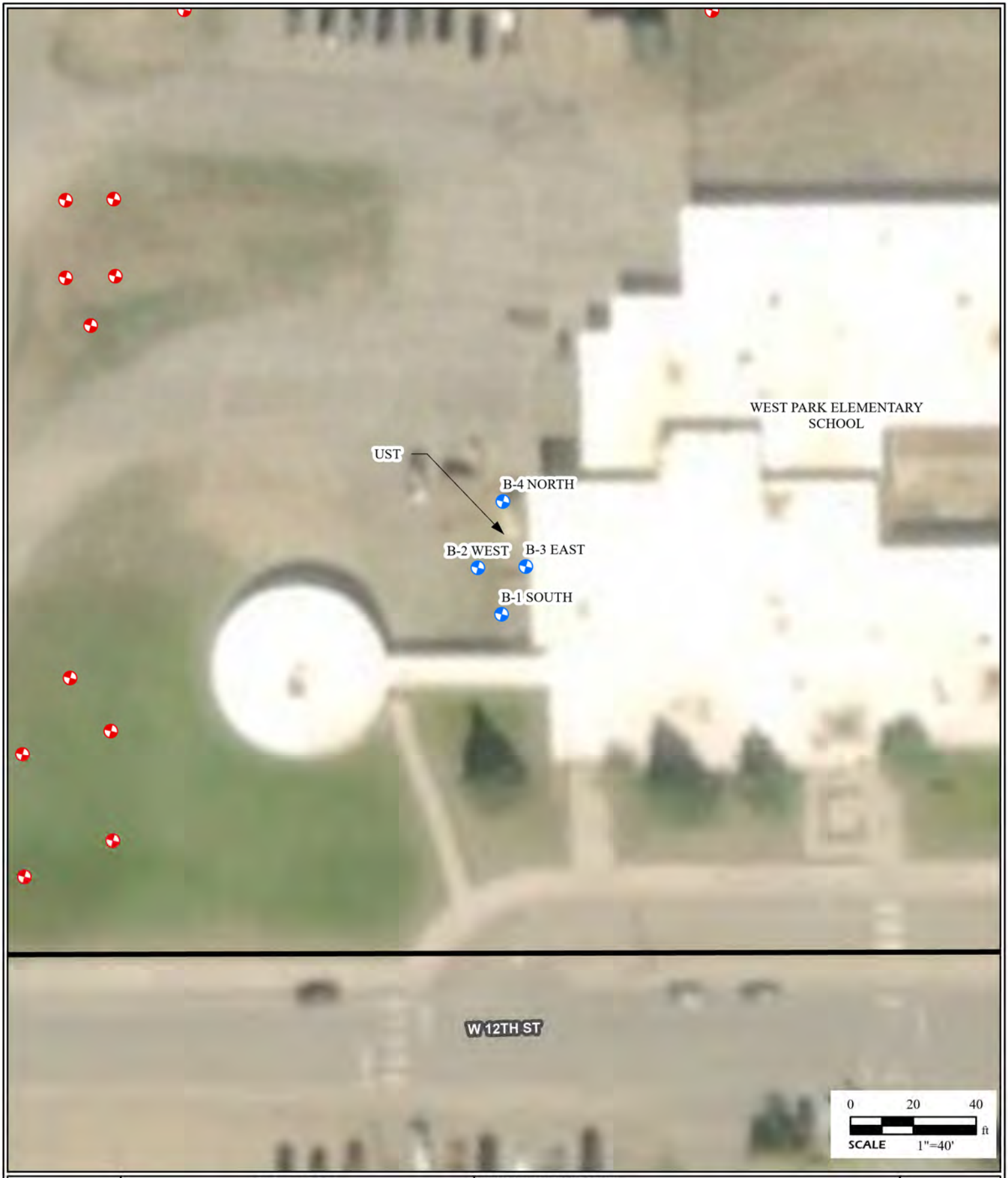


PROJECT NAME			
130 WEST 12TH STREET LEADVILLE, COLORADO			
VICINITY AND TOPOGRAPHIC MAP			
DRAWN BY RCV	**DATE**	**JOB NUMBER**	
CHECKED BY MLE	10/2019	2017-2022.21	

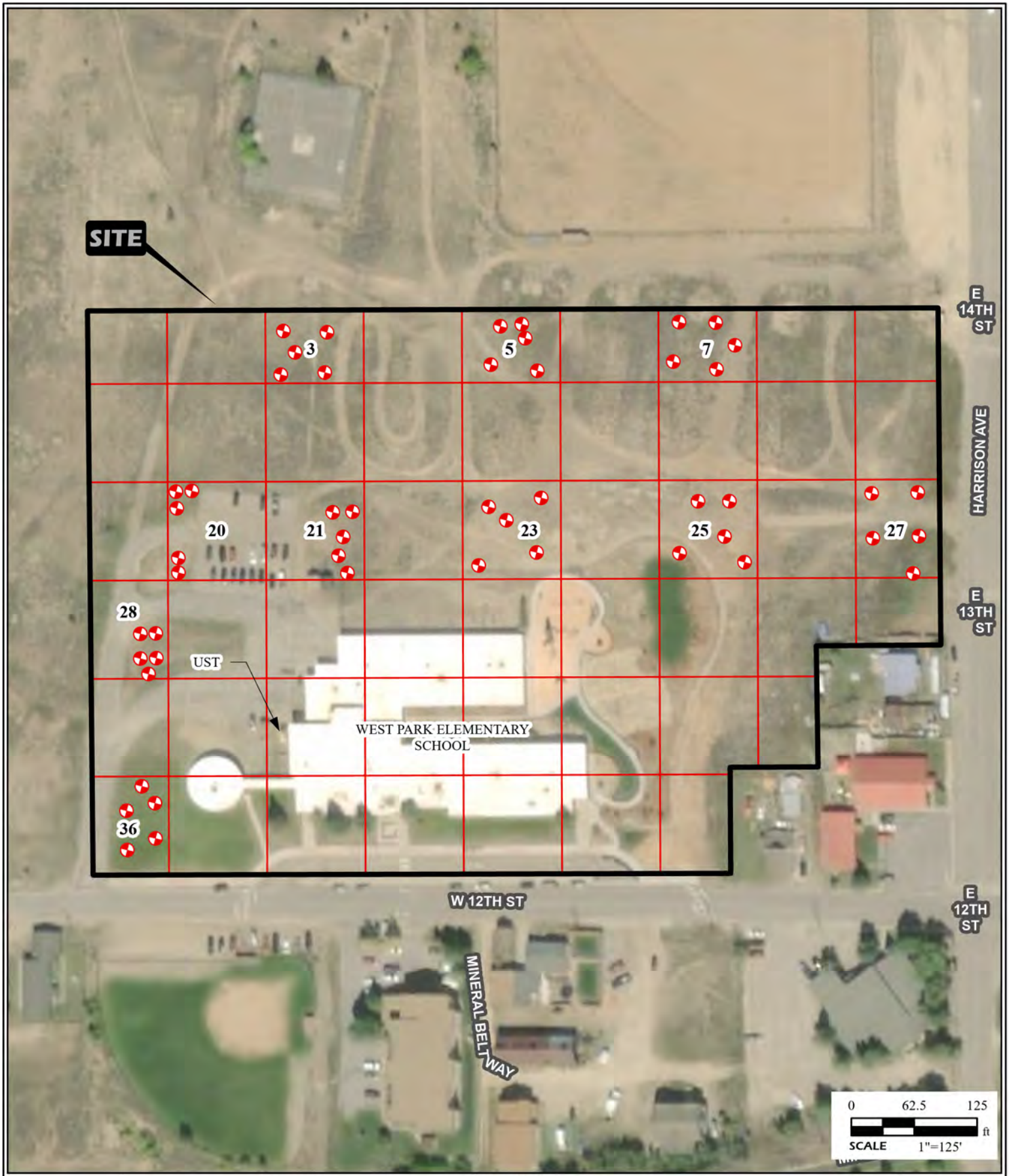
GENERAL NOTES/LEGEND

USGS TOPOGRAPHIC MAP
FORT LOGAN, COLORADO QUADRANGLE
LEADVILLE NORTH, COLORADO QUADRANGLE
DATED 1994
40' CONTOURS
LEADVILLE SOUTH, COLORADO QUADRANGLE
DATED 1994
20' CONTOURS
STREET MAP
HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP

FIGURE
1



SCI	PROJECT NAME: 130 WEST 12TH STREET LEADVILLE, COLORADO			GENERAL NOTES/LEGEND: SHALLOW SOIL SAMPLES; APPROXIMATE LOCATION OF SOIL BORINGS. AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
	BORING LOCATION MAP			N / W / E / S
	DRAWN BY: RCV	DATE: 10/2019	JOB NUMBER: 2017-2022.21	FIGURE: 2
	CHECKED BY: MLE			



SCI	PROJECT NAME: 130 WEST 12TH STREET LEADVILLE, COLORADO			GENERAL NOTES/LEGEND: SHALLOW SOIL SAMPLES
	SHALLOW SOIL SAMPLE LOCATION MAP			AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
	DRAWN BY: RCV	DATE: 10/2019	JOB NUMBER: 2017-2022.21	N, W, E, S
	CHECKED BY: MLE			FIGURE 3

DEPARTMENT OF EDUCATION
WEST PARK ELEMENTARY (LAKE COUNTY R-1)
130 WEST 12TH STREET
LEADVILLE, COLORADO

Table 1 – Detected Analytical Results for Soil

Constituents	Boring Location (depth)										EPA RSLs[1] Resident Soil	EPA RSLs[1] Composite Worker	California Gulch Acceptable Concentration
	Cell 3 (Surficial)	Cell 5 (Surficial)	Cell 7 (Surficial)	Cell 20 (Surficial)	Cell 21 (Surficial)	Cell 23 (Surficial)	Cell 25 (Surficial)	Cell 27 (Surficial)	Cell 28 (Surficial)	Cell 36 (Surficial)			
Arsenic	**99.1**	**66.8**	**34.8**	**9.20**	**14.1**	**14.7**	**88.1**	**91.3**	**18.1**	**14.8**	0.68	3.0	120
Barium	236	868	1,150	92.3	135	116	234	219	147	141	15,000	220,000	--[2]
Cadmium	54.1	37.9	24.1	1.75	3.80	5.38	30.4	31.1	5.19	2.41	71.0	980	100
Chromium	7.31	12.3	8.08	11.1	7.74	103	8.28	12.3	12.3	14.1	120,000	1,800,000	--[2]
Lead	**3,190**	**2,930**	**1,540**	122	240	264	**1,880**	**2,020**	287	199	400	800	3,500
Manganese	6,960	5,690	2,760	525	1,170	1,270	4,520	4,210	1,510	398	1,800	26,000	--[2]
Mercury	0.468	0.298	0.504	0.067	0.126	1.42	0.175	0.171	0.111	0.087	11.0	46.0	--[2]
Silver	18.9	15.7	7.72	<0.50	1.09	0.060	9.92	10.4	1.28	0.55	390	5,800	--[2]

Notes: All results are reported in parts per million (ppm).
[1]United States Environmental Protection Agency (EPA) Regional Screening Levels (RSLs)
[2]No action levels established
Bold and Shaded values exceed the composite worker RSLs
Shaded values exceed the resident soil RSLs

Lake County Building & Land Use Department
Building Land Use Code Enforcement
505 Harrison Avenue • PO Box 513 • Leadville, Colorado 80461 • (719) 486-2875 • Fax (719) 486-4179

Best Management Practices for Managing Lead, Arsenic and Cadmium Containing Soils in Lake County, Colorado

This document summarizes Best Management Practices (BMPs) for Lake County building permit applicants to consider when developing property within the boundaries of certain operable units of the California Gulch Superfund Site. Performance of these BMPs is not legally required for your building permit to be issued. This is an educational handout intended to inform the public regarding suggested procedures to consider that are recognized to be the most effective and practical means of addressing lead, arsenic and cadmium contamination in soil and preventing its distribution to other areas. Utilization of these procedures may minimize the disturbance, transfer, inhalation and ingestion of contaminated soils and may serve to reduce impacts to human health and to the Arkansas River watershed.

Introduction

Lead, arsenic and cadmium occur naturally in soil and water. Some soils are naturally high in lead, arsenic and cadmium, but may have been artificially enriched through a variety of means, principally industrialization.

Sources of lead in soil include natural background soil lead, lead-based paint, leaded gasoline, air emissions from smelters and mines, mine tailings and dust blown from tailings piles, and other various sources. Other common sources of lead exposure not related to soil include consumer products such as toys, imported candy and other household items. Lead in soil may or may not pose a health hazard, depending on several factors, including amount of lead in soil (high or low), the type of lead (metals speciation) and the pathway to human exposure. High levels of lead exposure can adversely affect human health, however the most vulnerable population is preschool age children and pregnant and nursing women.

Sources of arsenic in soil include natural background soil arsenic, air emissions from smelters and mines, mine tailings and dust blown from tailings piles, pesticide use and wood preservatives. Arsenic also has many beneficial uses but can cause human health problems if exposure is sufficient.

Sources of cadmium include natural background soil, air emissions from smelters and mines, mine tailings and dust blown from mine tailings piles and phosphate fertilizers. Exposure to high levels of cadmium can adversely affect human health.

Testing Your Soil

Applicants for a Lake County building permit may wish to determine whether the soil at the location of the project for which the permit is requested contains lead, arsenic or cadmium at levels that are deemed high by the U.S. Environmental Protection Agency. This is accomplished by soil testing through a qualified soil-testing laboratory. If soil

lead, arsenic or cadmium levels are high, this document provides a recommended course of action for both residential and commercial development.

A review of historical activities at the subject property is one way to determine whether you may want to perform further testing. Suspect areas for lead, arsenic and cadmium may include property that contains or is near mine tailings from current or former mill sites or waste rock from metal mines or is within one mile of a former smelter operation. Permit applicants may suspect soil lead contamination if the property contains an older building or other structures once painted with lead-based paints. Permit applicants may also suspect soil lead contamination if the property is located near roadways or high traffic routes.

The first step, once you have decided to test your soil, is to locate a soil testing laboratory to discuss requirements for soil sample size and containers before collecting samples. Generally, samples can be taken with a stainless steel or non-metallic trowel and placed in a Ziplock bag. Most laboratories have suggested soil sampling techniques.

Soil samples from suspect areas of the property or representative areas of the property may be taken. Particular attention may be paid to garden areas, areas of bare soil, distinct play areas for children, etc.

Soil sampling is not necessary in areas to be covered with asphalt pavement (two-inch minimum thickness), concrete, or at least 6 inches of clean soil cap, because these types of barriers will assist in preventing any potential exposure to humans.

The U.S. Environmental Protection Agency recommends the following as the acceptable range of lead concentration in soil for the California Gulch Superfund Site:

Residential: Less than 3500 ppm lead
Commercial: Less than 6700 ppm lead
Recreational: Less than 16000 ppm lead

The U.S. Environmental Protection Agency recommends the following as the acceptable range of arsenic concentration in soil for the California Gulch Superfund Site:

Residential: 120-340 ppm arsenic

The U.S. Environmental Protection Agency recommends the following as the acceptable range of cadmium concentration in soil for the California Gulch Superfund Site:

Residential: 100 ppm cadmium

How to Manage Contaminated Soil

If test results demonstrate that soil lead, arsenic or cadmium exceed the above standards, EPA recommends the following methods for managing the lead, arsenic or cadmium contaminated soil.

1. Place a barrier or cap on the contaminated soil by covering with 6 inches of clean topsoil, a two-inch asphalt cap or concrete cap, a building or a structure, install and maintain landscaping (grass or gravel), or restrict access. Any method that serves to break the exposure pathway is effective.

2. Dig up and remove soil containing elevated lead, arsenic or cadmium concentrations. Transport the contaminated soil to the designated repository location in Lake County. Replace the excavated soil with soil containing acceptable lead, arsenic and cadmium levels. Take care not to replace the soil with contaminated soil. You can ensure this by testing the replacement soil or obtaining proof of testing from the person or entity providing the soil. You may also decide to excavate soil and leave it on your property with a cap, landscaping or reuse onsite in an acceptable manner as described in #1 above.

Disclaimer

The use of this handout which outlines BMPs for lead in soil in Lake County shall not create any liability on the part of Lake County or any officer, agent or employee thereof for any claims of any kind alleged to be related to or arising from reliance on the contents of this handout.

Further Information

Further information regarding lead, arsenic and cadmium in soil can be obtained by contacting:

Colorado Department of Public Health and Environment

Kyle Sandor
Hazardous Materials and Waste Management Division
HMWMD-B2
4300 Cherry Creek Drive South
Denver, CO 80246
Telephone: 303-692-3300 kyle.sandor@state.co.us

The U.S. Environmental Protection Agency

Linda Kiefer
U. S. EPA Region 8 (8P-P3T)
1595 Wynkoop Street
Denver, CO 80202-1129
Telephone: 303-312-6689 Kiefer.linda@EPA.gov

The Lake County Community Health Program (LCCHP) Phase 2
The LCCHP Phase 2 program serves as the institutional control for Operable Unit 9 of the California Gulch Superfund site. The LCCHP Phase 2 is a program operated by Lake County that includes lead educational services, blood lead testing for children ages 6 months to 6 years and pregnant women, including additional services to children and pregnant women with elevated levels of lead in their blood. For more information contact Colleen Nielsen, Director.
719-486-4152 cnielsen@co.lake.co.us

Blood Lead Program Coordinator
Heidi Colley, LPN, BSN
719-486-7479 hcolley@co.lake.co.us

Colorado Department of Public Health and Environment Stormwater Regulations website:
http://www.cdphe.state.co.us/regulations/wqccregs/index.html

List of Soil Testing Laboratories

ACZ Laboratories, Inc.
2773 Downhill Drive
Steamboat Springs, CO 80487
800-334-5493
www.acz.com sales@acz.com

Analytica Environmental Laboratories, Inc.
12189 Pennsylvania St.
Thornton, CO 80241
303-469-8868
www.analyticagroup.com info@analyticagroup.com

Colorado Analytical Laboratory
240 S. Main St.
PO Box 507
Brighton, CO 80601
303-659-2313
www.coloradolab.com info@coloradolab.com

I,_____(print name) affirm that I have reviewed this document and have received a copy same witnessed by my signature, this _____day of _____, 20_____.

_____
Applicant

APPENDIX A

BORING LOG

PROJECT 130 West 12th Street | **BORING NUMBER** B-1 South
LOCATION Leadville, Colorado | **SHEET** 1 **of** 1
DRILLER Dakota Drilling | **HAMMER** -- | **PROJECT NO.** 2017-2022.21
EQUIPMENT Hollow-Stem Auger Rig | **ELEVATION** -- | **DATE DRILLED** 09/30/19

DEPTH (ft)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE RECOVERY (in/in)	SAMPLE BLOWS (per 6 in)	DESCRIPTION (UNIFIED SOIL CLASSIFICATION)	GRAPHIC	SEE REMARK NO.	LABORATORY TEST RESULTS: MOISTURE CONTENT (%)	DRY DENSITY (pcf)	HAND PENETROMETER (ksf)	PID READING (ppm)	LIQUID LIMIT	PLASTIC LIMIT	DEPTH (ft)
0					POORLY GRADED GRAVELLY SAND (SP): Brown, sand and gravel was fine to coarse, trace brown, lean clay									0
1	1	CS	22/30								<1.0			1
2											<1.0			2
3											<1.0			3
4	2	CS	18/30											4
5											<1.0			5
6	3	CS	6/12				1				<1.0			6
					Refusal at 6 feet.									
7														7
8														8
9														9

WATER LEVEL:
- X — NONE OBSERVED WHILE DRILLING
- ____ ft WHILE DRILLING
- ____ ft ____ HRS AFTER DRILLING
- ____ ft ____ DAYS AFTER DRILLING

REMARKS:
1) Denotes depth at which soil sample was submitted for laboratory analysis.

BORING LOG

PROJECT 130 West 12th Street | **BORING NUMBER** B-2 West
LOCATION Leadville, Colorado | **SHEET** 1 **of** 1
DRILLER Dakota Drilling | **HAMMER** -- | **PROJECT NO.** 2017-2022.21
EQUIPMENT Hollow-Stem Auger Rig | **ELEVATION** -- | **DATE DRILLED** 09/30/19

DEPTH (ft)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE RECOVERY (in/in)	SAMPLE BLOWS (per 6 in)	DESCRIPTION (UNIFIED SOIL CLASSIFICATION)	GRAPHIC	SEE REMARK NO.	LABORATORY TEST RESULTS: MOISTURE CONTENT (%)	DRY DENSITY (pcf)	HAND PENETROMETER (ksf)	PID READING (ppm)	LIQUID LIMIT	PLASTIC LIMIT	DEPTH (ft)
1	1	CS	14/30		POORLY GRADED GRAVELLY SAND (SP): Brown, sand and gravel was fine to coarse, trace brown, lean clay						<1.0			1
2														2
3														3
4	2	CS	18/30				1				<1.0			4
5					Refusal at 5 feet.									5
6														6
7														7
8														8
9														9

WATER LEVEL:
- X — NONE OBSERVED WHILE DRILLING
- ____ ft WHILE DRILLING
- ____ ft ____ HRS AFTER DRILLING
- ____ ft ____ DAYS AFTER DRILLING

REMARKS:
1) Denotes depth at which soil sample was submitted for laboratory analysis.

BORING LOG

PROJECT 130 West 12th Street | **BORING NUMBER** B-3 East
LOCATION Leadville, Colorado | **SHEET** 1 **of** 1
DRILLER Dakota Drilling | **HAMMER** -- | **PROJECT NO.** 2017-2022.21
EQUIPMENT Hollow-Stem Auger Rig | **ELEVATION** -- | **DATE DRILLED** 09/30/19

DEPTH (ft)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE RECOVERY (in/in)	SAMPLE BLOWS (per 6 in)	DESCRIPTION (UNIFIED SOIL CLASSIFICATION)	GRAPHIC	SEE REMARK NO.	LABORATORY TEST RESULTS: MOISTURE CONTENT (%)	DRY DENSITY (pcf)	HAND PENETROMETER (ksf)	PID READING (ppm)	LIQUID LIMIT	PLASTIC LIMIT	DEPTH (ft)
	1	CS	18/24		POORLY GRADED GRAVELLY SAND (SP): Brown, sand and gravel was fine to coarse, trace brown, lean clay						<1.0			
3	2	CS	14/24								<1.0			3
	3	CS	12/24								<1.0			
6	4	CS	18/24				1				2.1			6
9	5	CS	18/24								<1.0			9
	6	CS	8/24								<1.0			
12	7	CS	0/24		NO RECOVERY									12
	8	CS	0/12											
15					Refusal at 15 feet.									15
18														18

WATER LEVEL:

X	NONE OBSERVED WHILE DRILLING
	ft WHILE DRILLING
	ft ___ HRS AFTER DRILLING
	ft ___ DAYS AFTER DRILLING

REMARKS:
1) Denotes depth at which soil sample was submitted for laboratory analysis.

BORING LOG

PROJECT 130 West 12th Street | **BORING NUMBER** B-4 North
LOCATION Leadville, Colorado | **SHEET** 1 **of** 1
DRILLER Dakota Drilling | **HAMMER** -- | **PROJECT NO.** 2017-2022.21
EQUIPMENT Hollow-Stem Auger Rig | **ELEVATION** -- | **DATE DRILLED** 10/01/19

DEPTH (ft)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE RECOVERY (in/in)	SAMPLE BLOWS (per 6 in)	DESCRIPTION (UNIFIED SOIL CLASSIFICATION)	GRAPHIC	SEE REMARK NO.	LABORATORY TEST RESULTS: MOISTURE CONTENT (%)	DRY DENSITY (pcf)	HAND PENETROMETER (ksf)	PID READING (ppm)	LIQUID LIMIT	PLASTIC LIMIT	DEPTH (ft)
	1	CS	16/24		SANDY LEAN CLAY (CL): Brown, sand was fine to coarse						<1.0			
3	2	CS	14/24								<1.0			3
	3	CS	20/24								<1.0			
6	4	CS	18/24								<1.0			6
	5	CS	14/24								<1.0			
9	6	CS	8/24				1				<1.0			9
12	7	CS	2/24								<1.0			12
					Refusal at 14 feet.									
15														15
18														18

WATER LEVEL:
- X — NONE OBSERVED WHILE DRILLING
- ____ ft WHILE DRILLING
- ____ ft ____ HRS AFTER DRILLING
- ____ ft ____ DAYS AFTER DRILLING

REMARKS:
1) Denotes depth at which soil sample was submitted for laboratory analysis.

APPENDIX B

October 10, 2019

Michelle Eaton
SCI Engineering, Inc.
130 Point West Boulevard
St. Charles, MO 63301
TEL: (720) 544-3663
FAX: (636) 949-8269

RE: 34th Park Elementary **WorkOrder:** 19100242

Dear Michelle Eaton:

TEKLAB, INC received 14 samples on 10/3/2019 9:37:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Emily Pohlman
Project Manager
(618)344-1004 ex 44
epohlman@teklabinc.com

Report Contents

Client: SCI Engineering, Inc.
Work Order: 19100242
Client Project: 34th Park Elementary
Report Date: 10-Oct-2019

This reporting package includes the following:

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon
B -	Analyte detected in associated Method Blank
C -	RL shown is a Client Requested Quantitation Limit
E -	Value above quantitation range
H -	Holding times exceeded
I -	Associated internal standard was outside method criteria
J -	Analyte detected below quantitation limits
M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit
R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits
T -	TIC(Tentatively identified compound)
X -	Value exceeds Maximum Contaminant Level

Case Narrative

http://www.teklabinc.com/

Client: SCI Engineering, Inc.
Client Project: 34th Park Elementary

Work Order: 19100242
Report Date: 10-Oct-2019

Cooler Receipt Temp: 6.0 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2020	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-001 **Client Sample ID:** B-1 South

Matrix: SOLID **Collection Date:** 09/30/2019 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**3.0**	%	1	10/04/2019 13:27	R267799
SW-846 3550B, 8270C SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
TPH-DRO (C10 - C21)	*	12.4		**ND**	mg/Kg-dry	1	10/04/2019 16:49	158003
Surr: 2-Fluorobiphenyl	*	23.6-99.4		**71.2**	%REC	1	10/04/2019 16:49	158003
Surr: Nitrobenzene-d5	*	20.6-99		**73.4**	%REC	1	10/04/2019 16:49	158003
Surr: p-Terphenyl-d14	*	28.1-111		**84.2**	%REC	1	10/04/2019 16:49	158003
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzene	NELAP	1.0		**ND**	µg/Kg-dry	1	10/03/2019 13:27	157989
Ethylbenzene	NELAP	2.0		**ND**	µg/Kg-dry	1	10/03/2019 13:27	157989
Methyl tert-butyl ether	NELAP	2.0		**ND**	µg/Kg-dry	1	10/03/2019 13:27	157989
Toluene	NELAP	2.0		**ND**	µg/Kg-dry	1	10/03/2019 13:27	157989
Xylenes, Total	NELAP	8.1		**ND**	µg/Kg-dry	1	10/03/2019 13:27	157989
Surr: 1,2-Dichloroethane-d4	*	74-124		**93.4**	%REC	1	10/03/2019 13:27	157989
Surr: 4-Bromofluorobenzene	*	79.4-123		**99.0**	%REC	1	10/03/2019 13:27	157989
Surr: Dibromofluoromethane	*	89.2-112		**98.6**	%REC	1	10/03/2019 13:27	157989
Surr: Toluene-d8	*	85-115		**97.4**	%REC	1	10/03/2019 13:27	157989

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-002 **Client Sample ID:** B-2 West

Matrix: SOLID **Collection Date:** 09/30/2019 14:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**4.7**	%	1	10/04/2019 13:27	R267799
SW-846 3550B, 8270C SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
TPH-DRO (C10 - C21)	*	12.6		**ND**	mg/Kg-dry	1	10/04/2019 18:21	158003
Surr: 2-Fluorobiphenyl	*	23.6-99.4		**60.7**	%REC	1	10/04/2019 18:21	158003
Surr: Nitrobenzene-d5	*	20.6-99		**66.9**	%REC	1	10/04/2019 18:21	158003
Surr: p-Terphenyl-d14	*	28.1-111		**80.6**	%REC	1	10/04/2019 18:21	158003
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzene	NELAP	0.9		**ND**	µg/Kg-dry	1	10/03/2019 13:55	157988
Ethylbenzene	NELAP	1.8		**ND**	µg/Kg-dry	1	10/03/2019 13:55	157988
Methyl tert-butyl ether	NELAP	1.8		**ND**	µg/Kg-dry	1	10/03/2019 13:55	157988
Toluene	NELAP	1.8		**ND**	µg/Kg-dry	1	10/03/2019 13:55	157988
Xylenes, Total	NELAP	7.1		**ND**	µg/Kg-dry	1	10/03/2019 13:55	157988
Surr: 1,2-Dichloroethane-d4	*	74-124		**96.9**	%REC	1	10/03/2019 13:55	157988
Surr: 4-Bromofluorobenzene	*	79.4-123		**106.6**	%REC	1	10/03/2019 13:55	157988
Surr: Dibromofluoromethane	*	89.2-112		**100.4**	%REC	1	10/03/2019 13:55	157988
Surr: Toluene-d8	*	85-115		**100.5**	%REC	1	10/03/2019 13:55	157988

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-003 **Client Sample ID:** B-3 East

Matrix: SOLID **Collection Date:** 09/30/2019 16:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**4.6**	%	1	10/04/2019 13:27	R267799
SW-846 3550B, 8270C SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
TPH-DRO (C10 - C21)	*	12.6		**ND**	mg/Kg-dry	1	10/04/2019 18:51	158003
Surr: 2-Fluorobiphenyl	*	23.6-99.4		**49.1**	%REC	1	10/04/2019 18:51	158003
Surr: Nitrobenzene-d5	*	20.6-99		**54.3**	%REC	1	10/04/2019 18:51	158003
Surr: p-Terphenyl-d14	*	28.1-111		**75.8**	%REC	1	10/04/2019 18:51	158003
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzene	NELAP	0.9		**ND**	µg/Kg-dry	1	10/03/2019 14:21	157988
Ethylbenzene	NELAP	1.7		**ND**	µg/Kg-dry	1	10/03/2019 14:21	157988
Methyl tert-butyl ether	NELAP	1.7		**ND**	µg/Kg-dry	1	10/03/2019 14:21	157988
Toluene	NELAP	1.7		**ND**	µg/Kg-dry	1	10/03/2019 14:21	157988
Xylenes, Total	NELAP	6.9		**ND**	µg/Kg-dry	1	10/03/2019 14:21	157988
Surr: 1,2-Dichloroethane-d4	*	74-124		**96.1**	%REC	1	10/03/2019 14:21	157988
Surr: 4-Bromofluorobenzene	*	79.4-123		**104.5**	%REC	1	10/03/2019 14:21	157988
Surr: Dibromofluoromethane	*	89.2-112		**101.4**	%REC	1	10/03/2019 14:21	157988
Surr: Toluene-d8	*	85-115		**99.9**	%REC	1	10/03/2019 14:21	157988

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-004 **Client Sample ID:** B-4 North

Matrix: SOLID **Collection Date:** 10/01/2019 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**5.1**	%	1	10/04/2019 13:28	R267799
SW-846 3550B, 8270C SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
TPH-DRO (C10 - C21)	*	63.2		**ND**	mg/Kg-dry	5	10/04/2019 19:22	158003
Surr: 2-Fluorobiphenyl	*	23.6-99.4		**62.1**	%REC	5	10/04/2019 19:22	158003
Surr: Nitrobenzene-d5	*	20.6-99		**68.3**	%REC	5	10/04/2019 19:22	158003
Surr: p-Terphenyl-d14	*	28.1-111		**71.5**	%REC	5	10/04/2019 19:22	158003
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzene	NELAP	1.0		**ND**	µg/Kg-dry	1	10/03/2019 13:56	157989
Ethylbenzene	NELAP	1.9		**ND**	µg/Kg-dry	1	10/03/2019 13:56	157989
Methyl tert-butyl ether	NELAP	1.9		**ND**	µg/Kg-dry	1	10/03/2019 13:56	157989
Toluene	NELAP	1.9		**ND**	µg/Kg-dry	1	10/03/2019 13:56	157989
Xylenes, Total	NELAP	7.6		**ND**	µg/Kg-dry	1	10/03/2019 13:56	157989
Surr: 1,2-Dichloroethane-d4	*	74-124		**90.5**	%REC	1	10/03/2019 13:56	157989
Surr: 4-Bromofluorobenzene	*	79.4-123		**98.7**	%REC	1	10/03/2019 13:56	157989
Surr: Dibromofluoromethane	*	89.2-112		**97.3**	%REC	1	10/03/2019 13:56	157989
Surr: Toluene-d8	*	85-115		**96.5**	%REC	1	10/03/2019 13:56	157989

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-005 **Client Sample ID:** Cell 36

Matrix: SOLID **Collection Date:** 10/02/2019 9:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**12.8**	%	1	10/04/2019 13:29	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.27		**14.8**	mg/Kg-dry	1	10/08/2019 15:59	158045
Barium	NELAP	0.45		**141**	mg/Kg-dry	1	10/08/2019 15:59	158045
Cadmium	NELAP	0.18		**2.41**	mg/Kg-dry	1	10/08/2019 15:59	158045
Chromium	NELAP	0.45		**14.1**	mg/Kg-dry	1	10/08/2019 15:59	158045
Lead	NELAP	1.36		**199**	mg/Kg-dry	1	10/08/2019 15:59	158045
Manganese	NELAP	0.41		**393**	mg/Kg-dry	1	10/08/2019 15:59	158045
Selenium	NELAP	3.64		**< 3.64**	mg/Kg-dry	1	10/08/2019 15:59	158045
Silver	NELAP	0.45		**0.55**	mg/Kg-dry	1	10/08/2019 15:59	158045
SW-846 7471B								
Mercury	NELAP	0.011		**0.087**	mg/Kg-dry	1	10/04/2019 13:53	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-006 **Client Sample ID:** Cell 28

Matrix: SOLID **Collection Date:** 10/02/2019 10:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**1.7**	%	1	10/04/2019 13:29	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.50		**18.1**	mg/Kg-dry	1	10/08/2019 16:03	158045
Barium	NELAP	0.50		**147**	mg/Kg-dry	1	10/08/2019 16:03	158045
Cadmium	NELAP	0.20		**5.19**	mg/Kg-dry	1	10/08/2019 16:03	158045
Chromium	NELAP	0.50		**12.3**	mg/Kg-dry	1	10/08/2019 16:03	158045
Lead	NELAP	1.50		**287**	mg/Kg-dry	1	10/08/2019 16:03	158045
Manganese	NELAP	0.45		**1510**	mg/Kg-dry	1	10/08/2019 16:03	158045
Selenium	NELAP	4.00		**< 4.00**	mg/Kg-dry	1	10/08/2019 16:03	158045
Silver	NELAP	0.50		**1.28**	mg/Kg-dry	1	10/08/2019 16:03	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.111**	mg/Kg-dry	1	10/04/2019 13:55	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-007 **Client Sample ID:** Cell 20

Matrix: SOLID **Collection Date:** 10/02/2019 10:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**1.1**	%	1	10/04/2019 13:30	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.50		**9.20**	mg/Kg-dry	1	10/08/2019 16:06	158045
Barium	NELAP	0.50		**92.3**	mg/Kg-dry	1	10/08/2019 16:06	158045
Cadmium	NELAP	0.20		**1.75**	mg/Kg-dry	1	10/08/2019 16:06	158045
Chromium	NELAP	0.50		**11.1**	mg/Kg-dry	1	10/08/2019 16:06	158045
Lead	NELAP	1.50		**122**	mg/Kg-dry	1	10/08/2019 16:06	158045
Manganese	NELAP	0.45		**525**	mg/Kg-dry	1	10/08/2019 16:06	158045
Selenium	NELAP	4.00		**< 4.00**	mg/Kg-dry	1	10/08/2019 16:06	158045
Silver	NELAP	0.50		**< 0.50**	mg/Kg-dry	1	10/08/2019 16:06	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.067**	mg/Kg-dry	1	10/04/2019 13:58	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-008 **Client Sample ID:** Cell 21

Matrix: SOLID **Collection Date:** 10/02/2019 10:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**2.1**	%	1	10/04/2019 13:31	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.27		**14.1**	mg/Kg-dry	1	10/08/2019 16:21	158045
Barium	NELAP	0.45		**135**	mg/Kg-dry	1	10/08/2019 16:21	158045
Cadmium	NELAP	0.18		**3.80**	mg/Kg-dry	1	10/08/2019 16:21	158045
Chromium	NELAP	0.45		**7.74**	mg/Kg-dry	1	10/08/2019 16:21	158045
Lead	NELAP	1.36		**240**	mg/Kg-dry	1	10/08/2019 16:21	158045
Manganese	NELAP	0.41		**1170**	mg/Kg-dry	1	10/08/2019 16:21	158045
Selenium	NELAP	3.64		**< 3.64**	mg/Kg-dry	1	10/08/2019 16:21	158045
Silver	NELAP	0.45		**1.09**	mg/Kg-dry	1	10/08/2019 16:21	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.126**	mg/Kg-dry	1	10/04/2019 14:00	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-009 **Client Sample ID:** Cell 23

Matrix: SOLID **Collection Date:** 10/02/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**0.6**	%	1	10/04/2019 13:31	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.40		**14.7**	mg/Kg-dry	1	10/08/2019 16:25	158045
Barium	NELAP	0.48		**116**	mg/Kg-dry	1	10/08/2019 16:25	158045
Cadmium	NELAP	0.19		**5.38**	mg/Kg-dry	1	10/08/2019 16:25	158045
Chromium	NELAP	0.48		**10.3**	mg/Kg-dry	1	10/08/2019 16:25	158045
Lead	NELAP	1.44	S	**264**	mg/Kg-dry	1	10/08/2019 16:25	158045
Manganese	NELAP	4.41	S	**1270**	mg/Kg-dry	10	10/10/2019 15:07	158137
Selenium	NELAP	3.85		**< 3.85**	mg/Kg-dry	1	10/08/2019 16:25	158045
Silver	NELAP	0.48		**1.42**	mg/Kg-dry	1	10/08/2019 16:25	158045

Mn- Matrix spike did not recover within control limits due to sample composition. Verified by re-prep and re-analysis.
Matrix spike control limits for Pb are not applicable due to high sample/spike ratio.

SW-846 7471B								
Mercury	NELAP	0.010		**0.060**	mg/Kg-dry	1	10/04/2019 14:02	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-010 **Client Sample ID:** Cell 3

Matrix: SOLID **Collection Date:** 10/02/2019 11:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**1.8**	%	1	10/04/2019 13:32	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.36		**99.1**	mg/Kg-dry	1	10/08/2019 16:36	158045
Barium	NELAP	0.47		**236**	mg/Kg-dry	1	10/08/2019 16:36	158045
Cadmium	NELAP	0.19		**54.1**	mg/Kg-dry	1	10/08/2019 16:36	158045
Chromium	NELAP	0.47		**7.31**	mg/Kg-dry	1	10/08/2019 16:36	158045
Lead	NELAP	1.42		**3190**	mg/Kg-dry	1	10/08/2019 16:36	158045
Manganese	NELAP	4.25		**6960**	mg/Kg-dry	10	10/09/2019 10:57	158045
Selenium	NELAP	4.72		**< 4.72**	mg/Kg-dry	1	10/08/2019 16:36	158045
Silver	NELAP	0.47		**18.9**	mg/Kg-dry	1	10/08/2019 16:36	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.468**	mg/Kg-dry	1	10/04/2019 14:04	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-011 **Client Sample ID:** Cell 5

Matrix: SOLID **Collection Date:** 10/02/2019 11:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**3.1**	%	1	10/04/2019 13:32	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.45		**66.8**	mg/Kg-dry	1	10/08/2019 16:39	158045
Barium	NELAP	0.49		**868**	mg/Kg-dry	1	10/08/2019 16:39	158045
Cadmium	NELAP	0.20		**37.9**	mg/Kg-dry	1	10/08/2019 16:39	158045
Chromium	NELAP	0.49		**12.3**	mg/Kg-dry	1	10/08/2019 16:39	158045
Lead	NELAP	1.47		**2930**	mg/Kg-dry	1	10/08/2019 16:39	158045
Manganese	NELAP	4.41		**5690**	mg/Kg-dry	10	10/09/2019 11:01	158045
Selenium	NELAP	3.92		**< 3.92**	mg/Kg-dry	1	10/08/2019 16:39	158045
Silver	NELAP	0.49		**15.7**	mg/Kg-dry	1	10/08/2019 16:39	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.298**	mg/Kg-dry	1	10/04/2019 14:11	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-012 **Client Sample ID:** Cell 25

Matrix: SOLID **Collection Date:** 10/02/2019 11:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**1.0**	%	1	10/04/2019 13:33	R267799
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.50		**88.1**	mg/Kg-dry	1	10/08/2019 16:43	158045
Barium	NELAP	0.50		**234**	mg/Kg-dry	1	10/08/2019 16:43	158045
Cadmium	NELAP	0.20		**30.4**	mg/Kg-dry	1	10/08/2019 16:43	158045
Chromium	NELAP	0.50		**8.28**	mg/Kg-dry	1	10/08/2019 16:43	158045
Lead	NELAP	1.50		**1880**	mg/Kg-dry	1	10/08/2019 16:43	158045
Manganese	NELAP	4.50		**4520**	mg/Kg-dry	10	10/09/2019 11:05	158045
Selenium	NELAP	4.00		**< 4.00**	mg/Kg-dry	1	10/08/2019 16:43	158045
Silver	NELAP	0.50		**9.92**	mg/Kg-dry	1	10/08/2019 16:43	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.175**	mg/Kg-dry	1	10/04/2019 14:13	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-013 **Client Sample ID:** Cell 7

Matrix: SOLID **Collection Date:** 10/02/2019 11:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**3.4**	%	1	10/09/2019 18:10	R267950
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.36		**34.8**	mg/Kg-dry	1	10/08/2019 16:47	158045
Barium	NELAP	4.72		**1150**	mg/Kg-dry	10	10/09/2019 11:08	158045
Cadmium	NELAP	0.19		**24.1**	mg/Kg-dry	1	10/08/2019 16:47	158045
Chromium	NELAP	0.47		**8.08**	mg/Kg-dry	1	10/08/2019 16:47	158045
Lead	NELAP	1.42		**1540**	mg/Kg-dry	1	10/08/2019 16:47	158045
Manganese	NELAP	4.25		**2760**	mg/Kg-dry	10	10/09/2019 11:08	158045
Selenium	NELAP	3.77		**< 3.77**	mg/Kg-dry	1	10/08/2019 16:47	158045
Silver	NELAP	0.47		**7.72**	mg/Kg-dry	1	10/08/2019 16:47	158045
SW-846 7471B								
Mercury	NELAP	0.020		**0.504**	mg/Kg-dry	2	10/04/2019 14:52	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

Lab ID: 19100242-014 **Client Sample ID:** Cell 27

Matrix: SOLID **Collection Date:** 10/02/2019 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**1.6**	%	1	10/09/2019 18:11	R267950
SW-846 3050B, 6010B, METALS BY ICP								
Arsenic	NELAP	2.40		**91.3**	mg/Kg-dry	1	10/08/2019 16:50	158045
Barium	NELAP	0.48		**219**	mg/Kg-dry	1	10/08/2019 16:50	158045
Cadmium	NELAP	0.19		**31.1**	mg/Kg-dry	1	10/08/2019 16:50	158045
Chromium	NELAP	0.48		**12.3**	mg/Kg-dry	1	10/08/2019 16:50	158045
Lead	NELAP	1.44		**2020**	mg/Kg-dry	1	10/08/2019 16:50	158045
Manganese	NELAP	4.33		**4210**	mg/Kg-dry	10	10/09/2019 11:12	158045
Selenium	NELAP	3.85		**< 3.85**	mg/Kg-dry	1	10/08/2019 16:50	158045
Silver	NELAP	0.48		**10.4**	mg/Kg-dry	1	10/08/2019 16:50	158045
SW-846 7471B								
Mercury	NELAP	0.010		**0.171**	mg/Kg-dry	1	10/04/2019 14:18	157948

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R267799 **SampType:** LCS Units **%**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	10/04/2019

Batch R267799 **SampType:** LCSQC Units **%**

SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	10/04/2019

Batch R267950 **SampType:** LCS Units **%**

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	10/09/2019

Batch R267950 **SampType:** LCSQC Units **%**

SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	10/09/2019

SW-846 3050B, 6010B, METALS BY ICP

Batch 158045 **SampType:** MBLK Units **mg/Kg-dry**

SampID: MBLK-158045

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	2.50		**< 2.50**	0.9700	0	0	-100	100	10/08/2019
Barium	0.50		**< 0.50**	0.1700	0	0	-100	100	10/08/2019
Cadmium	0.20		**< 0.20**	0.05000	0	0	-100	100	10/08/2019
Chromium	0.50		**< 0.50**	0.2300	0	0	-100	100	10/08/2019
Lead	1.50		**< 1.50**	0.5900	0	0	-100	100	10/08/2019
Manganese	0.45		**< 0.45**	0.1600	0	0	-100	100	10/08/2019
Selenium	4.00		**< 4.00**	1.680	0	0	-100	100	10/08/2019
Silver	0.50		**< 0.50**	0.1100	0	0	-100	100	10/08/2019

Batch 158045 **SampType:** LCS Units **mg/Kg-dry**

SampID: LCS-158045

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	2.50		**48.7**	50.00	0	97.5	85	115	10/08/2019
Barium	0.50		**205**	200.0	0	102.4	85	115	10/08/2019
Cadmium	0.20		**5.01**	5.000	0	100.2	85	115	10/08/2019
Chromium	0.50		**20.1**	20.00	0	100.5	85	115	10/08/2019
Lead	1.50		**50.0**	50.00	0	99.9	85	115	10/08/2019
Manganese	0.45		**49.4**	50.00	0	98.8	85	115	10/08/2019
Selenium	4.00		**47.1**	50.00	0	94.2	85	115	10/08/2019
Silver	0.50		**4.92**	5.000	0	98.4	85	115	10/08/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 3050B, 6010B, METALS BY ICP

Batch 158045 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100242-009AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	2.31		**58.0**	46.30	14.68	93.5	75	125	10/08/2019
Barium	0.46		**278**	185.2	115.7	87.7	75	125	10/08/2019
Cadmium	0.19		**9.48**	4.630	5.385	88.5	75	125	10/08/2019
Chromium	0.46		**28.9**	18.52	10.29	100.3	75	125	10/08/2019
Lead	1.39	S	**290**	46.30	264.0	55.9	75	125	10/08/2019
Selenium	3.70		**42.8**	46.30	0	92.5	75	125	10/08/2019
Silver	0.46		**5.94**	4.630	1.423	97.5	75	125	10/08/2019

Batch 158045 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **20**

SampID: 19100242-009AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic	2.45		**61.7**	49.02	14.68	95.9	57.95	6.27	10/08/2019
Barium	0.49		**289**	196.1	115.7	88.2	278.1	3.66	10/08/2019
Cadmium	0.20		**9.47**	4.902	5.385	83.4	9.481	0.11	10/08/2019
Chromium	0.49		**30.7**	19.61	10.29	104.2	28.86	6.26	10/08/2019
Lead	1.47	S	**274**	49.02	264.0	21.0	289.9	5.53	10/08/2019
Selenium	3.92		**44.0**	49.02	0	89.8	42.81	2.82	10/08/2019
Silver	0.49		**6.02**	4.902	1.423	93.8	5.935	1.41	10/08/2019

Batch 158045 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100266-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	2.27		**45.7**	45.45	4.302	91.0	75	125	10/08/2019
Cadmium	0.18		**5.51**	4.545	1.377	90.9	75	125	10/08/2019
Chromium	0.45		**50.6**	18.18	35.07	85.6	75	125	10/08/2019
Lead	1.36		**83.2**	45.45	41.34	92.1	75	125	10/08/2019
Manganese	0.41		**200**	45.45	159.8	88.2	75	125	10/08/2019
Silver	0.45		**8.81**	4.545	5.132	80.9	75	125	10/08/2019

Batch 158045 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **20**

SampID: 19100266-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Arsenic	2.45		**49.1**	49.02	4.302	91.4	45.67	7.23	10/08/2019
Cadmium	0.20		**5.85**	4.902	1.377	91.3	5.509	6.05	10/08/2019
Chromium	0.49		**52.2**	19.61	35.07	87.3	50.64	3.01	10/08/2019
Lead	1.47		**84.5**	49.02	41.34	88.1	83.20	1.57	10/08/2019
Manganese	0.44		**203**	49.02	159.8	89.0	199.9	1.75	10/08/2019
Silver	0.49		**9.24**	4.902	5.132	83.7	8.809	4.72	10/08/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 3050B, 6010B, METALS BY ICP

Batch 158137 **SampType:** MBLK Units **mg/Kg-dry**

SampID: MBLK-158137

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	2.50		**< 2.50**	0.9700	0	0	-100	100	10/10/2019
Barium	0.50		**< 0.50**	0.1700	0	0	-100	100	10/10/2019
Cadmium	0.20		**< 0.20**	0.05000	0	0	-100	100	10/10/2019
Chromium	0.50		**< 0.50**	0.2300	0	0	-100	100	10/10/2019
Lead	1.50		**< 1.50**	0.5900	0	0	-100	100	10/10/2019
Manganese	0.45		**< 0.45**	0.1600	0	0	-100	100	10/10/2019
Selenium	4.00		**< 4.00**	1.680	0	0	-100	100	10/10/2019
Silver	0.50		**< 0.50**	0.1100	0	0	-100	100	10/10/2019

Batch 158137 **SampType:** LCS Units **mg/Kg-dry**

SampID: LCS-158137

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Arsenic	2.50		**52.0**	50.00	0	104.1	85	115	10/10/2019
Barium	0.50		**206**	200.0	0	102.9	85	115	10/10/2019
Cadmium	0.20		**5.13**	5.000	0	102.6	85	115	10/10/2019
Chromium	0.50		**20.3**	20.00	0	101.5	85	115	10/10/2019
Lead	1.50		**50.7**	50.00	0	101.4	85	115	10/10/2019
Manganese	0.45		**50.0**	50.00	0	99.9	85	115	10/10/2019
Selenium	4.00		**51.2**	50.00	0	102.4	85	115	10/10/2019
Silver	0.50		**4.99**	5.000	0	99.8	85	115	10/10/2019

Batch 158137 **SampType:** MS Units **mg/Kg-dry**

SampID: 19091525-009AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead	1.44	S	**570**	48.08	547.9	46.8	75	125	10/10/2019

Batch 158137 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **20**

SampID: 19091525-009AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lead	1.44	S	**663**	48.08	547.9	239.2	570.4	15.00	10/10/2019

Batch 158137 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100242-009AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Manganese	4.25	S	**3280**	47.17	1269	4275	75	125	10/10/2019

Batch 158137 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **20**

SampID: 19100242-009AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Manganese	4.09	S	**2700**	45.45	1269	3155	3285	19.45	10/10/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 3050B, 6010B, METALS BY ICP

Batch 158137 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100266-001BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium	0.46		**547**	185.2	371.3	95.0	75	125	10/10/2019

Batch 158137 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **20**

SampID: 19100266-001BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium	0.48		**547**	192.3	371.3	91.2	547.2	0.11	10/10/2019

Batch 158137 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100326-009AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Barium	0.47		**592**	188.7	388.4	108.2	75	125	10/10/2019
Cadmium	0.19		**9.88**	4.717	5.877	84.8	75	125	10/10/2019
Chromium	0.47	S	**61.2**	18.87	26.91	182.0	75	125	10/10/2019
Lead	1.42	S	**1030**	47.17	389.2	1355	75	125	10/10/2019

Batch 158137 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **20**

SampID: 19100326-009AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Barium	0.49		**573**	196.1	388.4	94.2	592.5	3.31	10/10/2019
Cadmium	0.20		**10.7**	4.902	5.877	98.7	9.877	8.14	10/10/2019
Chromium	0.49		**50.2**	19.61	26.91	119.0	61.24	19.74	10/10/2019
Lead	1.47	SR	**470**	49.02	389.2	165.7	1028	74.45	10/10/2019

SW-846 7471B

Batch 157948 **SampType:** MBLK Units **mg/Kg**

SampID: MBLK-157948

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.010		**< 0.010**	0.004500	0	0	-100	100	10/04/2019

Batch 157948 **SampType:** LCS Units **mg/Kg**

SampID: LCS-157948

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.010		**0.252**	0.2500	0	100.9	85	115	10/04/2019

Batch 157948 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100137-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.294		**8.53**	7.349	0.5292	108.9	75	125	10/04/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 7471B

Batch 157948 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **15**

SampID: 19100137-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury	0.280		**8.12**	7.003	0.5292	108.4	8.531	4.97	10/04/2019

Batch 157948 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100243-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Mercury	0.261		**7.40**	6.521	0	113.4	75	125	10/04/2019

Batch 157948 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **15**

SampID: 19100243-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Mercury	0.255		**7.09**	6.366	0	111.4	7.396	4.17	10/04/2019

SW-846 3550B, 8270C SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 158003 **SampType:** MBLK Units **mg/Kg**

SampID: MBLK-158003

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
TPH-DRO (C10 - C21)	12.0		**ND**						10/04/2019
Surr: 2-Fluorobiphenyl			**0.630**	0.8350		75.4	54.4	109	10/04/2019
Surr: 2-Fluorobiphenyl			**0.720**	0.8350		86.3	46	103	10/07/2019
Surr: Nitrobenzene-d5			**0.610**	0.8350		73.1	49.2	110	10/04/2019
Surr: Nitrobenzene-d5			**0.721**	0.8350		86.3	40.7	111	10/07/2019
Surr: p-Terphenyl-d14			**0.885**	0.8350		105.9	57.6	123	10/07/2019
Surr: p-Terphenyl-d14			**0.773**	0.8350		92.6	62	125	10/04/2019

Batch 158003 **SampType:** LCS Units **%REC**

SampID: LCS-158003

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.624**	0.8350		74.7	54.4	109	10/04/2019
Surr: 2-Fluorobiphenyl			**0.757**	0.8350		90.7	46	103	10/07/2019
Surr: Nitrobenzene-d5			**0.806**	0.8350		96.6	49.2	110	10/04/2019
Surr: Nitrobenzene-d5			**0.719**	0.8350		86.1	40.7	111	10/07/2019
Surr: p-Terphenyl-d14			**0.896**	0.8350		107.3	57.6	123	10/07/2019
Surr: p-Terphenyl-d14			**0.790**	0.8350		94.6	62	125	10/04/2019

Batch 158003 **SampType:** LCSG Units **mg/Kg**

SampID: LCSDRO-158003

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
TPH-DRO (C10 - C21)	12.0		**27.6**	33.40	0	82.6	45.3	113	10/04/2019
Surr: 2-Fluorobiphenyl			**0.654**	0.8350		78.3	54.4	109	10/04/2019
Surr: Nitrobenzene-d5			**0.673**	0.8350		80.6	49.2	110	10/04/2019
Surr: p-Terphenyl-d14			**0.784**	0.8350		93.9	62	125	10/04/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 3550B, 8270C SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 158003 **SampType:** MS Units **mg/Kg-dry**

SampID: 19100242-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
TPH-DRO (C10 - C21)	12.4		**26.7**	34.44	0	77.4	5.69	128	10/04/2019
Surr: 2-Fluorobiphenyl			**0.550**	0.8609		63.9	23.6	99.4	10/04/2019
Surr: Nitrobenzene-d5			**0.576**	0.8609		66.9	20.6	99	10/04/2019
Surr: p-Terphenyl-d14			**0.694**	0.8609		80.6	28.1	111	10/04/2019

Batch 158003 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **30**

SampID: 19100242-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
TPH-DRO (C10 - C21)	12.3		**27.6**	34.36	0	80.5	26.66	3.62	10/04/2019
Surr: 2-Fluorobiphenyl			**0.579**	0.8589		67.4			10/04/2019
Surr: Nitrobenzene-d5			**0.633**	0.8589		73.7			10/04/2019
Surr: p-Terphenyl-d14			**0.699**	0.8589		81.4			10/04/2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 157988 **SampType:** MBLK Units **µg/Kg**

SampID: MBLK-Y191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene	1.0		**ND**						10/03/2019
Ethylbenzene	2.0		**ND**						10/03/2019
Methyl tert-butyl ether	2.0		**ND**						10/03/2019
Toluene	2.0		**ND**						10/03/2019
Xylenes, Total	8.0		**ND**						10/03/2019
Surr: 1,2-Dichloroethane-d4			**47.7**	50.00		95.5	74	124	10/03/2019
Surr: 4-Bromofluorobenzene			**49.4**	50.00		98.9	79.4	123	10/03/2019
Surr: Dibromofluoromethane			**50.5**	50.00		101.1	89.2	112	10/03/2019
Surr: Toluene-d8			**48.9**	50.00		97.8	85	115	10/03/2019

Batch 157988 **SampType:** LCSD Units **µg/Kg** RPD Limit **40**

SampID: LCSD-Y191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Benzene	1.0		**48.4**	50.00	0	96.7	47.89	0.96	10/03/2019
Ethylbenzene	2.0		**45.7**	50.00	0	91.3	45.02	1.41	10/03/2019
Methyl tert-butyl ether	2.0		**55.3**	50.00	0	110.6	56.19	1.60	10/03/2019
Toluene	2.0		**46.0**	50.00	0	92.0	45.59	0.87	10/03/2019
Xylenes, Total	8.0		**138**	150.0	0	91.8	135.2	1.84	10/03/2019
Surr: 1,2-Dichloroethane-d4			**47.0**	50.00		94.1			10/03/2019
Surr: 4-Bromofluorobenzene			**48.7**	50.00		97.5			10/03/2019
Surr: Dibromofluoromethane			**50.1**	50.00		100.2			10/03/2019
Surr: Toluene-d8			**48.2**	50.00		96.3			10/03/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 157988 **SampType:** LCS Units **µg/Kg**

SampID: LCS-Y191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene	1.0		**47.9**	50.00	0	95.8	85.2	124	10/03/2019
Ethylbenzene	2.0		**45.0**	50.00	0	90.0	82.3	125	10/03/2019
Methyl tert-butyl ether	2.0		**56.2**	50.00	0	112.4	86.2	126	10/03/2019
Toluene	2.0		**45.6**	50.00	0	91.2	81	123	10/03/2019
Xylenes, Total	8.0		**135**	150.0	0	90.1	82.2	127	10/03/2019
Surr: 1,2-Dichloroethane-d4			**47.9**	50.00		95.8	74	124	10/03/2019
Surr: 4-Bromofluorobenzene			**48.5**	50.00		96.9	79.4	123	10/03/2019
Surr: Dibromofluoromethane			**50.8**	50.00		101.5	89.2	112	10/03/2019
Surr: Toluene-d8			**48.0**	50.00		95.9	85	115	10/03/2019

Batch 157988 **SampType:** LCSGD Units **%REC** RPD Limit **0**

SampID: LCSGD-Y191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**47.4**	50.00		94.8			10/03/2019
Surr: 4-Bromofluorobenzene			**49.4**	50.00		98.8			10/03/2019
Surr: Dibromofluoromethane			**50.4**	50.00		100.8			10/03/2019
Surr: Toluene-d8			**48.7**	50.00		97.4			10/03/2019

Batch 157988 **SampType:** LCSG Units **%REC**

SampID: LCSG-Y191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**47.5**	50.00		95.1	74	124	10/03/2019
Surr: 4-Bromofluorobenzene			**48.6**	50.00		97.3	79.4	123	10/03/2019
Surr: Dibromofluoromethane			**50.7**	50.00		101.3	89.2	112	10/03/2019
Surr: Toluene-d8			**49.3**	50.00		98.6	85	115	10/03/2019

Batch 157989 **SampType:** MBLK Units **µg/Kg**

SampID: MBLK-AF191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene	1.0		**ND**						10/03/2019
Ethylbenzene	2.0		**ND**						10/03/2019
Methyl tert-butyl ether	2.0		**ND**						10/03/2019
Toluene	2.0		**ND**						10/03/2019
Xylenes, Total	8.0		**ND**						10/03/2019
Surr: 1,2-Dichloroethane-d4			**46.3**	50.00		92.6	74	124	10/03/2019
Surr: 4-Bromofluorobenzene			**48.2**	50.00		96.3	79.4	123	10/03/2019
Surr: Dibromofluoromethane			**49.8**	50.00		99.5	89.2	112	10/03/2019
Surr: Toluene-d8			**48.0**	50.00		95.9	85	115	10/03/2019

Client: SCI Engineering, Inc. **Work Order:** 19100242

Client Project: 34th Park Elementary **Report Date:** 10-Oct-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 157989 **SampType:** LCS Units **µg/Kg**

SampID: LCS-AF191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Benzene	1.0		**48.0**	50.00	0	96.1	85.2	124	10/03/2019
Ethylbenzene	2.0		**48.8**	50.00	0	97.6	82.3	125	10/03/2019
Methyl tert-butyl ether	2.0		**49.8**	50.00	0	99.6	86.2	126	10/03/2019
Toluene	2.0		**48.3**	50.00	0	96.7	81	123	10/03/2019
Xylenes, Total	8.0		**148**	150.0	0	98.4	82.2	127	10/03/2019
Surr: 1,2-Dichloroethane-d4			**46.1**	50.00		92.2	74	124	10/03/2019
Surr: 4-Bromofluorobenzene			**48.5**	50.00		97.0	79.4	123	10/03/2019
Surr: Dibromofluoromethane			**49.3**	50.00		98.7	89.2	112	10/03/2019
Surr: Toluene-d8			**48.0**	50.00		96.0	85	115	10/03/2019

Batch 157989 **SampType:** LCSD Units **µg/Kg** RPD Limit **40**

SampID: LCSD-AF191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Benzene	1.0		**49.2**	50.00	0	98.3	48.05	2.28	10/03/2019
Ethylbenzene	2.0		**49.4**	50.00	0	98.7	48.81	1.10	10/03/2019
Methyl tert-butyl ether	2.0		**51.8**	50.00	0	103.5	49.79	3.88	10/03/2019
Toluene	2.0		**48.7**	50.00	0	97.4	48.33	0.72	10/03/2019
Xylenes, Total	8.0		**149**	150.0	0	99.5	147.6	1.10	10/03/2019
Surr: 1,2-Dichloroethane-d4			**46.9**	50.00		93.9			10/03/2019
Surr: 4-Bromofluorobenzene			**48.1**	50.00		96.2			10/03/2019
Surr: Dibromofluoromethane			**49.5**	50.00		98.9			10/03/2019
Surr: Toluene-d8			**48.2**	50.00		96.4			10/03/2019

Batch 157989 **SampType:** LCSG Units **%REC**

SampID: LCSG-AF191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**46.7**	50.00		93.4	74	124	10/03/2019
Surr: 4-Bromofluorobenzene			**47.8**	50.00		95.5	79.4	123	10/03/2019
Surr: Dibromofluoromethane			**49.3**	50.00		98.5	89.2	112	10/03/2019
Surr: Toluene-d8			**48.6**	50.00		97.2	85	115	10/03/2019

Batch 157989 **SampType:** LCSGD Units **%REC** RPD Limit **0**

SampID: LCSGD-AF191003A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**46.7**	50.00		93.4			10/03/2019
Surr: 4-Bromofluorobenzene			**48.7**	50.00		97.4			10/03/2019
Surr: Dibromofluoromethane			**49.3**	50.00		98.6			10/03/2019
Surr: Toluene-d8			**48.7**	50.00		97.4			10/03/2019

Receiving Check List

http://www.teklabinc.com/

Client: SCI Engineering, Inc.
Client Project: 34th Park Elementary

Work Order: 19100242
Report Date: 10-Oct-2019

Carrier: UPS
Received By: AMD

Completed by: Amber M. Dilallo
On: 03-Oct-2019

Reviewed by: Elizabeth A. Hurley
On: 03-Oct-2019

Pages to follow: Chain of custody 2 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C	6.0
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐
Chain of custody present?	Yes ☑	No ☐			
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑		
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐			

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	NA ☑
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

CHAIN OF CUSTODY

pg. 1 of 2 Work order # 19100242

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	SCI Engineering, Inc.
Address:	130 W. 12th St
City / State / Zip	Leadville, CO 80461
Contact:	Michelle Eaton
Phone:	(720) 544-3663
E-Mail:	meaton@sciengineering.com
Fax:	

Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE 6.0 °C LT 6.3

Preserved in: ☐ LAB ☐ FIELD

FOR LAB USE ONLY

Lab Notes

Client Comments:
groundwater samples for metals analysis will be filtered by the laboratory upon arrival

EPA RSLs + Colorado Tier 1 RBSLs

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☒ Yes ☐ No

Project Name/Number
34th Park Elementary

Sample Collector's Name
Dan Vichweber

Results Requested
☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ____ ☐ 3 Day (50% Surcharge)

Billing Instructions

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	INDICATE ANALYSIS REQUESTED: 8 RCRA+Mn	BTEX/MTBE	DRO
19100242 001	B-1 South	9-30-19 1300											X					X	X
002	B-2 West	9-30-19 1430											X					X	X
003	B-3 East	9-30-19 1630											X					X	X
004	B-4 North	10-1-19 845											X					X	X
005	Cell 36	10-2-19 945											X				X		
006	Cell 28	1000											X				X		
007	Cell 20	1020											X				X		
008	Cell 21	1030											X				X		
009	Cell 23	1045											X				X		
010	Cell 3	1100											X				X		

Relinquished By	Date/TIme	Received By	Date/Time
Dan Vichweber	10-2-19 1415	UPS	10/3/19 937

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 53689

10/3/19

CHAIN OF CUSTODY

pg. 2 of 2 Work order # 1910024

TEKLAB, INC. 5445 Horseshoe Lake Road - Collinsville, IL 62234 - Phone: (618) 344-1004 - Fax: (618) 344-1005

Client:	SCI Engineering, Inc.		
Address:	130 W. 12th St		
City / State / Zip	Leadville, CO 80461		
Contact:	Michelle Eaton	**Phone:**	(720) 544-3663
E-Mail:	meaton@sciengineering.com	**Fax:**	

Samples on: ■ ICE ■ BLUE ICE ■ NO ICE _____ °C

Preserved in: ■ LAB ■ FIELD

FOR LAB USE ONLY

Lab Notes

Are these samples known to be involved in litigation? If yes, a surcharge will apply ☐ Yes ☒ No

Are these samples known to be hazardous? ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☐ No

Client Comments:

groundwater samples for metals analysis will be filtered by the laboratory upon arrival

EPA RSLs + Colorado Tier 1 RBSLs

Project Name/Number: 34th Park Elementary

Sample Collector's Name: Dan Vielweber

Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other ____ ☐ 3 Day (50% Surcharge)

Billing Instructions:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	OTHER	MATRIX: Aqueous	Drinking Water	Soil	Sludge	Special Waste	Groundwater	INDICATE ANALYSIS REQUESTED: 8 RCRA+Mn	BTEX/MTBE	DRO
1910024-01	Cell 5	10-2-19 1115											X				X		
02	Cell 25	1135											X				X		
03	Cell 7	1145											X				X		
04	Cell 27	1200											X				X		

Relinquished By	Date/Time	Received By	Date/Time
Dan Vielweber	10-2-19 1415	[signature] UPS	10/3/19 937

The individual signing this agreement on behalf of the client, acknowledges that he/she has read and understands the terms and conditions of this agreement, and that he/she has the authority to sign on behalf of the client. See www.teklabinc.com for terms and conditions.

BottleOrder: 53689