Stantec Consulting Services Inc.
3875 Atherton Road, Rocklin CA 95765-3716

November 4, 2016

Attention: Mr. Karl Kurka
Environmental Program Manager
City of Sacramento
General Services
915 I Street, 2nd Floor
Sacramento, CA 95814

Dear Mr. Kurka,

Reference: Task 2 Offsite Sampling Report, City of Sacramento Mangan Pistol and Rifle Range, 2140 34th Avenue, Sacramento, CA

Stantec Consulting Services, Inc. (Stantec) has prepared this *Task 2 Offsite Sampling Report* (Report) for the City of Sacramento, presenting soil data collected from residential properties located north of the former Mangan Pistol and Rifle Range at 2140 34th Avenue, Sacramento, California (the Site). Sampling and analytical procedures were performed in accordance with methods and procedures detailed in the *Task 1 Site Data Report and Proposed Task 2 Offsite Sampling Plan* dated August 5, 2016, and in accordance with the *Task 2 Offsite Sampling Plan Addendum* dated September 21, 2016 (collectively, the Work Plans). The Work Plans were approved by the County of Sacramento Environmental Management Department (Sacramento EMD) in correspondence dated September 29, 2016. This submittal is partial fulfillment of Directive #5 of Sacramento EMD Corrective Action Order (CAO) #16-RO0001707, and EMD correspondence dated August 30, 2016.

Interim sampling results were presented in the *Interim Task 2 Offsite Sampling Report* dated October 25, 2016. This letter includes data transmitted in the interim report, and presents lead soil data from each of the 29 properties in the Tier 1 sampling area.

Purpose and Work Summary

The purpose of the offsite sampling is to assess the mean concentration of lead in surface soil at properties which may have been impacted by historical discharge of lead dust from the former gun range building. As detailed in the Work Plans, the Tier 1 offsite sampling area consists of 41 residential properties located north, northeast, and northwest of the former gun range building. The extent of the Tier 1 sampling area, illustrated on Figure 1, is based on the results of atmospheric modeling and corresponds to properties with modeled lead deposition of 0.1 milligrams per square foot (mg/ft^2) or more. Stantec collected three (3) replicate soil samples from each property using incremental sampling methodology (ISM) to evaluate mean lead concentrations across each property. Concentrations are compared to the California Department of Toxic Substances Control (DTSC)-modified Screening Level (SL) of 80 milligrams per kilogram (mg/kg).

Reference: Task 2 Offsite Sampling Report, City of Sacramento Mangan Pistol and Rifle Range, 2140 34th Avenue, Sacramento, CA

Field Activities

The City mailed access notification letters to property owners and tenants on September 28, 2016 and followed up with a field visit on October 3, 2016, and obtained access to perform sampling at 29 of the 41 properties. Soil sampling was performed between October 7 and 18, 2016. Soil samples were collected using ISM. As described in the Work Plans, the ISM protocol consisted of measuring the available sampling area at each property (landscaping, turf, etc.) and creating a sampling grid to allow systematic collection of at least 30 increment samples. The sampling position within each cell was selected randomly using a random number generator to select a sector for sampling (1 through 9), and to select a sampling location within the chosen sector (again 1 through 9).

After establishing the sampling grid, increment samples were collected using an EVC Multi-Increment Sampler. Increments were collected in a sealable plastic bag, labeled, and stored for shipment to the analytical laboratory. Samples were collected in triplicate, consisting of one primary and two replicate increments per sampling location, and a total of three replicate ISM samples per property.

In addition to ISM sampling, Stantec retained discrete sample sets from sites 10, 18, and 26. Discrete samples were collected in the same manner as ISM samples, but were not combined for a site-wide increment sample. The purpose of retaining the discrete samples was to be able to better understand the distribution of lead across a given site if the ISM sample result indicated additional assessment was appropriate. Site's 18 and 26 were chosen based on their proximity to the former gun range building, and site 10 was chosen because of its location on the northern perimeter of the Tier 1 sampling area, as a potentially useful point of comparison with data from site's closer to the former gun range.

Laboratory Analysis

Samples were shipped under chain-of-custody protocol to Curtis & Tompkins, Ltd., in Berkeley, California. Samples were processed by the analytical laboratory in accordance with ISM protocol and analyzed for total lead by EPA Method 6010B. Discrete samples from sites 10, 18, and 26 were submitted on a 'hold' basis.

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Results and Discussion

Lead results from the 29 properties are summarized in Table 1. Lead concentrations ranged from 24 to 230 mg/kg, and one or more replicate sample results from 11 properties exceed the screening level of 80 mg/kg. Stantec also calculated the 95UCL for each set of samples, using the method recommended by the Interstate Technology Regulatory Council (ITRC) in their *Incremental Sampling Methodology* guidance document (February 2012). The 95UCL values, calculated using the Chebyshev method, are presented with lead data in Table 1. Complete analytical reports and chain-of-custody records are attached.

The ISM sampling method allows evaluation of mean concentrations of lead in surface soil across each site, and reduces potential influences on lead concentrations from small-scale heterogeneity across a site. Collection of three ISM samples from each property (primary sample and two replicates) allows further evaluation of the likelihood that the ISM sample represents a representative mean concentration. For example, the tighter the spread between the three mean values, the higher the confidence that the actual mean concentration is being represented. In general, agreement between the three lead concentrations reported for each property was good, indicating that the data likely represent mean concentrations of lead across the sites (two exceptions are discussed below). Sites with one or more lead concentrations exceeding the screening level can be grouped into four general categories, described below.

- All replicate values exceed 80 mg/kg (6 sites). Sites 5, 18, 19, 35, 40, and 41) reported lead concentrations exceeding 80 mg/kg in each of the three replicate samples, indicating that the mean lead concentration across the site exceeds the residential screening level.

- Two of three replicate values exceed 80 mg/kg (1 site). Lead concentrations exceeded 80 mg/kg in two of three replicate samples collected from site 38. The third value of 73 mg/kg is similar to the two values exceeding the screening level (87 and 89 mg/kg). Therefore, it appears likely that the mean lead concentration across the site is close to and slightly above the residential screening level.

- One of three replicate values slightly exceeds 80 mg/kg (2 sites). Sites 9 and 26 reported lead concentrations exceeding 80 mg/kg in one three replicate samples. In each case, the value exceeding the screening level was close to 80 mg/kg (84 and 81 mg/kg, respectively), and the replicate values below 80 mg/kg were similar. Therefore, it appears that the mean lead concentration across each site is close to and slightly below the residential screening level.

- One of three replicate values significantly exceeds 80 mg/kg (2 sites). For Sites 8 and 11 one of three replicate lead concentrations were reported above the screening level (230 and 120 mg/kg, respectively), while the remaining two samples were substantially lower (42

Reference: Task 2 Offsite Sampling Report, City of Sacramento Mangan Pistol and Rifle Range, 2140 34th Avenue, Sacramento, CA

and 44 mg/kg for site 8, and 38 and 64 mg/kg for site 11). This relationship suggests that one or more of the increment samples collected within these decision units contained elevated levels of lead, although the elevated concentrations do not represent site-wide mean concentrations.

95UCL values were calculated using the Chebyshev method presented in the ITRC guidance document. The ITRC document acknowledges that 95UCL values calculated using this method tends to severely overestimate the true mean, and frequently results in a value exceeding the sample data used to calculate the 95UCL. This possible outcome is supported by the data, where, the calculated 95UCL is significantly higher than the replicate concentrations. For this reason, and because collection of three replicates allows reasonable assessment of mean concentrations, Stantec believes the replicate results and not the 95UCL should be compared against the screening level to assess the need for further work.

The distribution of lead across the Tier 1 sampling area shows a poor correlation with the AERMOD model, which predicted the highest deposition at sites immediately north and northeast of the former gun range building. Although the reasons for this are not known, differences may be influenced by other factors such as site-specific sources of lead (such as lead-based paint) and historical removal and replacement of landscaping materials which could affect lead levels reported in shallow soil. Review of maximum lead concentrations plotted on Figure 1 also indicates that lead concentrations do not follow a discernable pattern of decreasing with distance from the gun range. For example, although lead concentrations exceed 80 mg/kg at several properties immediately north of 34th Avenue (sites 18 and 26), elevated concentrations were also reported at the northern end of the sampling area (sites 11 and 19) with intermediate properties reporting lead concentrations below the screening level.

Recommendations

Stantec recommends additional assessment at the sites reporting mean lead concentrations exceeding the residential screening level of 80 mg/kg. In general, assessment will likely consist of collecting discrete samples to formulate remedial plans as necessary. Stantec and the City have initiated analysis of discrete soil samples from sites 18 and 26. Stantec recommends meeting with Sacramento EMD staff to discuss potential investigative and remedial measures.

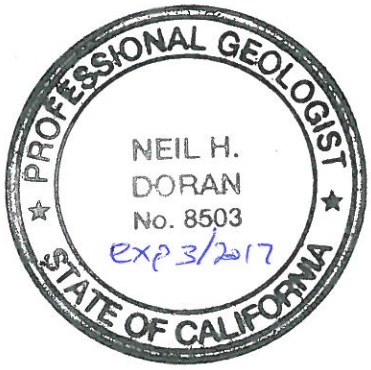
Reference: **Task 2 Offsite Sampling Report, City of Sacramento Mangan Pistol and Rifle Range, 2140 34th Avenue, Sacramento, CA**

Closing

If you have any questions regarding the work performed, please contact the undersigned.

Regards,

Stantec Consulting Services Inc.

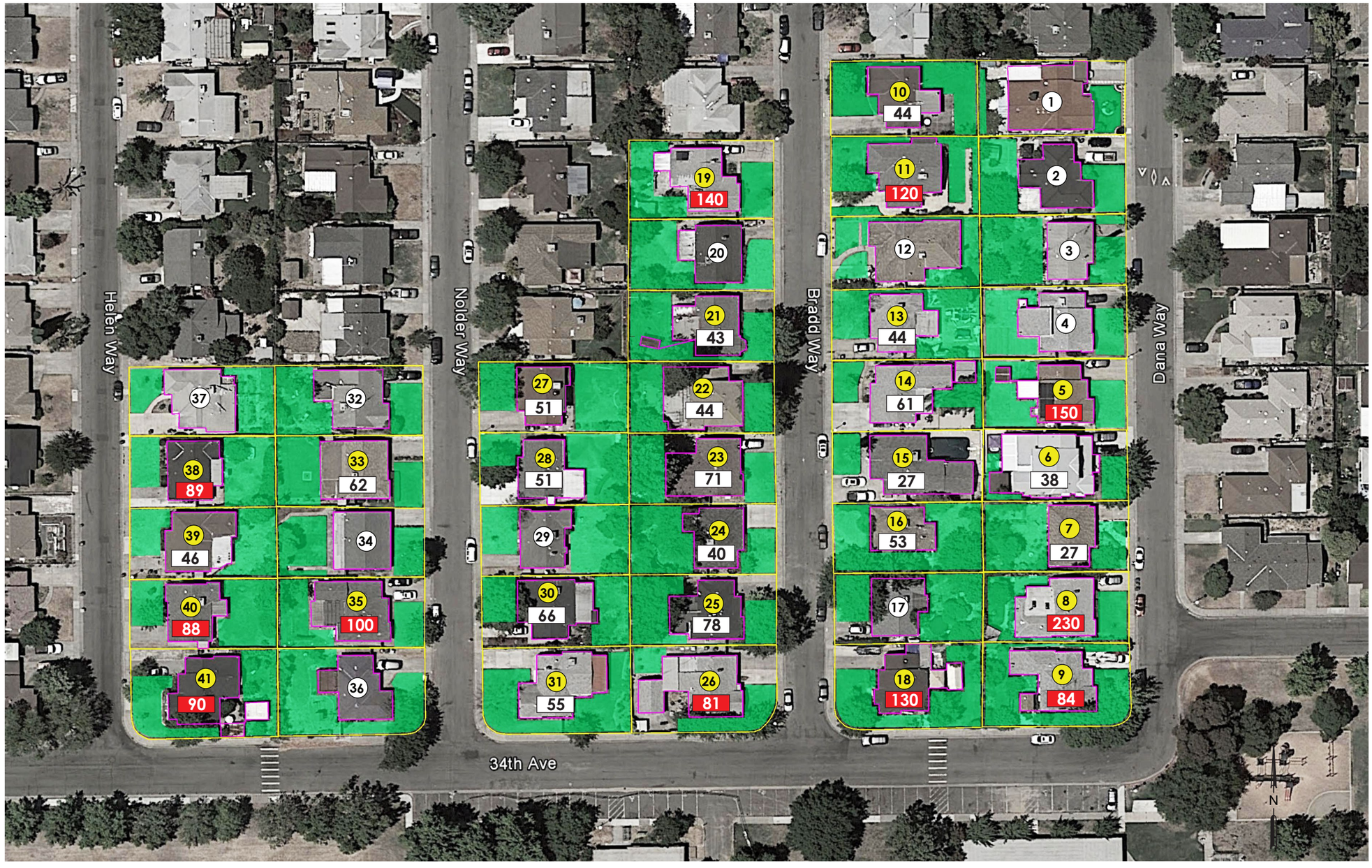


Neil Doran, P.G.
Senior Geologist
Phone: (916) 472-3933
Neil.Doran@stantec.com

Dan Schreiner, P.G.
Senior Geologist
Phone: (916) 472-3915
dan.schreiner@stantec.com

Attachments: Figure 1 – Tier 1 Maximum Lead Concentrations
Table 1 - Tier 1 Offsite Sampling Results – Total Lead
Analytical Reports and Chain-of-Custody Records

Site #	ADDRESS
1	5640 Dana Way
2	5644 Dana Way
3	5648 Dana Way
4	5652 Dana Way
5	5656 Dana Way
6	5660 Dana Way
7	5664 Dana Way
8	5668 Dana Way
9	5672 Dana Way
10	5641 Bradd Way
11	5645 Bradd Way
12	5649 Bradd Way
13	5653 Bradd Way
14	5657 Bradd Way
15	5661 Bradd Way
16	5665 Bradd Way
17	5669 Bradd Way
18	5673 Bradd Way
19	5644 Bradd Way
20	5648 Bradd Way
21	5652 Bradd Way
22	5656 Bradd Way
23	5660 Bradd Way
24	5664 Bradd Way
25	5668 Bradd Way
26	5672 Bradd Way
27	5657 Nolder Way
28	5661 Nolder Way
29	5665 Nolder Way
30	5669 Nolder Way
31	5673 Nolder Way
32	5656 Nolder Way
33	5660 Nolder Way
34	5664 Nolder Way
35	5668 Nolder Way
36	5672 Nolder Way
37	5657 Helen Way
38	5661 Helen Way
39	5665 Helen Way
40	5669 Helen Way
41	5673 Helen Way



0 75 150

APPROXIMATE SCALE IN FEET

46 Maximum Lead Concentration from 3 Replicate Samples (mg/kg)

88 Red Highlighting Indicates Maximum Lead Concentration >80 mg/kg

X Tier 1 Properties Accessible for Sampling

Stantec

FOR:
CITY OF SACRAMENTO
MANGAN PARK
MANGAN PISTOL & RIFLE RANGE
2140 34th AVENUE
SACRAMENTO, CA 95822-3157

TIER 1 MAXIMUM LEAD CONCENTRATIONS

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703375.200.006	MLM	NHD	NHD	10/25/16

V:\1857\active\185703375\03_data\neighborhood_evaluation\graphics\mangan_max_lead_concentrations.ai mlm 11-4-2016

TABLE 1
Tier 1 Offsite Sampling Results - Total Lead
City of Sacramento Mangan Pistol and Rifle Range

Site ID	Address	Pb (EPA 6010B) - results in mg/kg			95% UCL [1]
		Replicate 1	Replicate 2	Replicate 3	
5	5656 Dana Way	**150**	**110**	**110**	181.5
6	5660 Dana Way	36	33	38	42.0
7	5664 Dana Way	26	27	26	27.8
8	5668 Dana Way	42	**230**	44	377.1
9	5672 Dana Way	**84**	69	71	95.2
10	5641 Bradd Way	44	41	39	47.7
11	5645 Bradd Way	38	**120**	64	179.5
13	5653 Bradd Way	39	43	44	48.7
14	5657 Bradd Way	61	46	47	72.4
15	5661 Bradd Way	24	26	27	29.5
16	5665 Bradd Way	50	53	50	55.4
18	5673 Bradd Way	**130**	**120**	**83**	173.3
19	5644 Bradd Way	**130**	**140**	**130**	147.9
21	5652 Bradd Way	42	43	38	47.7
22	5656 Bradd Way	35	44	35	51.1
23	5660 Bradd Way	57	58	71	81.7
24	5664 Bradd Way	40	40	39	41.1
25	5668 Bradd Way	72	74	78	82.4
26	5672 Bradd Way	72	**81**	79	89.2
27	5657 Nolder Way	44	51	50	57.9
28	5661 Nolder Way	51	48	45	55.6
30	5669 Nolder Way	57	57	66	73.1
31	5673 Nolder Way	53	55	51	58.0
33	5660 Nolder Way	57	61	62	66.7
35	5668 Nolder Way	**94**	**100**	**94**	104.7
38	5661 Helen Way	**89**	**87**	73	104.9
39	5665 Helen Way	44	46	44	47.6
40	5669 Helen Way	**81**	**84**	**88**	93.2
41	5673 Helen Way	**83**	**90**	**89**	96.9
Residential Soil Screening Level [2]		80			

Notes and Abbreviations:

Pb - Lead

mg/kg - milligrams per kilogram

1 - 95% Upper Confidence Level on the mean calculated using Chebyshev method (Interstate Technical Regulatory Council, 2012)

2 - DTSC-Modified Screening Level (SL) - residential soil (HERO Note 3, June 2016)

Bold text indicates detections which exceed the screening level


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 281922
ANALYTICAL REPORT

Stantec	Project : 185703375
1340 Treat Blvd.	Location : Sacramento Mangan
Walnut Creek, CA 94597	Level : II

Sample ID	Lab ID
33-01	281922-001
33-02	281922-002
33-03	281922-003
35-01	281922-004
35-02	281922-005
35-03	281922-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 10/24/2016

Mike Dahlquist
Project Manager
mike.dahlquist@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**281922**
Client:	**Stantec**
Project:	**185703375**
Location:	**Sacramento Mangan**
Request Date:	**10/07/16**
Samples Received:	**10/07/16**

This data package contains sample and QC results for six soil samples, requested for the above referenced project on 10/07/16. The samples were received cold and intact.

Metals (EPA 6010B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 28922

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☒ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	Chemical Preservative: H_2SO_4	Chemical Preservative: HNO_3	Chemical Preservative: NaOH	Chemical Preservative: None	Analytical Request: Total Lead (6010B)	Analytical Request: ISM
	33-01	10/7/16	0948		X			1					X	X	X
	33-02	10/7/16	0948		X			1					X	X	X
	33-03	10/7/16	0948		X			1					X	X	X
	35-01	10/7/16	1130		X			1					X	X	X
	35-02	10/7/16	1130		X			1					X	X	X
	35-03	10/7/16	1130		X			1					X	X	X
BAB	~~27-01~~	~~10/7/16~~			X			1					X	X	X
BAB	~~27-02~~	~~10/7/16~~			X			1					X	X	X
BAB	~~27-03~~	~~10/7/16~~			X			1					X	X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

[signature]	10/7/16 1250	DATE/TIME
[signature]	10/7/16 1430	DATE/TIME
		DATE/TIME

RECEIVED BY:

[signature]	10/7/16 @ 1250	DATE/TIME
[signature]	10/07/16 @ 1430	DATE/TIME
		DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 281922 Date Received 10/07/16 Number of coolers 6
Client Stantec Project Mangan, Sacramento

Date Opened 10/07 By (print) SL (sign)
Date Logged in ↓ By (print) DTN (sign) dmguyer
Date Labeled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO ~~N/A~~
3. Were custody papers dry and intact when received? ~~YES~~ NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ~~YES~~ NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☒ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C)

☐ Temperature blank(s) included? ☐ Thermometer# ☐ IR Gun#

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? ~~YES~~ NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? ~~YES~~ NO
12. Are sample labels present, in good condition and complete? ~~YES~~ NO
13. Do the sample labels agree with custody papers? ~~YES~~ NO
14. Was sufficient amount of sample sent for tests requested? ~~YES~~ NO
15. Are the samples appropriately preserved? YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? (pH strip lot#) YES NO ~~N/A~~
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO ~~N/A~~
19. Did you change the hold time in LIMS for preserved terracores? YES NO ~~N/A~~
20. Are bubbles > 6mm absent in VOA samples? YES NO ~~N/A~~
21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Curtis & Tompkins, Ltd.

Detections Summary for 281922

Results for any subcontracted analyses are not included in this summary.

Client : Stantec
Project : 185703375
Location : Sacramento Mangan

Client Sample ID : 33-01 Laboratory Sample ID : 281922-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	57		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 33-02 Laboratory Sample ID : 281922-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	61		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 33-03 Laboratory Sample ID : 281922-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	62		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 35-01 Laboratory Sample ID : 281922-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	94		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 35-02 Laboratory Sample ID : 281922-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	100		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 35-03 Laboratory Sample ID : 281922-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	94		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Lead

Lab #:	281922	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	240471
Matrix:	Soil	Sampled:	10/07/16
Units:	mg/Kg	Received:	10/07/16
Basis:	as received	Prepared:	10/23/16
Diln Fac:	1.000	Analyzed:	10/24/16

Field ID	Type	Lab ID	Result	RL
33-01	SAMPLE	281922-001	57	0.24
33-02	SAMPLE	281922-002	61	0.24
33-03	SAMPLE	281922-003	62	0.24
35-01	SAMPLE	281922-004	94	0.24
35-02	SAMPLE	281922-005	100	0.24
35-03	SAMPLE	281922-006	94	0.24
	BLANK	QC856934	ND	0.23

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	281922	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	27-01	Batch#:	240471
MSS Lab ID:	282053-001	Sampled:	10/07/16
Matrix:	Soil	Received:	10/11/16
Units:	mg/Kg	Prepared:	10/23/16
Basis:	as received	Analyzed:	10/24/16

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC856935		47.53	45.52	96	80-120		
MS	QC856936	43.89	48.69	103.6	123	53-125		
MSD	QC856937		49.31	92.15	98	53-125	12	42

RPD= Relative Percent Difference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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 282053
ANALYTICAL REPORT

Stantec
1340 Treat Blvd.
Walnut Creek, CA 94597

Project : 185703375
Location : Sacramento Mangan
Level : II

Sample ID	Lab ID	Sample ID	Lab ID
27-01	282053-001	21-03	282053-015
27-02	282053-002	22-01	282053-016
27-03	282053-003	22-02	282053-017
28-01	282053-004	22-03	282053-018
28-02	282053-005	23-01	282053-019
28-03	282053-006	23-02	282053-020
30-01	282053-007	23-03	282053-021
30-02	282053-008	14-01	282053-022
30-03	282053-009	14-02	282053-023
41-01	282053-010	14-03	282053-024
41-02	282053-011	15-01	282053-025
41-03	282053-012	15-02	282053-026
21-01	282053-013	15-03	282053-027
21-02	282053-014		

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 10/25/2016

John Goyette
Laboratory Director
goyette@ctberk.com
(510) 204-2233

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**282053**
Client:	**Stantec**
Project:	**185703375**
Location:	**Sacramento Mangan**
Request Date:	**10/11/16**
Samples Received:	**10/11/16**

This data package contains sample and QC results for twenty seven soil samples, requested for the above referenced project on 10/11/16. The samples were received cold and intact.

Metals (EPA 6010B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # :

C&T LOGIN # 281053

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	Chemical Preservative: H_2SO_4	Chemical Preservative: HNO_3	Chemical Preservative: NaOH	Chemical Preservative: None	Analytical Request: Total Lead (6010B)	Analytical Request: TSM
1	27-01	10/7/16	1328		X			1					X	X	X
2	27-02	↓	1328		X			1					X	X	X
3	27-03	↓	1328		X			1					X	X	X
4	28-01	10/10/16	0922		X			1					X	X	X
5	28-02	↓	0922		X			1					X	X	X
6	28-03	↓	0922		X			1					X	X	X
7	30-01	↓	1056		X			1					X	X	X
8	30-02	↓	1056		X			1					X	X	X
9	30-03	↓	1056		X			1					X	X	X
10	40-01	↓	1300		X			1					X	X	X
11	41-02	↓	1300		X			1					X	X	X
12	41-03	↓	1300		X			1					X	X	X
13	21-01	↓	1445		X			1					X	X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

	DATE/TIME
[signature]	10/11/16 1400
[signature]	10/11/16 @ 1620

RECEIVED BY:

	DATE/TIME
[signature]	10/11/16 @ 1400
[signature]	10/11/16 @ 1620

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # :

C&T LOGIN # 282053

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Analytical Request: Total Lead (6010B)	TSM
14	21-02	10/10/16	1445		X			1					X	X	X
15	21-03	↓	1445		X			1					X	X	X
16	22-01		1605		X			1					X	X	X
17	22-02		1605		X			1					X	X	X
18	22-03	↓	1605		X			1					X	X	X
19	23-01	10/11/16	0925		X			1					X	X	X
20	23-02		0925		X			1					X	X	X
21	23-03	↓	0925		X			1					X	X	X
22	14-01		1040		X			1					X	X	X
23	14-02		1040		X			1					X	X	X
24	14-03	↓	1040		X			1					X	X	X
25	15-01		1143		X			1					X	X	X
26	15-02	↓	1143		X			1					X	X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
[signature] 10/11/16 1400 DATE/TIME
[signature] 10/11/16 @ 1620 DATE/TIME
DATE/TIME

RECEIVED BY:
[signature] 10/11/16 @ 1400 DATE/TIME
[signature] 10/11/16 @ 1620 DATE/TIME
DATE/TIME

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
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CHAIN OF CUSTODY

Chain of Custody # :

C&T LOGIN # 282053

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	Total Lead (6010B)
27	15-03	10/11/16	1143		X			1					X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
10/11/16 1400 DATE/TIME	10/11/16 @ 1400 DATE/TIME
10/11/16 @ 1620 DATE/TIME	10/11/16 @ 1620 DATE/TIME
DATE/TIME	DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 282053 Date Received 10/11 Number of coolers 1
Client Stantec Project Mangan, Sacramento

Date Opened 10/11 By (print) CB (sign)
Date Logged in ↓ By (print) DTN (sign)
Date Labeled ↓ By (print) CB (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C)

☐ Temperature blank(s) included? ☐ Thermometer# ☐ IR Gun#

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? (pH strip lot#) YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? YES NO (N/A)
21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Curtis & Tompkins, Ltd.

Detections Summary for 282053

Results for any subcontracted analyses are not included in this summary.

Client : Stantec
Project : 185703375
Location : Sacramento Mangan

Client Sample ID : 27-01 Laboratory Sample ID : 282053-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 27-02 Laboratory Sample ID : 282053-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	51		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 27-03 Laboratory Sample ID : 282053-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	50		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 28-01 Laboratory Sample ID : 282053-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	51		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 28-02 Laboratory Sample ID : 282053-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	48		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 28-03 Laboratory Sample ID : 282053-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	45		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 30-01 Laboratory Sample ID : 282053-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	57		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 30-02 Laboratory Sample ID : 282053-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	57		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 30-03 Laboratory Sample ID : 282053-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	66		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 41-01 Laboratory Sample ID : 282053-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	83		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 41-02 Laboratory Sample ID : 282053-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	90		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 41-03 Laboratory Sample ID : 282053-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	89		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 21-01 Laboratory Sample ID : 282053-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	42		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 21-02 Laboratory Sample ID : 282053-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	43		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 21-03 Laboratory Sample ID : 282053-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	38		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 22-01 Laboratory Sample ID : 282053-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	35		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : 22-02 Laboratory Sample ID : 282053-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 22-03 Laboratory Sample ID : 282053-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	35		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 23-01 Laboratory Sample ID : 282053-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	57		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 23-02 Laboratory Sample ID : 282053-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	58		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 23-03 Laboratory Sample ID : 282053-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	71		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 14-01 Laboratory Sample ID : 282053-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	61		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 14-02 Laboratory Sample ID : 282053-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	46		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 14-03 Laboratory Sample ID : 282053-024

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	47		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 15-01 Laboratory Sample ID : 282053-025

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	24		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 15-02 Laboratory Sample ID : 282053-026

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	26		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 15-03 Laboratory Sample ID : 282053-027

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	27		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Lead

Lab #:	282053	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Received:	10/11/16
Units:	mg/Kg	Analyzed:	10/24/16
Basis:	as received		

Field ID	Type	Lab ID	Result	RL	Batch#	Sampled	Prepared
27-01	SAMPLE	282053-001	44	0.24	240471	10/07/16	10/23/16
27-02	SAMPLE	282053-002	51	0.24	240471	10/07/16	10/23/16
27-03	SAMPLE	282053-003	50	0.25	240471	10/07/16	10/23/16
28-01	SAMPLE	282053-004	51	0.23	240471	10/10/16	10/23/16
28-02	SAMPLE	282053-005	48	0.24	240471	10/10/16	10/23/16
28-03	SAMPLE	282053-006	45	0.24	240471	10/10/16	10/23/16
30-01	SAMPLE	282053-007	57	0.24	240471	10/10/16	10/23/16
30-02	SAMPLE	282053-008	57	0.24	240471	10/10/16	10/23/16
30-03	SAMPLE	282053-009	66	0.23	240471	10/10/16	10/23/16
41-01	SAMPLE	282053-010	83	0.25	240471	10/10/16	10/23/16
41-02	SAMPLE	282053-011	90	0.24	240471	10/10/16	10/23/16
41-03	SAMPLE	282053-012	89	0.25	240471	10/10/16	10/23/16
21-01	SAMPLE	282053-013	42	0.25	240471	10/10/16	10/23/16
21-02	SAMPLE	282053-014	43	0.24	240471	10/10/16	10/23/16
21-03	SAMPLE	282053-015	38	0.25	240499	10/10/16	10/24/16
22-01	SAMPLE	282053-016	35	0.25	240499	10/10/16	10/24/16
22-02	SAMPLE	282053-017	44	0.24	240499	10/10/16	10/24/16
22-03	SAMPLE	282053-018	35	0.24	240499	10/10/16	10/24/16
23-01	SAMPLE	282053-019	57	0.24	240499	10/11/16	10/24/16
23-02	SAMPLE	282053-020	58	0.23	240499	10/11/16	10/24/16
23-03	SAMPLE	282053-021	71	0.25	240499	10/11/16	10/24/16
14-01	SAMPLE	282053-022	61	0.24	240499	10/11/16	10/24/16
14-02	SAMPLE	282053-023	46	0.24	240499	10/11/16	10/24/16
14-03	SAMPLE	282053-024	47	0.24	240499	10/11/16	10/24/16
15-01	SAMPLE	282053-025	24	0.24	240499	10/11/16	10/24/16
15-02	SAMPLE	282053-026	26	0.24	240499	10/11/16	10/24/16
15-03	SAMPLE	282053-027	27	0.24	240499	10/11/16	10/24/16
	BLANK	QC856934	ND	0.23	240471		10/23/16
	BLANK	QC857048	ND	0.25	240499		10/24/16

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Lead

Lab #:	282053	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Received:	10/11/16
Units:	mg/Kg	Analyzed:	10/24/16
Basis:	as received		

Field ID	Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Sampled	Prepared
	LCS		QC856935		47.53	45.52	96	80-120			240471		10/23/16
27-01	MS	282053-001	QC856936	43.89	48.69	103.6	123	53-125			240471	10/07/16	10/23/16
27-01	MSD	282053-001	QC856937		49.31	92.15	98	53-125	12	42	240471	10/07/16	10/23/16
	LCS		QC857049		47.35	42.46	90	80-120			240499		10/24/16
21-03	MS	282053-015	QC857050	38.12	47.48	88.46	106	53-125			240499	10/10/16	10/24/16
21-03	MSD	282053-015	QC857051		49.46	93.01	111	53-125	3	42	240499	10/10/16	10/24/16

RPD= Relative Percent Difference


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Laboratory Job Number 282142
ANALYTICAL REPORT

Stantec
1340 Treat Blvd.
Walnut Creek, CA 94597

Project : 185703375
Location : Sacramento Mangan
Level : II

Sample ID	Lab ID	Sample ID	Lab ID
18-01	282142-001	11-01	282142-016
18-02	282142-002	11-02	282142-017
18-03	282142-003	11-03	282142-018
25-01	282142-004	8-01	282142-019
25-02	282142-005	8-02	282142-020
25-03	282142-006	8-03	282142-021
16-01	282142-007	6-01	282142-022
16-02	282142-008	6-02	282142-023
16-03	282142-009	6-03	282142-024
9-01	282142-010	5-01	282142-025
9-02	282142-011	5-02	282142-026
9-03	282142-012	5-03	282142-027
10-01	282142-013	7-01	282142-028
10-02	282142-014	7-02	282142-029
10-03	282142-015	7-03	282142-030

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 11/02/2016

Mike Dahlquist
Project Manager
mike.dahlquist@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**282142**
Client:	**Stantec**
Project:	**185703375**
Location:	**Sacramento Mangan**
Request Date:	**10/13/16**
Samples Received:	**10/13/16**

This data package contains sample and QC results for thirty soil samples, requested for the above referenced project on 10/13/16. The samples were received cold and intact.

Metals (EPA 6010B):
No analytical problems were encountered.

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Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 282142

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☑ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	Chemical Preservative: H_2SO_4	Chemical Preservative: HNO_3	Chemical Preservative: NaOH	Chemical Preservative: None	Analytical Request: Total Lead (6010B)	Analytical Request: 15M
1	18-01	10/11/16	1447		X			1						X	X
2	18-02	↓	1447		X			1						X	X
3	18-03	↓	1447		X			1						X	X
4	25-01	10/12/16	0909		X			1						X	X
5	25-02	↓	0909		X			1						X	X
6	25-03	↓	0909		X			1						X	X
7	16-01	↓	1015		X			1						X	X
8	16-02	↓	1015		X			1						X	X
9	16-03	↓	1015		X			1						X	X
10	9-01	↓	1220		X			1						X	X
11	9-02	↓	1220		X			1						X	X
12	9-03	↓	1220		X			1						X	X
13	10-01	↓	1450		X			1							

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

DLichtenberger 10/13/16 DATE/TIME

10/13/16 1720 DATE/TIME

DATE/TIME

RECEIVED BY:

DATE/TIME

dnguyen 10/13/16 17:00 DATE/TIME

DATE/TIME

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2323 Fifth Street
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CHAIN OF CUSTODY

Page 2 of 3
Chain of Custody # :

C&T LOGIN # 282142

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: ______ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ______ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil			# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Analytical Request: Total Lead (6010B)	ISM
14	10-02	10/12/16	1450		X			1					X	X	X
15	10-03	↓	1450		X			1					X	X	X
16	11-01	↓	1550		X			1					X	X	X
17	11-02	↓	1550		X			1					X	X	X
18	11-03	↓	1550		X			1					X	X	X
19	8-01	10/13/16	1020		X			1					X	X	X
20	8-02	↓	1020		X			1					X	X	X
21	8-03	↓	1020		X			1					X	X	X
22	6-01	10/13/16	1122		X			1					X	X	X
23	6-02	↓	1122		X			1					X	X	X
24	6-03	↓	1122		X			1					X	X	X
25	5-01	↓	1442		X			1					X	X	X
26	5-02	↓	1442		X			1					X	X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
D. Lichtenberger	10/13/16	[illegible]	[illegible] 1535
[illegible]	10/13/16 1700	dnguyen	10/13/16 17:00

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 282142

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	Chemical Preservative: H_2SO_4	Chemical Preservative: HNO_3	Chemical Preservative: NaOH	Chemical Preservative: None	Analytical Request: Total Lead (6010B)	Analytical Request: ISM
27	5-03	10/13/16	1442		X			1					X	X	X
28	7-01		1253		X			1					X	X	X
29	7-02		1253		X			1					X	X	X
30	7-03	↓	1253		X			1					X	X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
DZichtenberger 10/13/16 DATE/TIME	[illegible] DATE/TIME
[illegible] DATE/TIME	dnguyen 10/13/16 17:50 DATE/TIME
DATE/TIME	DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 288142 Date Received 10/13/16 Number of coolers 1
Client Stantec Consulting Project Mangan, Sacramento

Date Opened 10/13 By (print) CB (sign) [signature]
Date Logged in ✓ By (print) DIN (sign) [signature]
Date Labeled ✓ By (print) CB (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C) _____

☐ Temperature blank(s) included? ☐ Thermometer# _____ ☐ IR Gun# _____

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
17. Did you document your preservative check? (pH strip lot# _____) YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO (N/A)
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____

Curtis & Tompkins, Ltd.

Detections Summary for 282142

Results for any subcontracted analyses are not included in this summary.

Client : Stantec
Project : 185703375
Location : Sacramento Mangan

Client Sample ID : 18-01 Laboratory Sample ID : 282142-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	130		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 18-02 Laboratory Sample ID : 282142-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	120		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 18-03 Laboratory Sample ID : 282142-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	83		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 25-01 Laboratory Sample ID : 282142-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	72		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 25-02 Laboratory Sample ID : 282142-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	74		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 25-03 Laboratory Sample ID : 282142-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	78		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 16-01 Laboratory Sample ID : 282142-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	50		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : 16-02 Laboratory Sample ID : 282142-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	53		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 16-03 Laboratory Sample ID : 282142-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	50		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 9-01 Laboratory Sample ID : 282142-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	84		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 9-02 Laboratory Sample ID : 282142-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	69		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 9-03 Laboratory Sample ID : 282142-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	71		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 10-01 Laboratory Sample ID : 282142-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 10-02 Laboratory Sample ID : 282142-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	41		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 10-03 Laboratory Sample ID : 282142-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	39		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 11-01 Laboratory Sample ID : 282142-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	38		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 11-02 Laboratory Sample ID : 282142-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	120		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 11-03 Laboratory Sample ID : 282142-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	64		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 8-01 Laboratory Sample ID : 282142-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	42		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 8-02 Laboratory Sample ID : 282142-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	230		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 8-03 Laboratory Sample ID : 282142-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 6-01 Laboratory Sample ID : 282142-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	36		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 6-02 Laboratory Sample ID : 282142-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	33		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 6-03 Laboratory Sample ID : 282142-024

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	38		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 5-01 Laboratory Sample ID : 282142-025

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	150		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : 5-02 Laboratory Sample ID : 282142-026

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	110		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 5-03 Laboratory Sample ID : 282142-027

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	110		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 7-01 Laboratory Sample ID : 282142-028

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	26		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 7-02 Laboratory Sample ID : 282142-029

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	27		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 7-03 Laboratory Sample ID : 282142-030

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	26		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Lead

Lab #:	282142	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	as received
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Received:	10/13/16

Field ID	Type	Lab ID	Result	RL	Batch#	Sampled	Prepared	Analyzed
18-01	SAMPLE	282142-001	130	0.23	240754	10/11/16	10/31/16	11/01/16
18-02	SAMPLE	282142-002	120	0.24	240754	10/11/16	10/31/16	11/01/16
18-03	SAMPLE	282142-003	83	0.24	240754	10/11/16	10/31/16	11/01/16
25-01	SAMPLE	282142-004	72	0.24	240754	10/12/16	10/31/16	11/01/16
25-02	SAMPLE	282142-005	74	0.24	240754	10/12/16	10/31/16	11/01/16
25-03	SAMPLE	282142-006	78	0.24	240754	10/12/16	10/31/16	11/01/16
16-01	SAMPLE	282142-007	50	0.24	240754	10/12/16	10/31/16	11/01/16
16-02	SAMPLE	282142-008	53	0.24	240754	10/12/16	10/31/16	11/01/16
16-03	SAMPLE	282142-009	50	0.24	240754	10/12/16	10/31/16	11/01/16
9-01	SAMPLE	282142-010	84	0.25	240754	10/12/16	10/31/16	11/01/16
9-02	SAMPLE	282142-011	69	0.24	240754	10/12/16	10/31/16	11/01/16
9-03	SAMPLE	282142-012	71	0.25	240754	10/12/16	10/31/16	11/01/16
10-01	SAMPLE	282142-013	44	0.24	240814	10/12/16	11/01/16	11/02/16
10-02	SAMPLE	282142-014	41	0.24	240814	10/12/16	11/01/16	11/02/16
10-03	SAMPLE	282142-015	39	0.24	240814	10/12/16	11/01/16	11/02/16
11-01	SAMPLE	282142-016	38	0.24	240814	10/12/16	11/01/16	11/02/16
11-02	SAMPLE	282142-017	120	0.24	240814	10/12/16	11/01/16	11/02/16
11-03	SAMPLE	282142-018	64	0.24	240814	10/12/16	11/01/16	11/02/16
8-01	SAMPLE	282142-019	42	0.23	240814	10/13/16	11/01/16	11/02/16
8-02	SAMPLE	282142-020	230	0.24	240814	10/13/16	11/01/16	11/02/16
8-03	SAMPLE	282142-021	44	0.24	240814	10/13/16	11/01/16	11/02/16
6-01	SAMPLE	282142-022	36	0.24	240814	10/13/16	11/01/16	11/02/16
6-02	SAMPLE	282142-023	33	0.23	240814	10/13/16	11/01/16	11/02/16
6-03	SAMPLE	282142-024	38	0.24	240814	10/13/16	11/01/16	11/02/16
5-01	SAMPLE	282142-025	150	0.25	240814	10/13/16	11/01/16	11/02/16
5-02	SAMPLE	282142-026	110	0.24	240814	10/13/16	11/01/16	11/02/16
5-03	SAMPLE	282142-027	110	0.24	240814	10/13/16	11/01/16	11/02/16
7-01	SAMPLE	282142-028	26	0.24	240814	10/13/16	11/01/16	11/02/16
7-02	SAMPLE	282142-029	27	0.24	240814	10/13/16	11/01/16	11/02/16
7-03	SAMPLE	282142-030	26	0.25	240814	10/13/16	11/01/16	11/02/16
	BLANK	QC858076	ND	0.25	240754		10/30/16	11/01/16
	BLANK	QC858296	ND	0.23	240814		11/01/16	11/02/16

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Lead

Lab #:	282142	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	as received
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg		

Field ID	Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Sampled	Received	Prepared	Analyzed
	LCS		QC858077		48.64	49.93	103	80-120			240754			10/30/16	11/01/16
ZZZZZZZZZZ	MS	282452-001	QC858078	41.65	49.31	93.03	104	53-125			240754	10/18/16	10/20/16	10/30/16	11/01/16
ZZZZZZZZZZ	MSD	282452-001	QC858079		48.64	89.06	97	53-125	4	42	240754	10/18/16	10/20/16	10/30/16	11/01/16
	LCS		QC858297		48.31	45.55	94	80-120			240814			11/01/16	11/02/16
10-01	MS	282142-013	QC858298	43.66	48.17	84.68	85	53-125			240814	10/12/16	10/13/16	11/01/16	11/02/16
10-01	MSD	282142-013	QC858299		48.83	86.59	88	53-125	2	42	240814	10/12/16	10/13/16	11/01/16	11/02/16

RPD= Relative Percent Difference


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 282376
ANALYTICAL REPORT

Stantec
1340 Treat Blvd.
Walnut Creek, CA 94597

Project : 185703375
Location : Sacramento Mangan
Level : II

Sample ID	Lab ID
26-01	282376-001
26-02	282376-002
26-03	282376-003
39-01	282376-004
39-02	282376-005
39-03	282376-006
38-01	282376-007
38-02	282376-008
38-03	282376-009
24-01	282376-010
24-02	282376-011
24-03	282376-012
40-01	282376-013
40-02	282376-014
40-03	282376-015
31-01	282376-016
31-02	282376-017
31-03	282376-018
19-01	282376-019
19-02	282376-020
19-03	282376-021
13-01	282376-022
13-02	282376-023
13-03	282376-024

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 11/03/2016

Mike Dahlquist
Project Manager
mike.dahlquist@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**282376**
Client:	**Stantec**
Project:	**185703375**
Location:	**Sacramento Mangan**
Request Date:	**10/18/16**
Samples Received:	**10/18/16**

This data package contains sample and QC results for twenty four soil samples, requested for the above referenced project on 10/18/16. The samples were received cold and intact.

Metals (EPA 6010B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 282376

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling		Matrix				# of Containers	Chemical Preservative					Analytical Request	
		Date	Time	Water	Soil				HCl	H_2SO_4	HNO_3	NaOH	None	Total Lead (6010B)	ISM
1	26-01	10/17/16	0940		X			1						X	X
2	26-02	↓	↓		X			1						X	X
3	26-03				X			1						X	X
4	39-01		1120		X			1						X	X
5	39-02		↓		X			1						X	X
6	39-03				X			1						X	X
7	38-01		1235		X			1						X	X
8	38-02		↓		X			1						X	X
9	38-03		"		X			1						X	X
10	24-01		1350 ~~1350~~ 2		X			1						X	X
11	24-02		↓		X			1						X	X
12	24-03		"		X			1						X	X
13	40-01	↓	1516		X			1						X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

D Lichtenberger 10/18/16 1345 DATE/TIME
Tom Ryan 10/18/16 1600 DATE/TIME
DATE/TIME

RECEIVED BY:

Tom Ryan 10/18/16 1345 DATE/TIME
Dung Nguyen 10/18/16 1610 DATE/TIME
DATE/TIME

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 282376

Project No: 1857503375
Project Name: Mangan, Sacramento
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: D. Lichtenberger/B. Branscum
Report To: Neil Doran
Company : Stantec Consulting Services Inc
Telephone: 916-510-919-0059
Email: neil.doran@stantec.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	Chemical Preservative: H_2SO_4	Chemical Preservative: HNO_3	Chemical Preservative: NaOH	Chemical Preservative: None	Analytical Request: Total Lead (6010B)	Analytical Request: ISM
14	40-02	10/17/16	1516		X			1						X	X
15	40-03	↓	↓		X			1						X	X
16	31-01	10/18/16	0926		X			1						X	X
17	31-02	↓	↓		X			1						X	X
18	31-03	↓	↓		X			1						X	X
19	19-01	↓	1054		X			1						X	X
20	19-02	↓	↓		X			1						X	X
21	19-03	↓	↓		X			1						X	X
22	13-01	↓	1255		X			1						X	X
23	13-02	↓	↓		X			1						X	X
24	13-03	↓	↓		X			1						X	X

Notes:
Sieve Samples with a #10 Mesh Screen

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
D Lichtenberger 10/18/16 DATE/TIME
Tony Ryan 10/18/16 1610 DATE/TIME
DATE/TIME

RECEIVED BY:
Tony Ryan 10/18/16 1345 DATE/TIME
D Lichtenberger 10/18/16 1610 DATE/TIME
DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 282376 Date Received 10/18/19 Number of coolers 0
Client Stantec Project Mangan, Sacramento

Date Opened 10/18 By (print) DTN (sign) [signature]
Date Logged in 10/19 By (print) ↓ (sign) ↓
Date Labeled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☒ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C)

☐ Temperature blank(s) included? ☐ Thermometer# ☐ IR Gun#

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? (pH strip lot#) YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? YES NO (N/A)
21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

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Detections Summary for 282376

Results for any subcontracted analyses are not included in this summary.

Client : Stantec
Project : 185703375
Location : Sacramento Mangan

Client Sample ID : 26-01 Laboratory Sample ID : 282376-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	72		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 26-02 Laboratory Sample ID : 282376-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	81		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 26-03 Laboratory Sample ID : 282376-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	79		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 39-01 Laboratory Sample ID : 282376-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 39-02 Laboratory Sample ID : 282376-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	46		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 39-03 Laboratory Sample ID : 282376-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 38-01 Laboratory Sample ID : 282376-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	89		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 38-02 Laboratory Sample ID : 282376-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	87		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 38-03 Laboratory Sample ID : 282376-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	73		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 24-01 Laboratory Sample ID : 282376-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	40		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 24-02 Laboratory Sample ID : 282376-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	40		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 24-03 Laboratory Sample ID : 282376-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	39		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 40-01 Laboratory Sample ID : 282376-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	81		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 40-02 Laboratory Sample ID : 282376-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	84		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 40-03 Laboratory Sample ID : 282376-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	88		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 31-01 Laboratory Sample ID : 282376-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	53		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 31-02 Laboratory Sample ID : 282376-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	55		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 31-03 Laboratory Sample ID : 282376-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	51		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 19-01 Laboratory Sample ID : 282376-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	130		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 19-02 Laboratory Sample ID : 282376-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	140		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 19-03 Laboratory Sample ID : 282376-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	130		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 13-01 Laboratory Sample ID : 282376-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	39		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 13-02 Laboratory Sample ID : 282376-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	43		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : 13-03 Laboratory Sample ID : 282376-024

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	44		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Lead

Lab #:	282376	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Received:	10/18/16
Units:	mg/Kg	Prepared:	11/02/16
Basis:	as received		

Field ID	Type	Lab ID	Result	RL	Batch#	Sampled	Analyzed
26-01	SAMPLE	282376-001	72	0.25	240854	10/17/16	11/02/16
26-02	SAMPLE	282376-002	81	0.24	240854	10/17/16	11/02/16
26-03	SAMPLE	282376-003	79	0.25	240854	10/17/16	11/02/16
39-01	SAMPLE	282376-004	44	0.24	240854	10/17/16	11/02/16
39-02	SAMPLE	282376-005	46	0.24	240854	10/17/16	11/02/16
39-03	SAMPLE	282376-006	44	0.24	240854	10/17/16	11/02/16
38-01	SAMPLE	282376-007	89	0.25	240854	10/17/16	11/02/16
38-02	SAMPLE	282376-008	87	0.24	240854	10/17/16	11/02/16
38-03	SAMPLE	282376-009	73	0.25	240887	10/17/16	11/03/16
24-01	SAMPLE	282376-010	40	0.24	240887	10/17/16	11/03/16
24-02	SAMPLE	282376-011	40	0.24	240887	10/17/16	11/03/16
24-03	SAMPLE	282376-012	39	0.24	240887	10/17/16	11/03/16
40-01	SAMPLE	282376-013	81	0.24	240887	10/17/16	11/03/16
40-02	SAMPLE	282376-014	84	0.24	240887	10/17/16	11/03/16
40-03	SAMPLE	282376-015	88	0.24	240887	10/17/16	11/03/16
31-01	SAMPLE	282376-016	53	0.24	240887	10/18/16	11/03/16
31-02	SAMPLE	282376-017	55	0.24	240887	10/18/16	11/03/16
31-03	SAMPLE	282376-018	51	0.24	240887	10/18/16	11/03/16
19-01	SAMPLE	282376-019	130	0.24	240887	10/18/16	11/03/16
19-02	SAMPLE	282376-020	140	0.24	240887	10/18/16	11/03/16
19-03	SAMPLE	282376-021	130	0.24	240887	10/18/16	11/02/16
13-01	SAMPLE	282376-022	39	0.24	240887	10/18/16	11/03/16
13-02	SAMPLE	282376-023	43	0.24	240887	10/18/16	11/03/16
13-03	SAMPLE	282376-024	44	0.24	240887	10/18/16	11/03/16
	BLANK	QC858451	ND	0.24	240854		11/02/16
	BLANK	QC858579	ND	0.24	240887		11/02/16

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	282376	Location:	Sacramento Mangan
Client:	Stantec	Prep:	EPA 3050B
Project#:	185703375	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Received:	10/18/16
Units:	mg/Kg	Prepared:	11/02/16
Basis:	as received	Analyzed:	11/02/16

Field ID	Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Sampled
	LCS		QC858452		49.31	49.39	100	80-120			240854	
26-01	MS	282376-001	QC858453	72.43	48.31	119.3	97	53-125			240854	10/17/16
26-01	MSD	282376-001	QC858454		46.90	118.8	99	53-125	1	42	240854	10/17/16
19-03	MS	282376-021	QC858582	134.0	48.22	165.8	66	53-125			240887	10/18/16
19-03	MSD	282376-021	QC858583		48.26	177.1	89	53-125	7	42	240887	10/18/16
	LCS		QC858584		48.08	48.35	101	80-120			240887	

RPD= Relative Percent Difference