

**AERIALY DEPOSITED LEAD (ADL)
INVESTIGATION REPORT
REPLACE WATSON WASH, BRIDGE NO. 54-0805L
08-SBD-40-PM R105.2/106.5
SAN BERNARDINO COUNTY, CALIFORNIA
PN: 08-000-201020 (EA#0N5500)
TASK ORDER #19
CONTRACT 08A2047**

PREPARED FOR:

**CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 8
464 WEST FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CALIFORNIA 92401-1400**

SEPTEMBER 10, 2013

EXECUTIVE SUMMARY

At the request of the California Department of Transportation (Caltrans) District 8, an Aerially Deposited Lead (ADL) survey was conducted to support the proposed construction associated with the replacement of the Watson Wash bridge located along westbound State Route 40 (SR40), approximately 105 miles east of the city of Barstow, in San Bernardino County, state of California (Figure 1). The purpose of this task order was to evaluate the magnitude and distribution of ADL concentrations in the median just east and west of the Watson Wash bridge (#54-0805L) as directed by Caltrans (Figures 2). All survey work was limited to the existing right-of-way along the unpaved median of SR40.

Three (3) soil samples were collected from 12 borings (6 to the west and 6 to the east of the bridge) at depths of 0.5-1, 1-1.5 and 1.5-2 feet bgs, and submitted to the laboratory for analysis of total and soluble lead. Laboratory data indicate that total lead concentrations were reported in the range of 1.8 to 5.9 mg/kg, with a mean concentration of 3.0 mg/kg.

Based on these data, the following are concluded:

1. Total lead concentrations appear to be consistent with typical background levels for Southern California.
2. The reported lead concentrations do not exceed California hazardous waste total threshold limit concentration (TTLC) of 1,000 mg/kg.
3. Total lead concentrations did not exceed the United States Environmental Protection Agency (USEPA) residential or commercial Regional Screening Level (RSL) of 400 mg/kg and 800 mg/kg, respectively.
4. Total lead concentrations did not exceed the residential or commercial California Human Health Screening Level (CHHSL) of 80 mg/kg and 320 mg/kg, respectively.

Based on the findings and conclusions presented herein, the following are recommended:

1. In consideration of total lead and soluble lead concentrations, soil may be managed as non-hazardous or reused onsite without restrictions.
2. Surplus soil within the study zone may be released to the Contractor for disposition.

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION AND OBJECTIVES

At the request of the California Department of Transportation (Caltrans) District 8, an Aerially Deposited Lead (ADL) survey was conducted to support the proposed construction associated with the replacement of the Watson Wash bridge located along westbound State Route 40 (SR40), approximately 105 miles east of the city of Barstow, in San Bernardino County, state of California (Figure 1). The purpose of this task order was to evaluate the magnitude and distribution of ADL concentrations in the median just east and west of the Watson Wash bridge (#54-0805L) as directed by Caltrans (Figures 2). All survey work was limited to the existing right-of-way along the unpaved median of SR40.

The overall objective of this investigation was to evaluate lead concentrations in the subsurface soil profile within the construction zone and to make recommendations for any special handling or disposal of lead-impacted soil. The ADL survey was performed in accordance with Caltrans District 8 protocols for similar sites in San Bernardino County.

1.2 SCOPE-OF-WORK

The scope of the ADL survey consisted of the following general elements:

- Pre-field Activities
- Field Sampling Activities
- Laboratory Analysis
- Investigative results, data evaluation and report development

Each of these is discussed in detail in the following subsections.

1.2.1 Pre-Field Activities

From information obtained through consultation with the District 8 Hazardous Waste Coordinator, Rosanna Roa, potential sample locations were designated on Department provided site plans. In addition, a site-specific HASP was developed in accordance with California Occupational Safety and Health Administration (Cal OSHA) requirements to guide field activities.

1.2.2 Field Sampling Activities

Field sampling activities included the following general tasks:

- Advance twelve (12) shallow hand-auger borings along accessible portions of the median, just to the west and east of the bridge abutment approaches, within the proposed construction area to a maximum depth of two (2) feet below ground surface (bgs);

- Collect three (3) soil samples at the 0.5-1, 1-1.5 and 1.5-2.0 feet bgs for ADL analysis.

1.2.3 Laboratory Analyses

A total of thirty-six (36) soil samples were submitted under chain-of-custody to ATL Laboratories (ATL). ATL is certified by the California Environmental Laboratory Accreditation Program (ELAP) to perform the laboratory tests required in this task order. Selected samples were analyzed for the following analytes:

- Total Lead by EPA test method 6010B.

1.2.4 Report Preparation

This report presents the methodology, findings, and recommendations of the ADL survey and investigation. Also included with this are laboratory test results and recommendations for lead-contaminated soil management during construction, if necessary. This report was prepared in accordance with the work plan and proposal dated July 8, 2013.

1.3 PREVIOUS SITE INVESTIGATIONS

Additional information was not provided relative to previous aerially deposited lead studies within the study area.

2.0 ADL SURVEY METHODOLOGY

The field methods used during this site investigation project were consistent with the work plan submitted to Caltrans dated July 8, 2013. The proposed borings were located along the center median approaching the Watson Wash bridge from the west and the east along SR40, in San Bernardino County, California. The following subsections describe the methodology for conducting the ADL survey.

2.1 FIELD INVESTIGATIONS

Twelve (12) hand-auger borings were advanced along accessible areas within the proposed construction zone. Site borings were advanced in the median to each side of the bridge.

Three (3) soil samples were collected from each of the borings at depths of 0.5-1, 1-1.5 and 1.5-2.0 feet bgs.

The sample depths represent the bottom depth of a three to six-inch thick sample collected using a hand-auger. Soil samples were discharged directly from the hand-auger bailer into a plastic zipper lock bag and manually homogenized in the field to minimize sample heterogeneity. Homogenized soil was then discharged to eight-ounce laboratory provided glass jars. Each sample jar was labeled with a specific sample I.D., boring I.D., project I.D., sample date, and sample time. Samples were also recorded on chain-of-custody forms and delivered to an environmental laboratory for analysis in accordance with the methods described in Section K 17 of Attachment 1 within Agreement 08A2047.

Accessible areas are defined as those areas that allow work vehicles and personnel to work safely at distances no closer than six feet from paved portions of the roadway. No samples were collected from areas that would have required workers to work within six feet of paved shoulders. Where possible, sample locations falling within inaccessible areas were moved to locations that could be safely sampled. The sample locations are indicated on Figure 2.

All sample locations were plotted on a field map with a unique boring identification (I.D.) number to represent each borehole.

Prior to sampling at each sample interval, sample equipment was decontaminated in non-phosphate detergent solution and double rinsed with distilled water. Excess soil cuttings were replaced in the borehole.

2.2 LABORATORY ANALYSIS

Thirty-six (36) soil samples were submitted under chain-of-custody to ATL. Each of the samples was analyzed by EPA test method 6010B for total lead. The lab was directed to perform the following additional analyses based on the detected total lead concentrations:

- Cal WET-Citric soluble lead analysis on all samples exhibiting total lead concentrations greater than 25 milligrams per kilogram (mg/kg).
- TCLP soluble lead analysis on all Cal WET-Citric samples exhibiting soluble lead concentrations greater than five (5) milligrams per liter (mg/L).
- pH on all TCLP analyzed samples.
- Cal WET-DI analysis in the following order of preference:
 - TCLP samples where the 95 percent upper confidence level of the mean of the TCLP data is greater than 0.5 mg/L; or
 - Ten percent of the sample population biasing the Cal WET-DI analyses to samples that required Cal WET-Citric analysis; or
 - Ten percent of the sample population biasing the Cal WET-DI analyses to samples that exhibited the highest concentrations of total lead.

These analyses, if necessary, would be performed for statistical evaluation of data against state and federal hazardous waste limits and with the conditions of the Caltrans variance.

3.0 INVESTIGATIVE RESULTS

3.1 SUBSURFACE CONDITIONS

The soils encountered during sampling were generally light brown in color and consisted primarily of medium-grained sands with gravels and coarse cobbles. Groundwater was not encountered in any of the boreholes and not expected to be present in the upper 10 feet.

3.2 ANALYTICAL RESULTS

A summary of the analytical results is presented in Table 1. Boring global positioning system (GPS) coordinates are attached as Table 2. Copies of the laboratory reports and chain-of-custody forms are included in Appendix A. A photo log of the sampling area is included as Appendix B.

3.2.1 Total Lead

Thirty-six (36) soil samples were analyzed for total lead by EPA test method 6010B. Total lead concentrations ranged from 1.8 to 5.9 mg/kg with a mean concentration of 3.0 mg/kg (see Table 1).

Total lead concentrations did not exceed the Total Threshold Limit Concentrations (TTLC) of 1,000 mg/kg in any of the samples.

3.2.2 Soluble Lead (Cal WET- Citric)

Cal WET soluble lead analysis was not performed due to the fact that all soil samples reported total lead concentrations less than 25 mg/Kg (see Table 1).

3.2.3 Toxicity Characteristic Leaching Procedure (TCLP)

TCLP for lead analyses were not performed due to the fact that all total lead samples reported concentrations less than 25 mg/kg and therefore Cal WET soluble lead analysis were not performed.

3.2.4 Soluble Lead (Cal WET- DI)

The Caltrans variance allows for reuse of materials exceeding the Soluble Threshold Limit Concentration (STLC) for lead if the soluble concentrations do not exceed 1.5 mg/L using a less rigorous extraction test that incorporates distilled water as the solvent rather than the Cal WET citric acid or TCLP acetic acid extractant. This method is known as the DHS modified Cal WET-DI test.

Soluble lead analyses by the Cal WET – DI extraction method were not performed due to the fact that all total lead samples reported concentrations less than 25 mg/kg.

3.2.5 pH Results

Samples were not analyzed for pH since TCLP analysis was not required for any samples.

3.3 DATA VALIDATION

Prior to submitting soil samples to the laboratory, the chain-of-custody documentation was reviewed for accuracy and completeness. The laboratory reports were cross-checked with the chain-of-custody forms to confirm accurate transposing of sample information. Field and Laboratory quality assurance and quality control (QA/QC) data (equipment blanks, method blanks, laboratory control samples and duplicates, matrix spike samples and duplicates) were also reviewed for compliance with QA/QC objectives. Based on this validation process, the data contained herein are adequate for the purposes of this study. Copies of the laboratory reports and chain-of-custody forms are included as Appendix A.

4.0 STATISTICAL DATA EVALUATION

Total lead concentrations were reported in the range of 1.8 to 5.9 mg/kg, with a mean concentration of 3.0 mg/kg. CAL WET-citric soluble lead analysis and TCLP for lead analysis were not performed due to the low total lead concentrations and no further statistical analyses were necessary.

5.0 CONCLUSIONS

At the request of the California Department of Transportation (Caltrans) District 8, an Aerially Deposited Lead (ADL) survey was conducted to support the proposed construction associated with the replacement of the Watson Wash bridge located along westbound State Route 40 (SR40), approximately 105 miles east of the city of Barstow, in San Bernardino County, state of California (Figure 1). The purpose of this task order was to evaluate the magnitude and distribution of ADL concentrations in the median just east and west of the Watson Wash bridge (#54-0805L) as directed by Caltrans (Figures 2). All survey work was limited to the existing right-of-way along the unpaved median of SR40.

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Based on these data, the following are concluded:

1. Total lead concentrations appear to be consistent with typical background levels for Southern California.
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4. Total lead concentrations did not exceed the residential or commercial California Human Health Screening Level (CHHSL) of 80 mg/kg and 320 mg/kg, respectively.

6.0 RECOMMENDATIONS

Based on the findings and conclusions presented herein, the following are recommended:

1. In consideration of total lead and soluble lead concentrations, soil may be managed as non-hazardous or reused onsite without restrictions.
2. Surplus soil within the study zone may be released to the Contractor for disposition.

7.0 LIST OF PREPARERS

This ADL survey report has been prepared under the direction of the following environmental professionals.

Preparers:

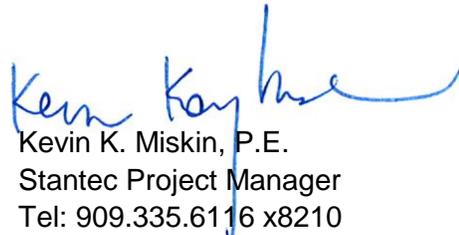
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ADL Investigation Report Senior Reviewer
- Anne Perez
Stantec
M.S., Geology, University of California, Riverside, California
ADL Investigation Report Author

If you have any questions or comments regarding the information enclosed herein, please contact the undersigned at your convenience.

Respectfully submitted,
Stantec Consulting Corporation



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TABLES

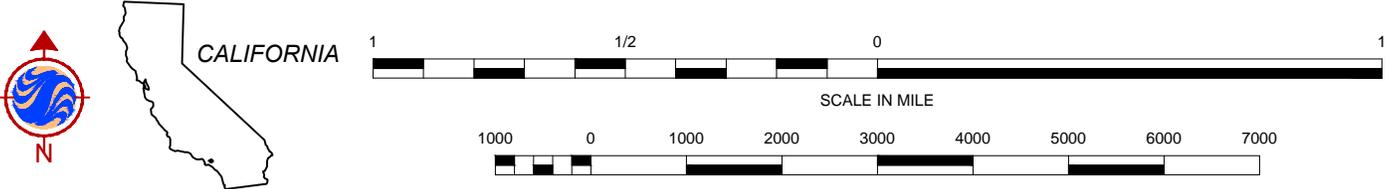
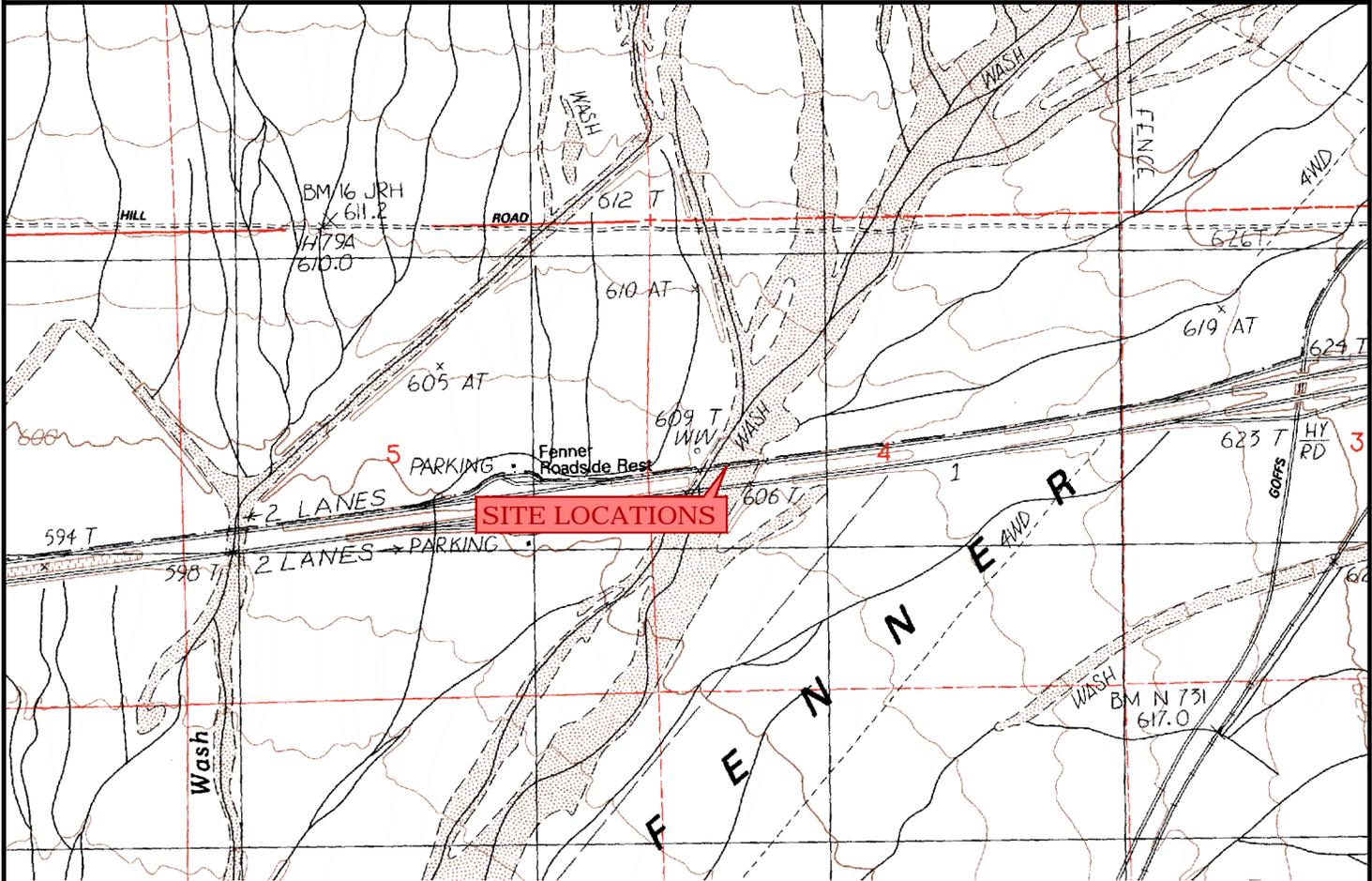
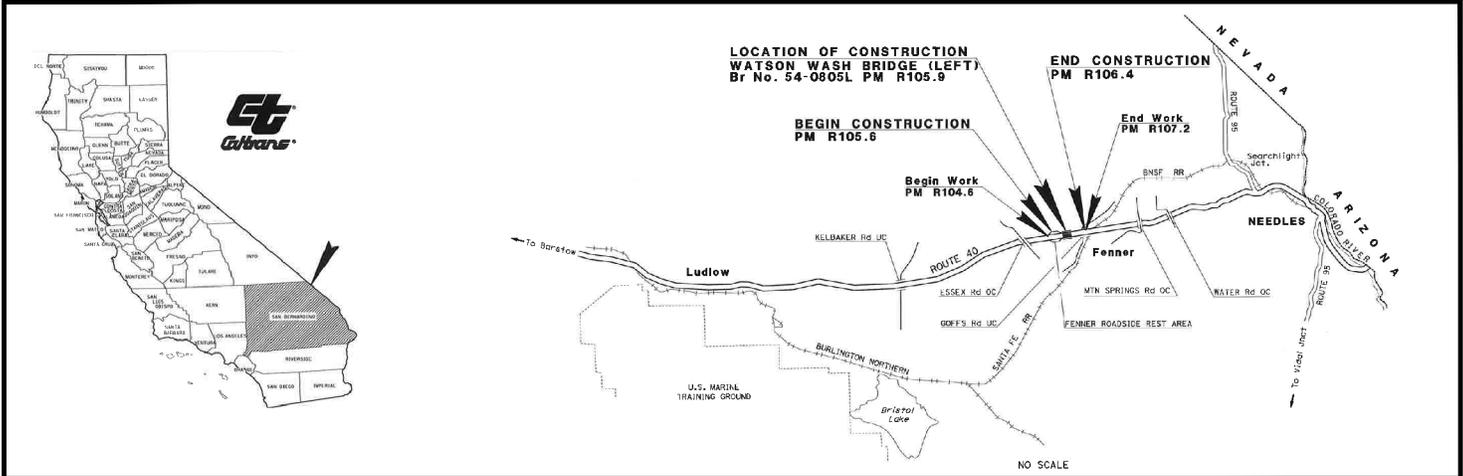
TABLE 2 - BORING GPS COORDINATES
TO-19: REPLACE WATSON WASH, BRIDGE NO. 54-0805L
08-SBD-40-PM R105.2/106.5
SAN BERNARDINO COUNTY, CALIFORNIA
PN: 08-000-201020 (EA#0N5500)
TASK ORDER #19
CONTRACT 08A2047

Boring ID	Latitude ¹ (degrees north)	Longitude ¹ (degrees west)
HA-1	34.80992847	115.2092778
HA-2	34.81003107	115.2091043
HA-3	34.81010391	115.2089946
HA-4	34.81022968	115.2087952
HA-5	34.81034173	115.2086251
HA-6	34.81050070	115.2083407
HA-7	34.80983056	115.2162722
HA-8	34.80976667	115.2158000
HA-9	34.80966111	115.2151806
HA-10	34.80965833	115.2147611
HA-11	34.80960833	115.2144722
HA-12	34.80958889	115.2139111

Notes:

¹ North American Datum 83 (WPS 84)
AMSL = above mean sea level

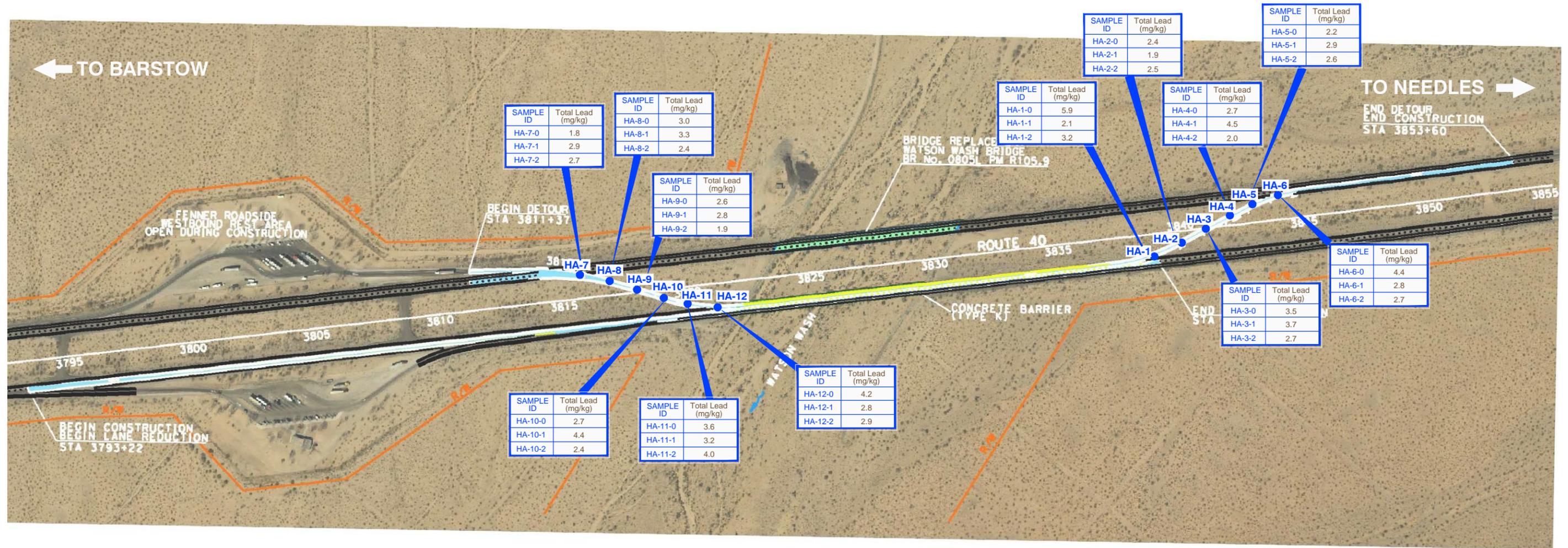
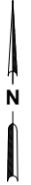
FIGURES



REFERENCE: CA Digital Raster Graphics (<http://gis.ca.gov/casil/usgs.gov/>)
 7.5 Minute Series, Albers NAD83, Trimmed
 Block o34117e3, Downloaded 11/20/09

No warranty is made by Stantec as to the accuracy, reliability, or completeness of these data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any reproduction may result in a loss of scale and/or information.

 25864-F BUSINESS CENTER DRIVE REDLANDS, CALIFORNIA 92374 PHONE: (909) 335-6116 FAX: (909) 556-6516	FOR: CAL TRANS - TASK ORDER 19 WATSON WASH BRIDGE BRIDGE #54-0805L SAN BERNARDINO COUNTY, CA		FIGURE: 1	
	JOB NUMBER: 185802875	DRAWN BY: J. RESENDIZ	CHECKED BY: A. PEREZ	APPROVED BY:



LEGEND:

HA-1-1 ● APPROXIMATE SAMPLE LOCATION, ID AND DEPTH



Reference:
Basemap provided by California Department of Transportation, District 8.

CALTRANS TASK ORDER No. 19 AERIALY DEPOSITED LEAD (ADL) INVESTIGATION REPLACE WATSON WASH BRIDGE No. 54-0805L 08-SBD-40-PM R105.2/106.5 PN: 08-000-201020 (EA# 0N5500) CONTRACT 08A2047	PREPARED FOR: CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 8 464 WEST FOURTH STREET, 6TH FLOOR SAN BERNARDINO, CALIFORNIA 92401-1400	SAMPLE LOCATION/SITE VICINITY MAP	FIGURE:
			2
JOB NUMBER: 185802875	DRAWN BY: RO	CHECKED BY: AP	APPROVED BY:
			DATE: 09/03/2013

APPENDIX A
ANALYTICAL LABORATORY REPORTS and CHAIN-OF-CUSTODY RECORDS

August 30, 2013

Anne Perez
Stantec
25864-F Business Center Drive
Redlands, CA 92374
Tel: (909) 255-8202
Fax:(909) 335-6120

ACCREDITED IN ACCORDANCE WITH

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Re: ATL Work Order Number : 1302630
Client Reference : 185802875 Highway 40

Enclosed are the results for sample(s) received on August 29, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EBQC-20130828	1302630-01	Water	8/28/13 6:30	8/29/13 9:20
HA-1-0	1302630-02	Soil	8/28/13 7:30	8/29/13 9:20
HA-1-1	1302630-03	Soil	8/28/13 7:35	8/29/13 9:20
HA-1-2	1302630-04	Soil	8/28/13 7:40	8/29/13 9:20
HA-2-0	1302630-05	Soil	8/28/13 7:43	8/29/13 9:20
HA-2-1	1302630-06	Soil	8/28/13 7:45	8/29/13 9:20
HA-2-2	1302630-07	Soil	8/28/13 7:47	8/29/13 9:20
HA-3-0	1302630-08	Soil	8/28/13 7:53	8/29/13 9:20
HA-3-1	1302630-09	Soil	8/28/13 7:55	8/29/13 9:20
HA-3-2	1302630-10	Soil	8/28/13 7:59	8/29/13 9:20
HA-4-0	1302630-11	Soil	8/28/13 8:03	8/29/13 9:20
HA-4-1	1302630-12	Soil	8/28/13 8:05	8/29/13 9:20
HA-4-2	1302630-13	Soil	8/28/13 8:07	8/29/13 9:20
HA-5-0	1302630-14	Soil	8/28/13 8:10	8/29/13 9:20
HA-5-1	1302630-15	Soil	8/28/13 8:12	8/29/13 9:20
HA-5-2	1302630-16	Soil	8/28/13 8:15	8/29/13 9:20
HA-6-0	1302630-17	Soil	8/28/13 8:28	8/29/13 9:20
HA-6-1	1302630-18	Soil	8/28/13 8:30	8/29/13 9:20
HA-6-2	1302630-19	Soil	8/28/13 8:32	8/29/13 9:20
HA-7-0	1302630-20	Soil	8/28/13 9:53	8/29/13 9:20
HA-7-1	1302630-21	Soil	8/28/13 9:55	8/29/13 9:20
HA-7-2	1302630-22	Soil	8/28/13 9:58	8/29/13 9:20
HA-8-0	1302630-23	Soil	8/28/13 10:05	8/29/13 9:20
HA-8-1	1302630-24	Soil	8/28/13 10:07	8/29/13 9:20
HA-8-2	1302630-25	Soil	8/28/13 10:11	8/29/13 9:20
HA-9-0	1302630-26	Soil	8/28/13 10:15	8/29/13 9:20
HA-9-1	1302630-27	Soil	8/28/13 10:17	8/29/13 9:20
HA-9-2	1302630-28	Soil	8/28/13 10:19	8/29/13 9:20
HA-10-0	1302630-29	Soil	8/28/13 10:25	8/29/13 9:20
HA-10-1	1302630-30	Soil	8/28/13 10:27	8/29/13 9:20
HA-10-2	1302630-31	Soil	8/28/13 10:30	8/29/13 9:20
HA-11-0	1302630-32	Soil	8/28/13 11:00	8/29/13 9:20
HA-11-1	1302630-33	Soil	8/28/13 11:03	8/29/13 9:20
HA-11-2	1302630-34	Soil	8/28/13 11:07	8/29/13 9:20
HA-12-0	1302630-35	Soil	8/28/13 11:11	8/29/13 9:20
HA-12-1	1302630-36	Soil	8/28/13 11:13	8/29/13 9:20
HA-12-2	1302630-37	Soil	8/28/13 11:15	8/29/13 9:20



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

CASE NARRATIVE

Sample Receiving/General Comments:

Documentation pertaining to additional analyses/change order available upon request.

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.



Certificate of Analysis

Stantec
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Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID EBQC-20130828

Lab ID: 1302630-01

Lead by ICP-AES EPA 6010B

Analyst: AG

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.0050	0.0022	1	B3H0573	08/29/2013	08/29/13 15:09	



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Stantec
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Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-1-0

Lab ID: 1302630-02

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	5.9	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:48	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-1-1

Lab ID: 1302630-03

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.1	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:49	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-1-2

Lab ID: 1302630-04

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.2	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:49	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-2-0

Lab ID: 1302630-05

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.4	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:50	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-2-1

Lab ID: 1302630-06

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	1.9	0.98	0.14	1	B3H0577	08/29/2013	08/29/13 16:51	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-2-2

Lab ID: 1302630-07

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.5	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:51	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-3-0

Lab ID: 1302630-08

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.5	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:52	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-3-1

Lab ID: 1302630-09

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.7	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:54	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-3-2

Lab ID: 1302630-10

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.7	0.98	0.14	1	B3H0577	08/29/2013	08/29/13 16:55	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-4-0

Lab ID: 1302630-11

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.7	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:56	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-4-1

Lab ID: 1302630-12

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	4.5	0.98	0.14	1	B3H0577	08/29/2013	08/29/13 16:58	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-4-2

Lab ID: 1302630-13

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.0	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 16:58	



Certificate of Analysis

Stantec
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Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-5-0

Lab ID: 1302630-14

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.2	0.99	0.14	1	B3H0577	08/29/2013	08/29/13 16:59	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-5-1

Lab ID: 1302630-15

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.9	0.99	0.14	1	B3H0577	08/29/2013	08/29/13 17:00	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-5-2

Lab ID: 1302630-16

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.6	0.98	0.14	1	B3H0577	08/29/2013	08/29/13 17:00	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-6-0

Lab ID: 1302630-17

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	4.4	0.99	0.14	1	B3H0577	08/29/2013	08/29/13 17:03	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-6-1

Lab ID: 1302630-18

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.8	0.98	0.14	1	B3H0577	08/29/2013	08/29/13 17:04	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-6-2

Lab ID: 1302630-19

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.7	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 17:04	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-7-0

Lab ID: 1302630-20

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	1.8	1.0	0.14	1	B3H0577	08/29/2013	08/29/13 17:05	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-7-1

Lab ID: 1302630-21

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.9	0.99	0.14	1	B3H0577	08/29/2013	08/29/13 17:06	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-7-2

Lab ID: 1302630-22

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.7	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:13	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-8-0

Lab ID: 1302630-23

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.0	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:14	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-8-1

Lab ID: 1302630-24

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.3	0.98	0.14	1	B3H0578	08/29/2013	08/29/13 17:15	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-8-2

Lab ID: 1302630-25

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.4	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:15	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-9-0

Lab ID: 1302630-26

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.6	0.98	0.14	1	B3H0578	08/29/2013	08/29/13 17:16	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-9-1

Lab ID: 1302630-27

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.8	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:17	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-9-2

Lab ID: 1302630-28

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	1.9	0.98	0.14	1	B3H0578	08/29/2013	08/29/13 17:17	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-10-0

Lab ID: 1302630-29

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.7	0.98	0.14	1	B3H0578	08/29/2013	08/29/13 17:18	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-10-1

Lab ID: 1302630-30

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	4.4	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:19	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-10-2

Lab ID: 1302630-31

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.4	0.99	0.14	1	B3H0578	08/29/2013	08/29/13 17:22	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-11-0

Lab ID: 1302630-32

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.6	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:24	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-11-1

Lab ID: 1302630-33

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	3.2	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:24	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-11-2

Lab ID: 1302630-34

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	4.0	0.98	0.14	1	B3H0578	08/29/2013	08/29/13 17:25	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-12-0

Lab ID: 1302630-35

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	4.2	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:26	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

Client Sample ID HA-12-1

Lab ID: 1302630-36

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.8	1.0	0.14	1	B3H0578	08/29/2013	08/29/13 17:26	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Client Sample ID HA-12-2

Lab ID: 1302630-37

Lead by ICP-AES EPA 6010B

Analyst: SB

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	2.9	0.99	0.14	1	B3H0578	08/29/2013	08/29/13 17:27	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands, CA 92374

Project Number : 185802875 Highway 40
Report To : Anne Perez
Reported : 08/30/2013

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B3H0573 - EPA 3010A									
Blank (B3H0573-BLK1)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	ND	0.0050			NR				
LCS (B3H0573-BS1)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	0.957537	0.0050	1.00000		95.8	80 - 120			
Duplicate (B3H0573-DUP1)				Source: 1302621-01 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B3H0573-MS1)				Source: 1302621-01 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	2.55661	0.0050	2.50000	ND	102	76 - 109			
Matrix Spike Dup (B3H0573-MSD1)				Source: 1302621-01 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	2.36087	0.0050	2.50000	ND	94.4	76 - 109	7.96	20	
Batch B3H0577 - EPA 3050 Modified									
Blank (B3H0577-BLK1)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	0.561399	1.0			NR				J
Blank (B3H0577-BLK2)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	0.220697	1.0			NR				J
LCS (B3H0577-BS1)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	49.1429	1.0	50.0000		98.3	80 - 120			
Duplicate (B3H0577-DUP1)				Source: 1302630-21 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	3.32641	1.0		2.92320	NR		12.9	20	
Duplicate (B3H0577-DUP2)				Source: 1302630-11 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	5.43941	0.98		2.74264	NR		65.9	20	R
Matrix Spike (B3H0577-MS1)				Source: 1302630-21 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	204.042	0.98	245.098	2.92320	82.1	51 - 106			
Matrix Spike (B3H0577-MS2)				Source: 1302630-11 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	193.447	1.0	250.000	2.74264	76.3	51 - 106			
Matrix Spike Dup (B3H0577-MSD1)				Source: 1302630-21 Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	232.456	1.0	250.000	2.92320	91.8	51 - 106	13.0	20	



Certificate of Analysis

Stantec
 25864-F Business Center Drive
 Redlands , CA 92374

Project Number : 185802875 Highway 40
 Report To : Anne Perez
 Reported : 08/30/2013

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
Batch B3H0578 - EPA 3050 Modified									
Blank (B3H0578-BLK1)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	0.227043	1.0			NR				J
Blank (B3H0578-BLK2)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	0.211636	1.0			NR				J
LCS (B3H0578-BS1)				Prepared: 8/29/2013 Analyzed: 8/29/2013					
Lead	48.9686	1.0	50.0000		97.9	80 - 120			
Duplicate (B3H0578-DUP1)				Source: 1302630-37		Prepared: 8/29/2013 Analyzed: 8/29/2013			
Lead	5.59814	1.0		2.88315	NR		64.0	20	R
Duplicate (B3H0578-DUP2)				Source: 1302630-31		Prepared: 8/29/2013 Analyzed: 8/29/2013			
Lead	2.48031	1.0		2.38924	NR		3.74	20	
Matrix Spike (B3H0578-MS1)				Source: 1302630-37		Prepared: 8/29/2013 Analyzed: 8/29/2013			
Lead	212.556	1.0	250.000	2.88315	83.9	51 - 106			
Matrix Spike (B3H0578-MS2)				Source: 1302630-31		Prepared: 8/29/2013 Analyzed: 8/29/2013			
Lead	252.264	1.0	250.000	2.38924	99.9	51 - 106			
Matrix Spike Dup (B3H0578-MSD1)				Source: 1302630-37		Prepared: 8/29/2013 Analyzed: 8/29/2013			
Lead	227.353	1.0	250.000	2.88315	89.8	51 - 106	6.73	20	



Certificate of Analysis

Stantec
25864-F Business Center Drive
Redlands , CA 92374

Project Number : 185802875 Highway 40

Report To : Anne Perez

Reported : 08/30/2013

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
 - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.



Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Client Name/Address:		Project/PO Number:				Analysis Required				Special Instructions	
Stantec 25864-F Business Center Drive Redlands, CA		185802875 Highway 40								Lab filter and preserve.	
Project Manager: Anne Perez		Phone Number: (909) 255-8202									
Email Address: anne.perez@stantec.com		Fax Number: (909) 335-6120									
Sampler: Bohm/Zellmer											
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Total Lead 6010	Date/Time		Turnaround	Time: (Check)
EBQC-2050828	W	Poly	1	8/28/13	0630	—	X → see note			same day	5 days
HA-1-0	S	Jar	1		0730		X			24 hours	normal
HA-1-1					0735		X			48 hours	
HA-1-2					0740		X				
HA-2-0					0745		X				
HA-2-1					0747		X				
HA-2-2					0750		X				
HA-3-0					0755		X				
HA-3-1					0759		X				
HA-3-2					0803		X				
HA-4-0					0805		X				
HA-4-1					0807		X				
HA-4-2					0810		X				
HA-5-0											
Relinquished By: <i>[Signature]</i>		Date/Time: 8/28/13	1430	Received By: <i>[Signature]</i>		Date/Time: 8/28/13	1430	Date/Time: 8-29-13		9:20	Sample Integrity: (Check) intact
Relinquished By: <i>[Signature]</i>		Date/Time: 8/29/13	9:20	Received In Lab By: <i>[Signature]</i>		Date/Time: 8/29/13	1045	Date/Time: 8/29/13		1045	on ice
Relinquished By: <i>[Signature]</i>		Date/Time: 8-29-13	10:45	Received in Lab By: <i>[Signature]</i>		Date/Time: 8/29/13	1045	Date/Time: 8/29/13		1045	on ice

By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Page 2 of 3

Client Name/Address:		Project/PO Number:		Analysis Required			
Stantec 25864-F Business Center Drive Redlands, CA		185802888 75 AZ Highway 40 ADL		Title 22 Metals 6010 Total Lead 6010			
Project Manager: Anne Perez		Phone Number: (909) 255-8202					
Email Address: anne.perez@stantec.com		Fax Number: (909) 335-6120					
Sampler: Baernstein/Zellmer							
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Special Instructions
HA-5-1	S	Jar	1	8/28/13	0812		
HA-5-2					0815		
HA-6-0					0828		
HA-6-1					0830		
HA-6-2					0832		
HA-7-0					0753		
HA-7-1					0955		
HA-7-2					0958		
HA-8-0					1005		
HA-8-1					1007		
HA-8-2					1011		
HA-9-0					1015		
HA-9-1					1017		
HA-9-2					1019		
Relinquished By: <i>M. Baernstein</i>		Date/Time: 8/28/13	1430	Received By: <i>M. Baernstein</i>		Date/Time: 8/28/13	1430
Relinquished By: <i>A. Zellmer</i>		Date/Time: 8/29/13	9:20	Received By: <i>A. Zellmer</i>		Date/Time: 8-29-13	9:20
Relinquished By: <i>A. Zellmer</i>		Date/Time: 8-29-13	10:45	Received in Lab By: <i>FPO</i>		Date/Time: 8/29/13	1045
		Turnaround	Time: (Check)				
		same day	24 hours				
		48 hours	5 days				
		Sample Integrity: (Check)	normal				
		intact	on ice				

By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Page 3 of 3

Client Name/Address:		Project/PO Number:		Analysis Required		Special Instructions	
Stantec 25864-F Business Center Drive Redlands, CA		18580288 75 Highway 40 ADL		Title 22 Metals 6010 Total Lead 6010			
Project Manager: Anne Perez		Phone Number: (909) 255-8202		Date/Time:		Time: (Check)	
Email Address: anne.perez@stantec.com		Fax Number: (909) 335-6120		08/28/13 1430			
Sampler: Baernstein/Zellmer		Received By: <i>Noel Baernstein</i>		Date/Time: 08/28/13 1430		5 days	
		Received By: <i>Edith Zellmer</i>		Date/Time: 8-29-13 9:20			
		Received in Lab By: <i>FLORES</i>		Date/Time: 8/29/13 1045		normal	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Sample Integrity: (Check)
HA-10-0	S	Jar	1	8/28/13	1025		intact
HA-10-1					1027		on ice
HA-10-2					1030		
HA-11-0					1100		
HA-11-1					1103		
HA-11-2					1107		
HA-12-0					1111		
HA-12-1					1113		
HA-12-2					1115		

Relinquished By: <i>Edith Zellmer</i>		Date/Time: 8/28/13	1430	Received By: <i>Noel Baernstein</i>	Date/Time: 08/28/13 1430	Turnaround same day	
Relinquished By: <i>Edith Zellmer</i>		Date/Time: 8/29/13	9:20	Received By: <i>Edith Zellmer</i>	Date/Time: 8-29-13 9:20	24 hours	
Relinquished By: <i>FLORES</i>		Date/Time: 8-29-13	10:45	Received in Lab By: <i>FLORES</i>	Date/Time: 8/29/13 1045	48 hours	

By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

**APPENDIX B
PHOTOLOG**

STANTEC CONSULTING SERVICES, INC
PHOTOGRAPHIC RECORD

Client: Calif. Department of Transportation, District 8

Job Number: 185802875

Site Name: Task Order #19 – Watson Bridge

Location: Near Essex, CA

Photographer: Mitchel Bohn

Date: September 27, 2013

Photograph No. 1



HA-1.

Photograph No. 2



HA-2

STANTEC CONSULTING SERVICES, INC
PHOTOGRAPHIC RECORD

Client: Calif. Department of Transportation, District 8

Job Number: 185802875

Site Name: Task Order #19 – Watson Bridge

Location: Near Essex, CA

Photographer: Mitchel Bohn

Date: September 27, 2013

Photograph No. 3



HA-3

Photograph No. 4



HA-4

STANTEC CONSULTING SERVICES, INC
PHOTOGRAPHIC RECORD

Client: Calif. Department of Transportation, District 8

Job Number: 185802875

Site Name: Task Order #19 – Watson Bridge

Location: Near Essex, CA

Photographer: Mitchel Bohn

Date: September 27, 2013

Photograph No. 5



HA-5

Photograph No. 6



HA-6

STANTEC CONSULTING CORPORATION
PHOTOGRAPHIC RECORD

Client: Calif. Department of Transportation, District 8

Job Number: 185802875

Site Name: Task Order #19 – Watson Bridge

Location: Near Essex, CA

Photographer: Mitchel Bohn

Date: September 27, 2013

Photograph No. 7



HA-7

Photograph No. 8



HA-8

**STANTEC CONSULTING SERVICES, INC
PHOTOGRAPHIC RECORD**

Client: Calif. Department of Transportation, District 8

Job Number: 185802875

Site Name: Task Order #19 – Watson Bridge

Location: Near Essex, CA

Photographer: Mitchel Bohn

Date: September 27, 2013

Photograph No. 9



HA-9

Photograph No. 10



HA-10

STANTEC CONSULTING SERVICES, INC
PHOTOGRAPHIC RECORD

Client: Calif. Department of Transportation, District 8

Job Number: 185802875

Site Name: Task Order #19 – Watson Bridge

Location: Near Essex, CA

Photographer: Mitchel Bohn

Date: September 27, 2013

Photograph No. 11



HA-11

Photograph No. 12



HA-12