

**AERIALY DEPOSITED
LEAD INVESTIGATION REPORT
LATROBE ROAD NORTH OF RYAN RANCH ROAD
EL DORADO COUNTY, CALIFORNIA
(MILEPOST 7.0 – 7.35)
WIDENING AND REALIGNMENT
(APNS 117-020-15 AND 118-110-03)
Task Order No. # 08-1814-08**

Prepared by:
Youngdahl Consulting Group, Inc.
Project No. E09015.007
March 2011



**YOUNGDAHL
CONSULTING GROUP, INC.**

Building Innovative Solutions



Project No. E9015.007
17 March 2011

El Dorado County Department of Transportation
2850 Fairlane Court, Building C
Placerville, CA 95667

Attention: Mr. Mason Saed

Subject: **LATROBE ROAD NORTH OF RYAN RANCH ROAD (MILEPOST 7.0 – 7.35) WIDENING AND REALIGNMENT (APNS 117-020-15 AND 118-110-03)**
Aerially Deposited Lead Investigation Report

Dear Mr. Saed:

At the request of the El Dorado County Department of Transportation (DOT), Youngdahl Consulting Group, Inc. has prepared this Aerially Deposited Lead Investigation Report for Latrobe Road between mileposts 7.0 and 7.35. Lead concentrations were found to be below regulatory thresholds for the soil. The soil pH was found to be within the extremes of the limits for the Corrosivity Characteristic of RCRA hazardous waste such that the soil would not be considered to be a hazardous waste based on pH. A sample of the center paint stripe was analyzed for lead and chromium. The paint sample was found to contain lead and chromium in excess of regulatory thresholds thus making it classifiable as a California hazardous waste when removed from the road surface.

Very truly yours,
Youngdahl Consulting Group, Inc.

David C. Sederquist, C.E.G., C.HG.
Senior Engineering Geologist/Hydrogeologist

Distribution: 1 copy to El Dorado County Department of Environmental Management
2 copies to El Dorado County Department of Transportation

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Project Description and Proposed Improvements	1
1.2 General Objectives	1
2.0 BACKGROUND	1
2.1 Potential Lead Soil Impacts	1
2.2 Potential Lead/Chromium-Based Paint Impacts.....	1
2.3 Hazardous Waste Determination Criteria	2
3.0 SCOPE OF SERVICES	3
3.1 Pre-field Activities	3
3.2 Field Activities.....	3
4.0 INVESTIGATIVE METHODS	3
4.1 Boring Sample Location Rationale	3
4.2 Aerially Deposited Lead Soil Sampling Procedures	3
4.3 Paint Sampling Procedures	4
4.4 Traffic Control	4
4.5 Laboratory Analyses.....	4
4.6 Analytical Results	4
5.0 STATISTICAL ANALYSIS	5
6.0 CONCLUSIONS AND RECOMENDATIONS	6

Figures
Laboratory Reports

**AERIALY DEPOSITED LEAD INVESTIGATION REPORT
LATROBE ROAD NORTH OF RYAN RANCH ROAD (MILEPOST 7.0 – 7.35)
(APNS 117-020-15 AND 118-110-03)**

1.0 INTRODUCTION

This Aerially Deposited Lead (ADL) Investigation Report for Latrobe Road north of Ryan Ranch Road (Milepost 7.0 – 7.35) (APNs 117-020-15 and 118-110-03) was prepared by Youngdahl Consulting Group, Inc. under El Dorado County Department of Transportation (EDCDOT) Contract Agreement for Services # 08-1814, Task Order No. # 08-1814-08, dated 2 February 2011. The lead concentrations in the soils were found to be below regulatory thresholds. The lead and chromium concentrations in the center stripe paint were found to exceed regulatory thresholds.

1.1 Project Description and Proposed Improvements

The project area consists of the paved and unpaved shoulders of Latrobe Road at Mileposts 7.0 – 7.35 in El Dorado County, California (APNs 117-020-15 and 118-110-03). We are of the understanding that EDCDOT intends to widen and realign the road by excavating into the existing cut slope on the left (south) side of Latrobe Road and placing material on the existing fill slope on the right (north) side of Latrobe Road. The project location is depicted on the Site Satellite Photo (Figure 1) and on Site Sampling Plan (Figure 2).

1.2 General Objectives

The purpose of this investigation was to evaluate whether impacts due to aerial lead deposition from motor vehicle exhaust exist in the surface and near surface soils within the project boundaries and to determine whether yellow traffic stripe paint on the roadway at the site contains lead and/or chromium at or above regulatory thresholds. The investigative results will be used by EDCDOT to inform the construction contractor(s) if lead-impacted soil and lead- and chromium-containing traffic paint are present within the project boundaries for health, safety, management and disposal evaluation purposes.

2.0 BACKGROUND

2.1 Potential Lead Soil Impacts

Ongoing testing by the California Department of Transportation (Caltrans) throughout California has indicated that ADL exists along major transportation routes due to emissions from vehicles powered by leaded gasoline. Caltrans reports that total lead concentrations in soil adjacent to the freeways have typically ranged between 50 and 700 milligrams per kilogram (mg/kg). At sites where soil has not been disturbed, the aerially deposited lead is generally limited to the upper 2.0 ft of soil within unpaved shoulder and median areas.

2.2 Potential Lead/Chromium-Based Paint Impacts

Lead-based paint is defined by *California Code of Regulations (CCR)* Title 17, Division 1, Chapter 8, § 35033 as any surface coatings that contain an amount of lead equal to, or in excess of, one milligram per square centimeter (1.0 mg/cm²) or more than half of one percent (0.5%) by weight. Deteriorated lead-based paint is defined by *CCR* Title 17, Division 1, Chapter 8, § 35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a component.

Demolition of a deteriorated lead-based paint component would require waste characterization and appropriate disposal. Intact lead-based paint on a component is currently accepted by most landfill facilities. Chromium in paint can pose risks similar to those posed by lead.

Potential hazards exist to workers who remove or cut through lead and/or chromium-based paint coating during demolition. Dust containing hazardous concentrations of lead and/or chromium may be generated during scraping or cutting materials coated with lead/chromium-based paint. Torching of these materials may produce lead and/or chromium oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with lead and/or chromium-based paint. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in the *CCR*, Title 8, Section 1532.1 (*Lead in Construction*).

2.3 Hazardous Waste Determination Criteria

Regulatory criteria to classify a waste as “California hazardous” for handling and disposal purposes are contained in the *CCR*, Title 22, Division 4.5, Chapter 11, Article 3, § 66261.24. Criteria to classify a waste as “Resource, Conservation, and Recovery Act (RCRA) hazardous” are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261. For waste containing metals, the waste is classified as California hazardous when: 1) the total metal content exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the soluble metal content exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste may have the potential of exceeding the STLC when the waste’s total metal content is greater than or equal to ten times the respective STLC value, since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the soluble metal content exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP). The TTLC value for lead is 1,000 mg/kg. The STLC and TCLP values for lead are both 5.0 milligrams per liter (mg/l).

The scope of work did not include any TCLP testing and only a potential for limited WET analyses (if TTLC values exceeded certain thresholds). Such additional testing would only be required if concentrations are identified that would allow the waste to fall into special classifications for the purposes of disposal.

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; however, for the purposes of this investigation, toxicity (i.e., lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or corrosivity. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

The Department of Toxic Substances Control (DTSC) regulates and interprets hazardous waste laws in California. DTSC generally considers excavated or transported materials that exhibit “hazardous waste” characteristics to be a “waste” requiring proper

management, treatment and disposal. Soil that contains lead above hazardous waste thresholds and is left in-place would not be necessarily classified by DTSC as a “waste.” The DTSC has provided site-specific determinations that “movement of wastes within an area of contamination does not constitute “land disposal” and, thus, does not trigger hazardous waste disposal requirements.” Therefore, lead-impacted soil that is scarified in-place, moisture-conditioned, and recompacted during roadway improvement activities might not be considered a “waste.” In these instances, DTSC should be consulted to confirm waste classification. It is noted that in addition to DTSC regulations, health and safety requirements and other local agency requirements may also apply to the handling and disposal of lead-impacted soil. For this project, the lead values were below regulatory thresholds.

3.0 SCOPE OF SERVICES

The following scope of services was performed as requested by DOT in Task Order No. # 08-1814-08.

3.1 Pre-field Activities

- A Sampling and Analysis Plan was submitted to the El Dorado County Environmental Management Department for review and approval.
- Statewide Safety & Signs was contracted with to provide traffic control due to the narrowness of the section road and the close proximity of the work to roadway traffic.

3.2 Field Activities

The field activities consisted of the collection of soil samples along the unpaved shoulders of Latrobe Road as shown on the attached Site Plans (Figures 1 and 2). Hand auger tools and a digging bar were used to collect the soil samples into glass jars. A single yellow traffic stripe paint sample was collected using a hammer and plastic putty knife to chip and scrape off a paint sample into a plastic bag. The soil borings were excavated to maximum depths of 1.5 to 2 ft. Soil samples were collected at general depths of 0.0 to 1.0 foot and 1.0 to 2.0 ft (depending on auger refusal).

4.0 INVESTIGATIVE METHODS

4.1 Boring Sample Location Rationale

The soil boring locations were selected based on the areas of planned soil disturbance. Four sample locations were selected in the planned excavation area on the left (south) side of Latrobe Road and three sample locations were selected in the planned fill placement areas on the right (north) side of Latrobe Road. A paint sample was obtained from the center stripe.

4.2 Aerially Deposited Lead Soil Sampling Procedures

Fourteen soil samples were collected from seven hand-auger borings. The soil from representative depths was placed into 1-gallon resealable plastic bags. The samples were field homogenized and then a subsample was placed into a glass jar that was labeled, placed into a resealable plastic bag, placed on ice, and then transported to California Laboratory Services, Inc. (ELAP No. 1233) by courier under standard chain-of-custody procedures. The bags containing remaining soil will be retained by Youngdahl Consulting Group, Inc. for further analysis for one year, if necessary.

Quality assurance/quality control field procedures included the cleaning and decontamination of sampling equipment between sample collection points by washing with a scrub brush and Alconox™ followed by a triple rinse using deionized water.

The soil borings were backfilled with the excess soil cuttings generated at each boring. The decontamination water was discharged to the ground surface away from surface water bodies or storm drain inlets.

4.3 Paint Sampling Procedures

One yellow traffic stripe paint sample was collected using a hammer to break a chip off the yellow traffic stripe paint from the traffic stripe and a plastic putty knife to scrape up the paint residue. The paint-chip sample was placed in a labeled plastic bag and delivered to California Laboratory Services, Inc. under standard chain-of-custody documentation.

4.4 Traffic Control

Traffic control was provided by Statewide Safety & Signs.

4.5 Laboratory Analyses

The soil and paint-chip samples were submitted to California Laboratory Services Inc. for the following analyses:

- Soil samples were analyzed for Total Lead by the United States Environmental Protection Agency (EPA) Test Method 6010B.
- Three soil samples were analyzed for Soil pH using EPA Test Method 9045.
- One yellow traffic stripe sample was analyzed for Total Lead and Total Chromium by EPA Test Method 6010B and for Chromium VI by EPA Test Method 7199.

Quality assurance/quality control (QA/QC) procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for Total Lead for every ten soil samples, batch of samples or type of matrix, whichever is more frequent.
- One sample analyzed in duplicate for Total Lead every ten soil samples, batch of samples or type of matrix, whichever is more frequent.
- One spiked sample for every ten samples, batch of samples or type of matrix, whichever is more frequent, with the spike made at ten times the detection limit or at the analyte level.
- Prior to submitting the soil samples to the laboratory, the chain-of-custody documentation was reviewed for accuracy and completeness.

4.6 Analytical Results

Samples LRS-1 and LRS-2 were collected from a sample point south of the limits of the planned widening and realignment. Those two samples were placed on hold at the laboratory pending the results of the rest of the soil analyses in case additional analyses might be warranted. The results of the soil analyses for the remaining samples are

provided in Table 1 and the results of the analyses for the paint strip are provided in Table 2.

Table 1 – Soil Lead and pH Analytical Results

Sample	Depth (Feet)	Lead Concentration Method 6010B (Reporting limit 2.5 mg/kg)	EPA (mg/kg)	pH EPA Method 9045C
LRS-3	0 - 1	2.9		
LRS-4	1 - 2	2.9		
LRS-5	0 - 1	ND		6.32
LRS-6	1- 1.5	4.0		
LRS-7	0 - 1	4.2		
LRS-8	1 - 2	3.3		
LRS-9	0 - 1	ND		
LRD-10	1 – 1.5	ND		
LRS-11	0 - 1	21		7.41
LRS-12	1 - 2	3.9		
LRS-13	0 - 1	49		7.57
LRS-14	1 - 2	2.8		
DUP-9	0 - 1	ND		
DUP-14	1 - 2	2.8		
TTLIC		1,000		
STLC (mg/l)		5.0		
CHHSL		320		

TTLIC = Total Threshold Level Concentration

STLC = Soluble Threshold Level Concentration, required analysis only when the measured TTLIC value is more than 10 times the STLC regulatory threshold

CHHSL = Commercial/Industrial California Human Health Screening Level

Table 2 – Paint Stripe Sample Analytical Results (Sample LRP-1)

Analysis	Result	TTLIC (mg/kg)	STLC (mg/l)
Total Lead (EPA Method 6010B) (25 mg/kg reporting limit)	3,100 mg/kg	1,000	5.0
Total Chromium (EPA Method 6010B) 10 mg/kg reporting limit)	6,900 mg/kg	2,500	5.0
Chromium VI (EPA Method 7199) 10 ug/kg reporting limit	220 ug/kg	500	5.0

All quality assurance procedures indicated that the analytical variability was within specified ranges, with the exception of the analyses for Total Chromium and Chromium VI. The variability matrix spike and the matrix spike duplicate results ranged as high as 133% of the actual spike, exceeding the 125% limit. The Matrix Spike result for the Chromium VI was at 134% of the actual spike level. This would indicate that the Total Chromium and Chromium VI results may be slightly higher than what is actually present. Considering the regulatory thresholds, this would have no impact on the recommendations.

5.0 STATISTICAL ANALYSIS

The scope of work included statistical analysis to estimate the 95% Upper Confidence Limit if lead values exceeding regulatory thresholds were found. A statistical analysis

was not necessary for this assessment due to the lead values being below regulatory thresholds.

6.0 CONCLUSIONS AND RECOMENDATIONS

The lead concentrations in the soil were found to be below regulatory thresholds for classification as a hazardous waste and for exposure to workers. The soil pH was found to be within the extremes of the limits for the Corrosivity Characteristic of RCRA hazardous waste such that the soil would not be considered to be a hazardous waste based on pH (40CFR 261.22). The paint was found to contain both lead and total chromium in concentrations classifying any removed paint as a California Hazardous Waste. Paint removal should be performed by a contractor licensed for hazardous waste removal and may require consultation with a Certified Industrial Hygienist.

7.0 LIMITATIONS

1. This report has been prepared for the exclusive use of the El Dorado County Department of Transportation for specific application to the Latrobe Road Realignment and Widening Project, California. Youngdahl Consulting Group, Inc. has endeavored to comply with generally accepted environmental geology practice common to the local area. Youngdahl Consulting Group, Inc. makes no other warranty, express or implied.
2. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may cause this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three years without our review nor should it be used or is it applicable for any properties other than those studied.
3. The analyses and recommendations contained in this report are based on limited windows into the subsurface conditions and data obtained from subsurface exploration. The methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Samples cannot be relied on to accurately reflect the strata variations that usually exist between sampling locations.

Figures



BASE MAP REFERENCE: Google Maps, Accessed March 2011, No Scale

- = Soil Sample Collection Point
- = Paint Sample Collection Point

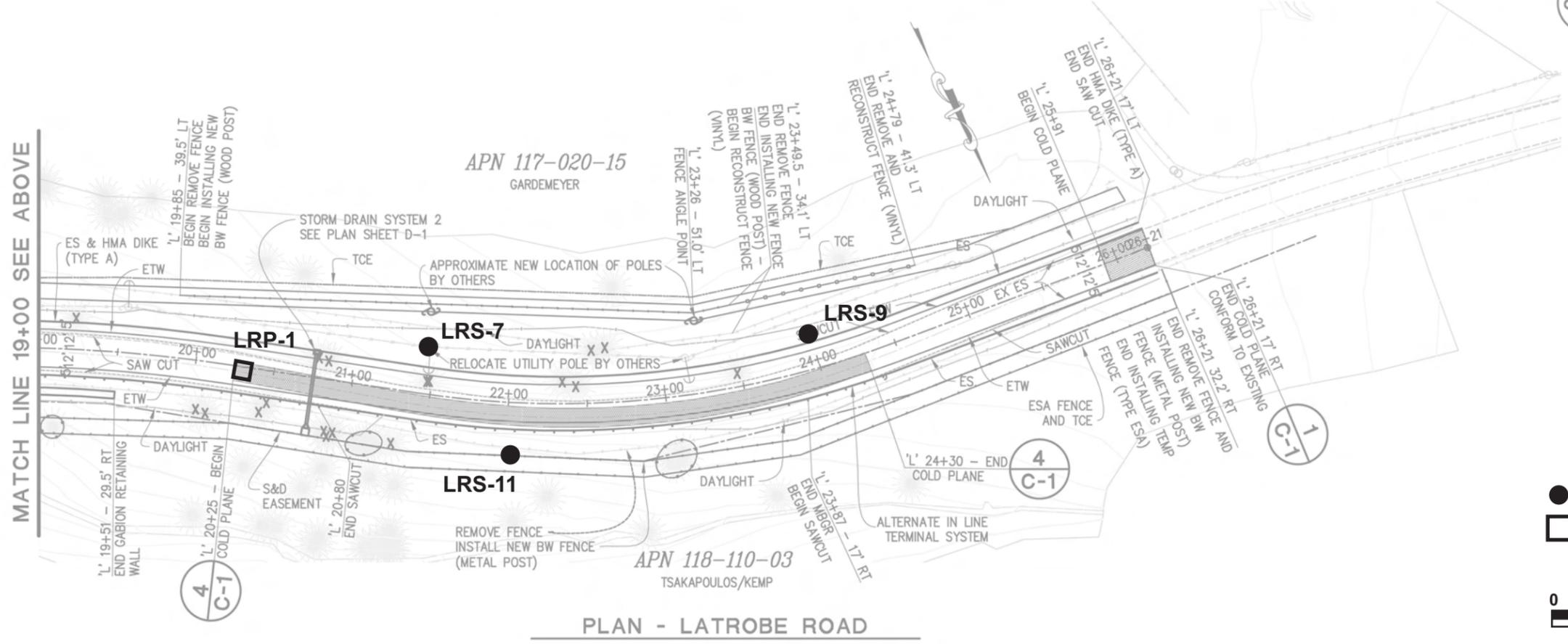
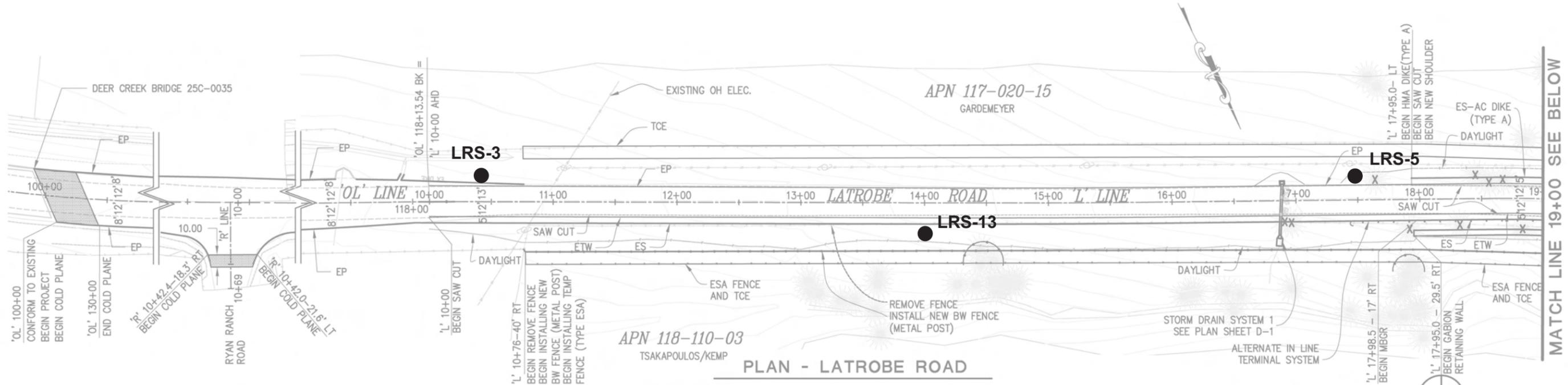


Project No.:
E09015.007

March 2011

SATELLITE PHOTO
Latrobe Road ADL Assessment
Sampling Locations
El Dorado County, California

FIGURE
1

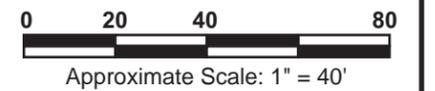


3
C-1

1
C-1

4
C-1

- = Soil Sample Collection Point
- = Paint Sample Collection Point



REF: Plan - Latrobe Road (Preliminary 95%) Latrobe Road North Of Ryan Ranch Road, El Dorado County DOT, Sheet L-1

 GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING	Project No.: E09015.007	SITE PLAN Latrobe Road ADL Assessment Sampling Locations El Dorado County, California	FIGURE 2
	March 2011		

Laboratory Reports

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

March 01, 2011

CLS Work Order #: CUB0930

COC #:

David Sederquist
Youngdahl & Associates
1234 Glenhaven Court
El Dorado Hills, CA 95762

RECEIVED MAR 03 2011
2011

Project Name: Latrobe Road ADL Assessment

Enclosed are the results of analyses for samples received by the laboratory on 02/24/11 10:45. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and expectations are addressed under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CV0930



1234 Glenhaven Court
El Dorado Hills, CA 95762

Telephone: (916) 933-0633 Fax: (916) 933-6482

Lab Number _____
Report Due Date: _____

CHAIN OF CUSTODY

Client: Youngdahl Consulting Group, Inc.
Address: 1234 Glenhaven Court
City, State & Zip: El Dorado Hills, CA 95762
Project Name: Latrobe Road ADL Assessment
Contact: David Sederquist (dcs@youngdahl.net) Project Number: E09015.007
Telephone: (916) 933-0633 Collection Point: Mileposts 7.0 - 7.35
Fax Number: (916) 933-6482 Collector's Name: David Sederquist
Fax Results: Y N Page 1 of 2 Location (City): El Dorado Hills

SAMPLE TYPE CODES			S A M P L E T Y P E	C O N T A I N E R S	ANALYSES REQUESTED																	
*Matrix	*Container Type				Total Lead EPA Method 6010B	Total Chromium EPA Method 601																
Soil = (S) Rock = (R) Water = (W)	P = Plastic (G) = Glass O = Other																					
TURNAROUND TIME REQUESTED																						
<input checked="" type="radio"/> Standard	STANDARD		Lab Manager Approval																			
RUSH																						
Special																						
CLIENT'S SAMPLE ID/LOCATION	Date	Time																				
LRP-1	2/23/11	1155	S	P	X		X															
LRS-13	↓	1215	S	G	X	X																
LRS-14	↓	1225	S	G	X																	
DUP-9	↓	1116	S	P	X																	
DUP-14	↓	1225	S	P	X																	

Instructions/Comments/Special Requirements: *ARB-TM 435 preparation

SAMPLE RECEIPT	Date	Time	Samples Relinquished By	Samples Received By
Received Cold	Y	N	2/29/11 0950 David C. Sederquist	David Sederquist
Custody Seals	Y	N	2/29/11 1215 David Sederquist	David Sederquist
Seals Intact	Y	N	2/29/11 1045 708°C	Will Chellana
No. of Containers				

CALIFORNIA LABORATORY SERVICES

Page 2 of 6

03/01/11 14:59

Youngdahl & Associates
1234 Glenhaven Court
El Dorado Hills CA, 95762

Project: Latrobe Road ADL Assessment
Project Number: E09015.007
Project Manager: David Sederquist
CLS Work Order #: CUB0930
COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LRS-5 (CUB0930-05) Soil Sampled: 02/23/11 09:30 Received: 02/24/11 10:45									
pH	6.32	1.00	pH Units	1	CU01282	02/24/11	02/24/11	EPA 9045C	
LRS-11 (CUB0930-11) Soil Sampled: 02/23/11 11:30 Received: 02/24/11 10:45									
pH	7.41	1.00	pH Units	1	CU01282	02/24/11	02/24/11	EPA 9045C	
LRS-13 (CUB0930-14) Soil Sampled: 02/23/11 12:15 Received: 02/24/11 10:45									
pH	7.57	1.00	pH Units	1	CU01282	02/24/11	02/24/11	EPA 9045C	

CALIFORNIA LABORATORY SERVICES

Youngdahl & Associates 1234 Glenhaven Court El Dorado Hills CA, 95762	Project: Latrobe Road ADL Assessment Project Number: E09015.007 Project Manager: David Sederquist	CLS Work Order #: CUB0930 COC #:
---	---	-------------------------------------

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LRS-3 (CUB0930-03) Soil Sampled: 02/23/11 09:00 Received: 02/24/11 10:45									
Lead	2.9	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-4 (CUB0930-04) Soil Sampled: 02/23/11 09:10 Received: 02/24/11 10:45									
Lead	2.9	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-5 (CUB0930-05) Soil Sampled: 02/23/11 09:30 Received: 02/24/11 10:45									
Lead	ND	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-6 (CUB0930-06) Soil Sampled: 02/23/11 09:50 Received: 02/24/11 10:45									
Lead	4.0	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-7 (CUB0930-07) Soil Sampled: 02/23/11 10:40 Received: 02/24/11 10:45									
Lead	4.2	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-8 (CUB0930-08) Soil Sampled: 02/23/11 10:50 Received: 02/24/11 10:45									
Lead	3.3	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-9 (CUB0930-09) Soil Sampled: 02/23/11 11:10 Received: 02/24/11 10:45									
Lead	ND	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-10 (CUB0930-10) Soil Sampled: 02/23/11 11:20 Received: 02/24/11 10:45									
Lead	ND	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-11 (CUB0930-11) Soil Sampled: 02/23/11 11:30 Received: 02/24/11 10:45									
Lead	21	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-12 (CUB0930-12) Soil Sampled: 02/23/11 11:40 Received: 02/24/11 10:45									
Lead	3.9	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRP-1 (CUB0930-13) Soil Sampled: 02/23/11 11:55 Received: 02/24/11 10:45									
Chromium	6900	10	mg/kg	10	CU01314	02/25/11	02/25/11	EPA 6010B	
Lead	3100	25	"	"	"	"	"	"	
LRS-13 (CUB0930-14) Soil Sampled: 02/23/11 12:15 Received: 02/24/11 10:45									
Lead	49	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
LRS-14 (CUB0930-15) Soil Sampled: 02/23/11 12:25 Received: 02/24/11 10:45									
Lead	2.8	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	
DUP-9 (CUB0930-16) Soil Sampled: 02/23/11 11:10 Received: 02/24/11 10:45									
Lead	ND	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	

CALIFORNIA LABORATORY SERVICES

Page 4 of 6

03/01/11 14:59

Youngdahl & Associates 1234 Glenhaven Court El Dorado Hills CA, 95762	Project: Latrobe Road ADL Assessment Project Number: E09015.007 Project Manager: David Sederquist	CLS Work Order #: CUB0930 COC #:
---	---	-------------------------------------

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DUP-14 (CUB0930-17) Soil Sampled: 02/23/11 12:25 Received: 02/24/11 10:45									
Lead	2.8	2.5	mg/kg	1	CU01314	02/25/11	02/25/11	EPA 6010B	

CALIFORNIA LABORATORY SERVICES

Youngdahl & Associates 1234 Glenhaven Court El Dorado Hills CA, 95762	Project: Latrobe Road ADL Assessment Project Number: E09015.007 Project Manager: David Sederquist	CLS Work Order #: CUB0930 COC #:
---	---	-------------------------------------

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CU01314 - EPA 3050B										
Blank (CU01314-BLK1) Prepared & Analyzed: 02/25/11										
Lead	ND	2.5	mg/kg							
Chromium	ND	1.0	"							
LCS (CU01314-BS1) Prepared & Analyzed: 02/25/11										
Lead	24.7	2.5	mg/kg	25.0		99	75-125			
Chromium	10.4	1.0	"	10.0		104	75-125			
LCS Dup (CU01314-BSD1) Prepared & Analyzed: 02/25/11										
Lead	27.1	2.5	mg/kg	25.0		108	75-125	9	25	
Chromium	11.6	1.0	"	10.0		116	75-125	11	25	
Matrix Spike (CU01314-MS1) Source: CUB0927-21 Prepared & Analyzed: 02/25/11										
Lead	29.3	2.5	mg/kg	25.0	7.21	88	75-125			
Chromium	74.1	1.0	"	10.0	60.9	133	75-125			QM-5
Matrix Spike Dup (CU01314-MSD1) Source: CUB0927-21 Prepared & Analyzed: 02/25/11										
Lead	30.1	2.5	mg/kg	25.0	7.21	92	75-125	3	30	
Chromium	74.1	1.0	"	10.0	60.9	132	75-125	0.07	30	QM-5

CALIFORNIA LABORATORY SERVICES

Youngdahl & Associates 1234 Glenhaven Court El Dorado Hills CA, 95762	Project: Latrobe Road ADL Assessment Project Number: E09015.007 Project Manager: David Sederquist	CLS Work Order #: CUB0930 COC #:
---	---	-------------------------------------

Notes and Definitions

- QM-5 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova CA 95742

March 07, 2011

CLS Work Order #: CUC0133

COC #: GREEN

David Sederquist
Youngdahl & Associates
1234 Glenhaven Court
El Dorado Hills, CA 95762

RECEIVED MAR 09 2011

Project Name: Latrobe Road ADL Assessment

Enclosed are the results of analyses for samples received by the laboratory on 03/03/11 12:03. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and expectations are addressed under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

Work Order #CUC0133

The final report package for work order # CUC0133 is an extension of the original work order # CUB0930. The original chain of custody was returned with the original report package.

CALIFORNIA LABORATORY SERVICES

Page 2 of 4

03/07/11 12:41

Youngdahl & Associates 1234 Glenhaven Court El Dorado Hills CA, 95762	Project: Latrobe Road ADL Assessment Project Number: E09015.007 Project Manager: David Sederquist	CLS Work Order #: CUC0133 COC #: GREEN
---	---	---

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LRP-1 (CUC0133-13) Soil Sampled: 02/23/11 11:55 Received: 03/03/11 12:03									
Hexavalent Chromium	220	10	µg/kg	1	CU01484	03/04/11	03/04/11	EPA 7199	

CA DOHS ELAP Accreditation/Registration Number 1233

CALIFORNIA LABORATORY SERVICES

Page 3 of 4

03/07/11 12:41

Youngdahl & Associates
1234 Glenhaven Court
El Dorado Hills CA, 95762

Project: Latrobe Road ADL Assessment
Project Number: E09015.007
Project Manager: David Sederquist

CLS Work Order #: CUC0133
COC #: GREEN

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CU01484 - General Prep										
Blank (CU01484-BLK1)				Prepared & Analyzed: 03/04/11						
Hexavalent Chromium	ND	10	µg/kg							
LCS (CU01484-BS1)				Prepared & Analyzed: 03/04/11						
Hexavalent Chromium	47.0	10	µg/kg	50.0		94	80-120			
LCS Dup (CU01484-BSD1)				Prepared & Analyzed: 03/04/11						
Hexavalent Chromium	50.2	10	µg/kg	50.0		100	80-120	7	20	
Matrix Spike (CU01484-MS1)				Source: CUC0133-13		Prepared & Analyzed: 03/04/11				
Hexavalent Chromium	291	10	µg/kg	50.0	224	134	75-125			QM-4X
Matrix Spike Dup (CU01484-MSD1)				Source: CUC0133-13		Prepared & Analyzed: 03/04/11				
Hexavalent Chromium	269	10	µg/kg	50.0	224	89	75-125	8	25	

CALIFORNIA LABORATORY SERVICES

Page 4 of 4

03/07/11 12:41

Youngdahl & Associates
1234 Glenhaven Court
El Dorado Hills CA, 95762

Project: Latrobe Road ADL Assessment
Project Number: E09015.007 **CLS Work Order #: CUC0133**
Project Manager: David Sederquist **COC #: GREEN**

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference