FOR CONTRACT NO.: 02-371004

INFORMATION HANDOUT

MATERIALS INFORMATION

NORTH ANDERSON UNDERCROSSING FOUNDATION REPORT

SOUTH ANDERSON SEPARATION FOUNDATION REPORT

AERIALLY DEPOSITED LEAD AND TRAFFIC STRIPE PAINT SITE INVESTIGATION REPORT, COTTONWOOD HILLS TRUCK CLIMBING LANES, SHASTA COUNTY, CALIFORNIA

ASBESTOS SURVEY, COTTONWOOD HILLS TRUCK CLIMBING LANES, SHASTA COUNTY, CALIFORNIA

ROUTE: 02-Sha-5-0.9/R4.3

Memorandum

Flex your power!
Be energy efficient!

To: JOEY AQUINO
Senior Project Engineer, Branch 3
Division of Engineering Services
Structural Design – Mail Station 9-4/6F
Office of Bridge Design North

Date: July 13, 2009

File: 02-SHA-5-PM 1.9
EA 02-370001
North Cottonwood U.C.
(widen)
Bridge No. 06-0038 R/L

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report

Introduction and Project Location

Per your request, the Office of Geotechnical Design North (OGD-N) has prepared this Foundation Report for the proposed widening on Interstate 5. This report includes review and evaluation of the existing North Cottonwood Undercrossing (Bridge No. 06-0038 R/L), As-Built bridge files and Borings R-08-001 and R-08-002. Data are shown on the "Log of Test Borings" (LOTB), which will be forwarded when complete.

The North Cottonwood Undercrossing has a Right and Left Structure. The right structure is 150 feet (ft) 5 inch (in) long, and the left structure is 146 ft 5 in, three span bridges. These structures are located in the city of Anderson, in Shasta County and were built in 1964. The structures span over southbound Interstate 5 exit to the city of Cottonwood.

The North Cottonwood Undercrossing widening is proposed to be constructed in the median. This will add a southbound and a northbound lane. It is proposed that the structure be supported on spread footings at all supports.

Elevations used in this report are based on the NAVD 88 vertical datum. The "As-Built" elevations were converted from NGVD 29 to NAVD 88 by using a conversion factor of +2.51 ft for this project.

Summary of Site Geology and Subsurface Conditions

Based on the Geologic Map of California, Redding Sheet (Jenkins, 1977), the site consists of Pleistocene nonmarine sedimentary deposits of well rounded boulders and gravel within a tan to brick-red iron-stained matrix of sand and some clay of the Quaternary Red Bluff Formation (Qc).

Borings R-08-001 and R-08-002 were drilled in September 2008. The borings were drilled to an elevation of approximately 430.2 feet. Based on the subsurface investigation, earth materials consist of very stiff and hard gravelly lean clay, sandy lean clay with gravel, lean clay with gravel, silt, silty sand, and cobbles.

Groundwater Evaluation

Based on the subsurface investigation in September 2008, groundwater was not encountered. However, groundwater elevations may fluctuate with seasonal precipitation.

Scour

Scour is not an issue at this site because the bridge is not in a water course.

Corrosion Evaluation

Based on soil samples collected throughout the project site, native soil beneath the site is non-corrosive.

Table 1. Soil Corrosion Test Summary.

Location	SIC Number	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
North Cottonwood U.C.	C726842	3130	6.22	n/a	n/a
North Cottonwood U.C.	C 726843	3311	6.51	n/a	n/a

Note: Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

Seismicity

Based on the Caltrans California Seismic Hazard Map 1996, the controlling fault is the Battle Creek Fault with a maximum credible earthquake moment magnitude of M_w=6.5, and is located about 2.5 miles south of the site. The Peak Horizontal Bedrock Acceleration, based on the above map is estimated to be 0.5g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site. The potential for liquefaction is considered minimal.

Based on the LOTB of the bridge, a final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum (ARS) curve corresponding to soil profile Type C is recommended for design (see Figure 1). Please note that due to the close proximity of this structure to the fault, we have performed modifications to the CSDC ARS curve. The modifications are such that there are no spectral accelerations (SA) magnification for periods less than 0.5 second, and a 20% increase in SA for periods greater than 1 second. Between the periods of 0.5 and 1 second, a linear interpolation was used to estimate SA.

As-Built Foundation Data

According to the "Foundation Review," dated August 8, 1961, the existing bridge is founded on spread footings at Abutments 1 and 4 and Bents 2 and 3. The following tables show the locations and elevations of the original spread footings.

Table 2. Spread Footing Elevations for Bridge No. 06-0038R.

Location	Foundation Type	Allowable Gross Bearing Capacity (ksf)	Bottom of Footing Elevation (ft)
Abutment 1	Spread Footing	3.0	503.5
Bent 2	Spread Footing	10.0	490.5
Bent 3	Spread Footing	10.0	491.5
Abutment 4	Spread Footing	3.0	507.5

Table 3. Spread Footing Elevations for Bridge No. 06-0038L.

Location	Foundation Type	Allowable Gross Bearing Capacity (ksf)	Bottom of Footing Elevation (ft)
Abutment 1	Spread Footing	3.0	506.5
Bent 2	Spread Footing	10.0	492.5
Bent 3	Spread Footing	10.0	491.5
Abutment 4	Spread Footing	3.0	510.5

Foundation Recommendations

The following foundation recommendations are based on the information provided by your office and the subsurface investigations conducted at the site. Spread footing foundations are recommended at all support locations.

The nominal bearing resistance of the soil underlying the footings was calculated using the formulation provided by AASHTO Bridge Design Specification, Section 10.6.3.1.2a.

Table 4. Foundation Design Recommendations for Spread Footings, Bridge No. 06-0038 Left.[1,2]

Support Location	Footing Size (ft)		Bottom of Footing Elevation (ft)	Minimum Footing Embedment Depth (ft)	WSD (LRFD Service-I Limit State Load)		LRFD		
							Service	Strength $\varphi = 0.45$	Extreme Event $\varphi = 1.0$
	B	L			Permissible Gross Contact Stress (ksf)	Allowable Gross Bearing Capacity (ksf)	Net Permissible Contact Stress, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)
Abut 1	8.0	26.7	504.5	6.5	3.0	3.5	N/A	N/A	N/A
Bent 2	8.0	28.0	492.0	6.0	N/A	N/A	8.0	13.5	30.0
Bent 3	8.0	28.0	491.0	7.0	N/A	N/A	8.0	13.5	30.0
Abut 4	8.0	27.0	508.5	7.5	3.0	3.5	N/A	N/A	N/A

Notes:
1) Recommendations are based on the foundation geometry and the load data provided by the Structure Design in the Foundation Design Data Sheet. The footing contact area is taken as equal to the effective footing area, where applicable.
2) See MTD 4-1 for definitions and applications of the recommended design parameters.

Table 5. Foundation Design Recommendations for Spread Footings, Bridge No. 06-0038 Right.[1,2]

Support Location	Footing Size (ft)		Bottom of Footing Elevation (ft)	Minimum Footing Embedment Depth (ft)	WSD (LRFD Service-I Limit State Load)		LRFD		
							Service	Strength $\varphi = 0.45$	Extreme Event $\varphi = 1.0$
	B	L			Permissible Gross Contact Stress (ksf)	Allowable Gross Bearing Capacity (ksf)	Net Permissible Contact Stress, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)
Abut 1	8.0	26.5	501.5	6.5	3.0	3.5	N/A	N/A	N/A
Bent 2	8.0	28.0	490.0	8.0	N/A	N/A	8.0	13.5	30.0
Bent 3	8.0	28.0	491.0	7.0	N/A	N/A	8.0	13.5	30.0
Abut 4	8.0	27.0	505.0	7.0	3.0	3.5	N/A	N/A	N/A

Notes:
1) Recommendations are based on the foundation geometry and the load data provided by the Structure Design in the Foundation Design Data Sheet. The footing contact area is taken as equal to the effective footing area, where applicable.
2) See MTD 4-1 for definitions and applications of the recommended design parameters.

Sliding Resistance

The coefficient of friction (tan δ) between the base of the footings and the supporting soils may be assumed as 0.4 for the bents. A resistance factor for sliding shall be 0.8.

GENERAL NOTES TO DESIGNER

1. Support locations are to be plotted on the Log of Test Borings, in plan view, as stated in "Memos to Designers" 4-2. The plotting of the support locations should be made prior to the foundation review.

Construction Considerations

1. Spread Footings

1. If excavations for spread footings expose unsuitable materials for support of the proposed structure foundations, the unsuitable materials shall be removed and replaced with structural backfill compacted to a relative compaction of not less than 95%, or the bottom of footing elevation shall be lowered to undisturbed competent material.

2. Groundwater should not be encountered during footing excavation.

3. Spread footings shall be placed neat against competent materials. All loose materials shall be removed prior to placement of concrete.

4. All footing excavations are to be inspected and approved by this Office or a representative of the Office of Structure Construction, when excavations are completed to the bottom of footing and prior to placement of concrete.

PROJECT INFORMATION

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressees of this report via electronic mail.

Data and information attached with the project plans are:

A. *Log of Test Borings for North Cottonwood U.C., Bridge Number 06-0038 R/L.*

Data and information included in the Information Handout provided to the bidders and contractors are:

A. *Foundation Report for North Cottonwood U.C., Bridge Number 06-0038 R/L, dated July 13, 2009.*

Data and information available for inspection at the District Office:

A. *N/A*

Data and information available for inspection at the Transportation Laboratory:

A. *N/A*

If any conceptual changes are made during final project design, the Office of Geotechnical Design North should review those changes to determine if these foundation recommendations are still applicable. If there are any questions, please contact Xing Zheng at 916 227-1036 or Joe Kaump at 916 227-1044.

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Reza Mahallati, P.E.
Senior Materials and Research Engineer
Geotechnical Design – North

Attachment: ARS curve

C:

Reid Buell
R.E. Pending
Structure OE (E-copy)
Eskinder Taddese-PCE (E-copy)
Lerose Lane DME (E-copy)
GDN File
GS File

North Cottonwood UC
Bridge No.06-0038 L/R
EA 02-371001

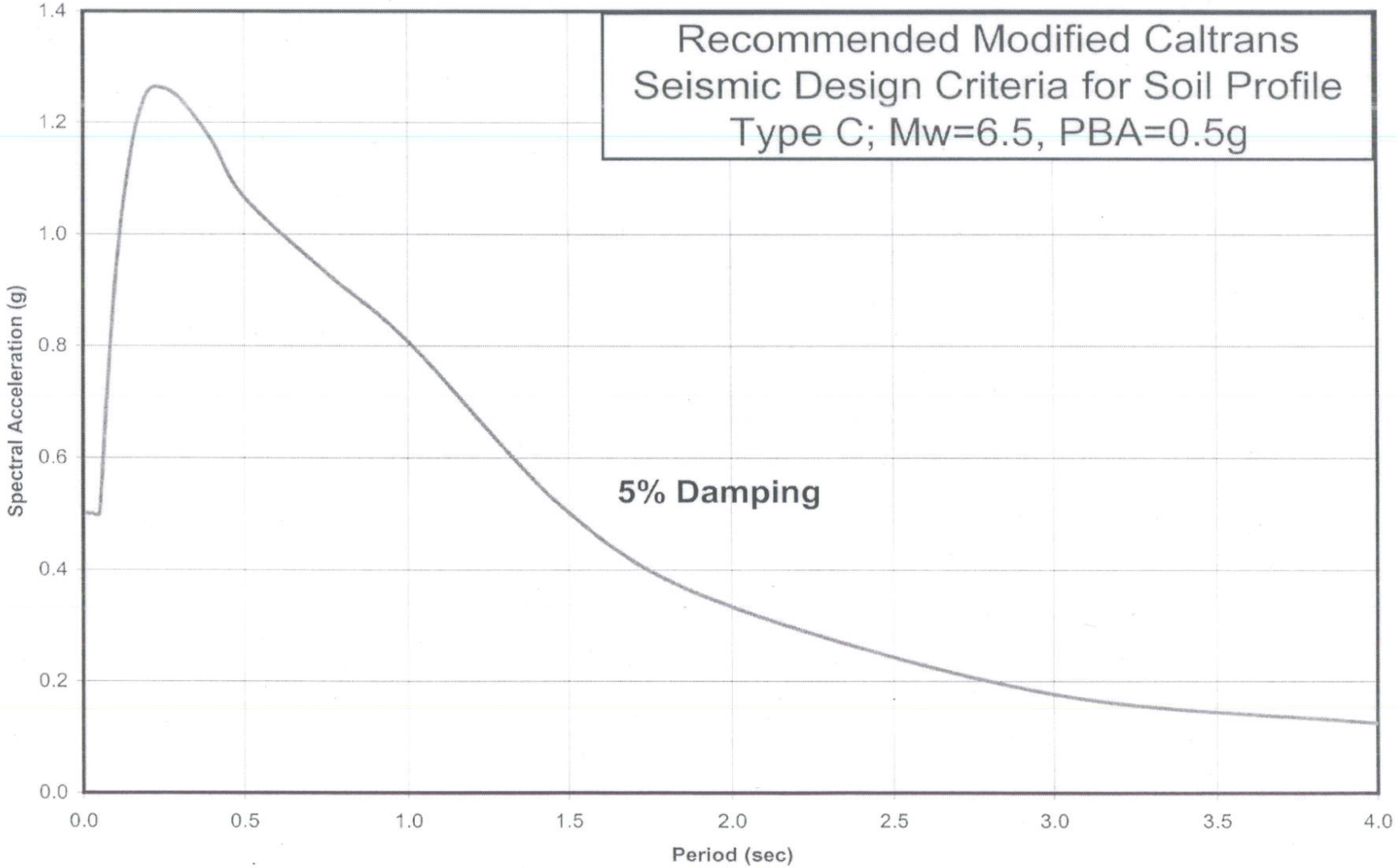

Figure 1. Acceleration Response Spectrum Recommended for Design

Memorandum

Flex your power!
Be energy efficient!

To: JOEY AQUINO
Senior Project Engineer, Branch 3
Division of Engineering Services
Structural Design – Mail Station 9-4/6F
Office of Bridge Design North

Date: July 13, 2009

File: 02-SHA-5-PM 3.82
EA 02-370001
South Anderson Separation (widen)
Bridge No. 06-0139 R/L

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report

Introduction and Project Location

Per your request, the Office of Geotechnical Design North (OGD-N) has prepared this Foundation Report for the proposed widening on Interstate 5. This report includes review and evaluation of the existing South Anderson Separation (Bridge No. 06-0139 R/L) As-Built bridge files and Borings R-08-001 and R-08-002. Data are shown on the "Log of Test Borings" (LOTB), which will be forwarded when complete.

The South Anderson Separation has a Right and Left Structure. Both structures are 158 feet (ft) 6.75 inch (in) long three span bridges. These structures are located in the city of Anderson, in Shasta County and were built in 1966. The structures span over the northbound Interstate 5 exit to Highway 273 and the city of Anderson.

The South Anderson Separation widening is proposed to be constructed in the median. This will add a southbound and northbound lane. It is proposed that the structure be supported on H-piles at the abutments and spread footing at the bents.

Elevations used in this report are based on the NAVD 88 vertical datum. The "As-Built" elevations were converted from NGVD 29 to NAVD 88 by using a conversion factor of +2.51 ft for this project.

Summary of Site Geology and Subsurface Conditions

Based on the Geologic Map of California, Redding Sheet (Jenkins, 1977), the site consists of Pleistocene nonmarine sedimentary deposits of well rounded boulders and gravel within a tan to brick-red iron-stained matrix of sand and some clay of the Quaternary Red Bluff Formation (Qc).

Borings R-08-001 and R-08-002 were drilled in August 2008. The borings were drilled to an elevation of approximately 415.8 feet. Based on the subsurface investigation, earth materials consist of very stiff and hard gravelly lean clay, sandy lean clay with gravel, lean clay with gravel, silt, silty sand, and cobbles.

Groundwater Evaluation

Based on the subsurface investigation in September 2008, groundwater was not encountered. However, groundwater elevations may fluctuate with seasonal precipitation.

Scour

Scour is not an issue at this site because the bridge is not in a water course.

Corrosion Evaluation

Based on soil samples collected throughout the project site, native soil beneath the site is non-corrosive.

Table 1. Soil Corrosion Test Summary.

Location	SIC Number	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
South Anderson U.C.	C726840	5676	7.19	n/a	n/a
South Anderson U.C.	C 726841	1687	6.81	n/a	n/a

Note: Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

Seismicity

Based on the Caltrans California Seismic Hazard Map 1996, the controlling fault is the Battle Creek Fault with a maximum credible earthquake moment magnitude of M_w=6.5, and is located about 4.3 miles south of the site. The Peak Horizontal Bedrock Acceleration, based on the above map is estimated to be 0.4g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site. The potential for liquefaction is considered minimal.

Based on the LOTB of the bridge, a final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum (ARS) curve corresponding to soil profile Type D is recommended for design (see Figure 1). Please note that due to the close proximity of this structure to the fault, we have performed modifications to the CSDC ARS curve. The modifications are such that there are no spectral accelerations (SA) magnification for periods less than 0.5 second, and a 20% increase in SA for periods greater than 1 second. Between the periods of 0.5 and 1 second, a linear interpolation was used to estimate SA.

As-Built Foundation Data

According to the "Foundation Recommendations," dated March 5, 1962, "Foundation Review," dated August 29, 1962, and the "Foundation Report," dated November 9, 1964, the existing bridge is founded on 10BP57 H-piles at Abutments 1 and 4 and spread footings at Bents 2 and 3. The following tables show As-Built foundation data.

Table 2. Spread Footing Elevations for Bridge No. 06-0139 Right.

Location	Foundation Type	Allowable Gross Bearing Capacity (ksf)	Bottom of Footing Elevation (ft)
Bent 2	Spread Footing	6.0	492.5
Bent 3	Spread Footing	6.0	492.5

Table 3. Spread Footing Elevations for Bridge No. 06-0139 Left.

Location	Foundation Type	Allowable Gross Bearing Capacity (ksf)	Bottom of Footing Elevation (ft)
Bent 2	Spread Footing	6.0	492.5
Bent 3	Spread Footing	4.0	492.5

Table 4. As-Built H-Pile Data Table for Bridge No. 06-0139 R/L.

Location	Pile Type	Design Load (kips)	Specified Tip Elevation (ft)	Estimated Pile Tip Elevation (ft)	Actual Average Tip Elevation (ft)	Actual Minimum Tip Elevation (ft)	Actual Maximum Tip Elevation (ft)
Abutments 1 and 4	10BP57	90	472.5	477.5	469.5	467.5	473.1

Foundation Recommendations

The following foundation recommendations are based on the information provided by your office and the subsurface investigations conducted at the site. Spread footing foundations are recommended at the bents and H-piles at the Abutments.

Table 5 and 6 are the pile data tables for the HP10x57 piles selected to support the proposed abutments foundations.

Table 5. Foundation Recommendations Abutments for Left Bridge (Br. No. 06-0139L)

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per support		LRFD Service-I Limit State Load (kips) per pile (Compression)	Required Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut 1	HP10x57	509.3	N/A	N/A	75	150	467.0[(a)]	467.0	150
Abut 4	HP10x57	505.7	N/A	N/A	75	150	467.0[(a)]	467.0	150

Notes: 1) Design tip elevations are controlled by (a) Compression.
2) The specified tip elevations shall not be raised above the design tip for Lateral Load.
3) Design tip elevation for Lateral Load will be provided by Structure Design.
4) If the cut-off elevations listed above are different from those shown in the Construction Plans, the Construction Plans values shall be used.

Table 6. Foundation Recommendations Abutments for Left Bridge (Br. No. 06-0139R)

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per support		LRFD Service-I Limit State Load (kips) per pile (Compression)	Required Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut 1	HP10x57	509.0	N/A	N/A	75	150	467.0[(a)]	467.0	150
Abut 4	HP10x57	505.7	N/A	N/A	75	150	467.0[(a)]	467.0	150

Notes: 1) Design tip elevations are controlled by (a) Compression.
2) The specified tip elevations shall not be raised above the design tip for Lateral Load.
3) Design tip elevation for Lateral Load will be provided by Structure Design.
4) If the cut-off elevations listed above are different from those shown in the Construction Plans, the Construction Plans values shall be used.

Spread footings are selected to support the bent foundations. The nominal bearing resistance of the soil underlying the footings was calculated using the formulation provided by AASHTO Bridge Design Specification (2007), Section 10.6.3.1.2a.

Table 7. Foundation Design Recommendations for Spread Footings, Bridge No. 06-0139 Left[1, 2]

Support Location	Footing Size (ft)		Bottom of Footing Elevation (ft)	Minimum Footing Embedment Depth (ft)	WSD (LRFD Service-I Limit State Load)		LRFD		
							Service	Strength $\varphi = 0.45$	Extreme Event $\varphi = 1.0$
	B	L			Permissible Gross Contact Stress (ksf)	Allowable Gross Bearing Capacity (ksf)	Net Permissible Contact Stress, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)
Bent 2	12.0	12.0	491.0	9.0	N/A	N/A	4.4	8.1	18.0
Bent 3	12.0	12.0	490.0	7.0	N/A	N/A	4.4	8.1	18.0

Notes:
1) Recommendations are based on the foundation geometry and the load data provided by the Structure Design in the Foundation Design Data Sheet. The footing contact area is taken as equal to the effective footing area, where applicable.
2) See MTD 4-1 for definitions and applications of the recommended design parameters.

Table 8. Foundation Design Recommendations for Spread Footings, Bridge No. 06-0139 Right[1, 2]

Support Location	Footing Size (ft)		Bottom of Footing Elevation (ft)	Minimum Footing Embedment Depth (ft)	WSD (LRFD Service-I Limit State Load)		LRFD		
							Service	Strength $\varphi = 0.45$	Extreme Event $\varphi = 1.0$
	B	L			Permissible Gross Contact Stress (Ksf)	Allowable Gross Bearing Capacity (ksf)	Net Permissible Contact Stress, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)
Bent 2	12.0	12.0	491.0	5.0	N/A	N/A	4.4	8.1	18.0
Bent 3	12.0	12.0	491.0	5.0	N/A	N/A	4.4	8.1	18.0

Notes:
1) Recommendations are based on the foundation geometry and the load data provided by the Structure Design in the Foundation Design Data Sheet. The footing contact area is taken as equal to the effective footing area, where applicable.
2) See MTD 4-1 for definitions and applications of the recommended design parameters.

Sliding Resistance

The coefficient of friction (tan δ) between the base of the footings and the supporting soils may be assumed as 0.40 for the bents. A resistance factor for sliding shall be 0.8.

GENERAL NOTES TO DESIGNER

1. The structure engineer shall show on the plans, in the pile data table, the minimum pile tip elevation required to meet the lateral load demands.

2. Should the specified pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, the Office of Geotechnical Design North should be contacted for further recommendations.

3. Support locations are to be plotted on the Log of Test Borings, in plan view, as stated in "Memos to Designers" 4-2. The plotting of the support locations should be made prior to the foundation review.

Construction Considerations

1. Spread Footings

1. To provide uniform soil support and reduce elastic settlement for the proposed foundation, approximately 2 feet or deeper of soil below the bottom of footing shall be removed and recompacted to a relative compaction of not less than 95 percent. The depth of the excavation should be determined by the Engineer based on the soil conditions.

2. If excavations for spread footings expose unsuitable materials for support of the proposed structure foundations, the unsuitable materials shall be removed and recompacted to a relative compaction of not less than 95 percent.

3. The excavated on-site soils may be reused as recompacted fill provided they are free of organic, deleterious substances and contain proper moisture for compaction. The excavated on-site soils may need to mix sand or/and pea gravel to increase the soil strength and helping achieve 95% relative compaction.

4. Groundwater should not be encountered during footing excavation.

5. Spread footings shall be placed neat against competent materials. All loose materials shall be removed prior to placement of concrete.

6. All footing excavations are to be inspected and approved by this Office or a representative of the Office of Structure Construction, when excavations are completed to the bottom of footing and prior to placement of concrete.

2. Driven Piles

1. Hard driving conditions may be anticipated during installation of the driven piles.

2. At the Engineer's option, any piles driven to within 5 feet of specified tip elevation may be considered adequate and cut off if three times the required pile acceptance criteria value is achieved.

PROJECT INFORMATION

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressees of this report via electronic mail.

Data and information attached with the project plans are:

A. Log of Test Borings for South Anderson Separation, Bridge Number 06-0139 R/L.

Data and information included in the Information Handout provided to the bidders and contractors are:

A. Foundation Report for South Anderson Separation, Bridge Number 06-0139 R/L, dated July 13, 2009.

Data and information available for inspection at the District Office:

A. N/A

Data and information available for inspection at the Transportation Laboratory:

A. N/A

If any conceptual changes are made during final project design, the Office of Geotechnical Design North should review those changes to determine if these foundation recommendations are still applicable. If there are any questions, please contact Xing Zheng at 916 227-1036 or Joe Kaump at 916 227-1044.

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Reza Mahallati, P.E.
Senior Materials and Research Engineer
Geotechnical Design – North

Attachment: ARS curve

C:

Reid Buell
R.E. Pending
Structure OE (E-copy)
Eskinder Taddese-PCE (E-copy)
Lerose Lane DME (E-copy)
GDN File
GS File

South Anderson Separation
Bridge No.06-0139 L/R
EA 02-371001

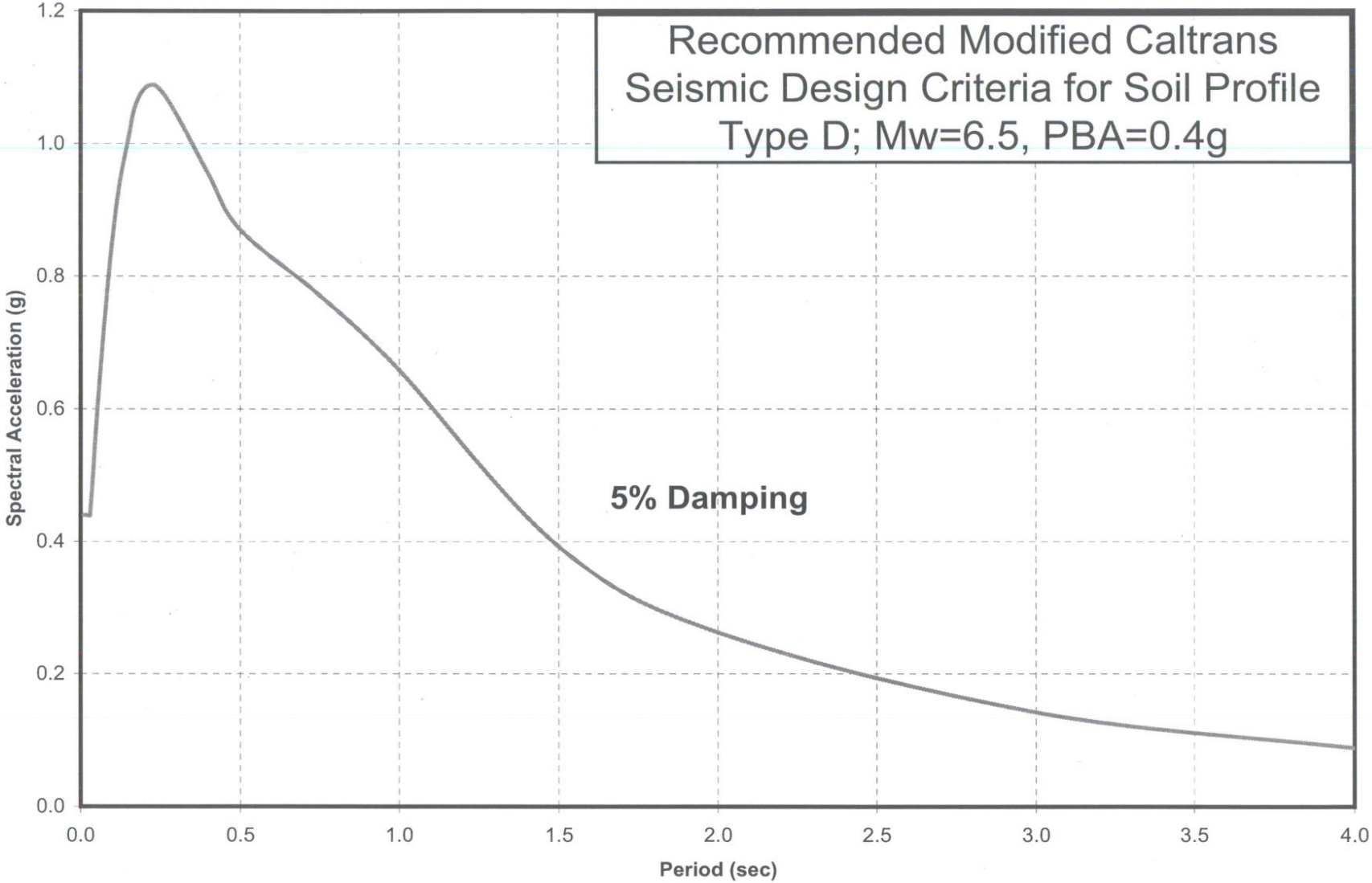

Figure 1. Acceleration Response Spectrum Recommended for Design

AERIALLY DEPOSITED LEAD AND TRAFFIC STRIPE PAINT SITE INVESTIGATION REPORT

Cottonwood Hills Truck Climbing Lanes
Shasta County, California

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 2
ENVIRONMENTAL ENGINEERING OFFICE
P.O. BOX 496073
REDDING, CALIFORNIA 96049

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON PROJECT NO. S9300-06-12
TASK ORDER NO. 12, EA NO. 02-371001

MARCH 2008

GEOCON
CONSULTANTS, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S

Project No. S9300-06-12
March 26, 2008

Mr. Jeff Pizzi
California Department of Transportation – District 2
Environmental Engineering Office
P.O. Box 496073
Redding, California 96049-6073

Subject: COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA
CONTRACT NO. 03A1368, TASK ORDER NO. 12, EA 02-371001
AERIALLY DEPOSITED LEAD AND TRAFFIC STRIPE PAINT
SITE INVESTIGATION REPORT

Dear Mr. Pizzi:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order Number 12, and Expense Authorization 02-371001, Geocon Consultants, Inc. has performed environmental engineering services for the subject project. The Site consists of Caltrans right-of-way along Interstate 5 between Post Mile 1.2 and 4.2 in Shasta County, California. The accompanying report summarizes the services performed, including the advancement of 53 direct-push borings for aerially deposited lead sampling, traffic stripe paint sampling and laboratory testing. We also performed an asbestos-containing material (ACM) bridge survey. The results of the ACM bridge survey are presented in a separate report.

The contents of this report reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if there are any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Gemma G. Reblando
Project Geologist

John E. Juhrend, PE, CEG
Project Manager

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AERIALLY DEPOSITED LEAD AND TRAFFIC STRIPE PAINT SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This Aerially Deposited Lead (ADL) and Traffic Stripe Paint Site Investigation report for the Cottonwood Hills Truck Climbing Lanes Interstate 5 (I-5) Post Mile (PM) 1.2 to 4.2 project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order (TO) Number 12, and Expense Authorization (EA) 02-371001.

1.1 Project Description and Proposed Improvements

The project area consists of Caltrans right-of-way along I-5 between Cottonwood and Anderson, approximate PM 1.2 to 4.2 (the Site) in Shasta County, California. Caltrans proposes to construct truck climbing lanes including adding northbound (NB) and southbound (SB) median lanes and shoulders, widening two bridge structures, construction of median cable barrier and drainage. The bridge structures to be improved include the SB South Anderson Separation (Bridge No. 06-0139L) and the NB North Cottonwood Undercrossing (Bridge No. 06-0038R). Necessary grading for the project is currently designed as balanced earthwork with no planned generation of excess soil materials. The approximate project location is depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2-1 through 2-11.

1.2 General Objectives

The purpose of the scope of work outlined in TO No. 12 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 traffic stripe paint on the roadway at the Site contains lead and/or chromium. Additionally, we performed an asbestos-containing material (ACM) bridge survey. The results of the ACM bridge survey are presented in a separate report. The investigative results will be used by Caltrans to inform the construction contractor if lead-impacted soil and lead and/or chromium-impacted traffic stripe paint are present within the project boundaries for health, safety and soil management/disposal purposes.

2.0 BACKGROUND

2.1 Potential Lead Soil Impacts

Ongoing testing by Caltrans throughout California has indicated that ADL exists along major freeway routes due to emissions from vehicles powered by leaded gasoline.

2.2 Potential Lead/Chromium-based Traffic Stripe Paint Impacts

Yellow traffic stripe paint utilized by Caltrans may contain lead-chromate. The presence of elevated lead and chromium requires sampling and analytical testing of the paint stripe materials to determine appropriate health and safety procedures and proper management and disposal practices. Disposal of removed traffic stripe paint materials is dependent on the method utilized to remove these materials (i.e. focused stripe removal vs. pavement grinding).

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 milligrams per kilogram (mg/kg). The STLC and TCLP values for lead are both 5.0 milligrams per liter (mg/l). The TTLC value for chromium is 2,500 mg/kg. The STLC and TCLP values for chromium are both 5.0 mg/l.

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." 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.

3.0 SCOPE OF SERVICES

We performed the following scope of services as requested by Caltrans in TO No. 12:

3.1 Pre-field Activities

- Conducted a pre-work site visit on January 15, 2008, to discuss the TO scope of services. Caltrans representative Jeff Pizzi and Geocon representatives Josh Ewert and Lance Fisher attended the meeting. The purpose of the pre-work site visit was to identify and observe the project boundaries and conditions. The project limits were further outlined in white paint for subsequent utility clearance.
- Prepared a *Workplan* dated January 29, 2008, which describes the requested scope of services and quality assurance/quality control (QA/QC) sampling and laboratory procedures.
- Prepared a *Health and Safety Plan* dated January 29, 2008, to provide guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities.
- Provided 48-hour notification to Underground Service Alert prior to job site mobilization.
- Retained the services of Advanced Technology Laboratories (ATL) to perform the chemical analysis of soil and traffic stripe paint samples.

3.2 Field Activities

The field activities consisted of collecting soil samples along the median of NB and SB I-5 between PM 1.2 and 4.2. On February 13, 2008, 159 soil samples were collected from 53 direct-push borings (DPN1 through DPN27 and DPS28 through DPS53) at the Caltrans designated soil sampling locations. Two yellow traffic stripe paint samples (PC1 and PC2) were collected at the Caltrans designated sampling locations. The ADL soil borings were excavated to an approximate maximum depth of 24 inches. The soil samples were collected at general depths of 0 to 8 inches, 8 to 16 inches and 16 to 24 inches.

4.0 INVESTIGATIVE METHODS

4.1 Boring and Traffic Stripe Paint Sample Location Rationale

The soil boring locations were designated by Caltrans in the vicinity of proposed improvements. Borings DPN1 through DPN27 were advanced along the median of NB I-5 between PM 1.2 and 4.2.

Borings DPS28 through DPS53 were advanced along the median of SB I-5 between PM 1.2 and 4.2. The approximate soil boring locations are depicted on Figures 2-1 through 2-11.

The traffic stripe paint sampling locations were designated by Caltrans within the proposed construction area. Yellow traffic stripe paint samples PC1 and PC2 were collected from SB I-5 and NB I-5, respectively.

The coordinates of each boring location were determined using a differential global positioning system (GPS). The GPS was utilized during the field activities to locate the horizontal position of each location with an error of no more than 3.0 feet. The latitude and longitude of the boring locations are summarized in Table 1.

4.2 Aerially Deposited Lead Soil Sampling Procedures

A total of 159 soil samples were collected from 53 direct-push borings excavated at the Site. Soil samples obtained from the direct-push borings were collected in cellulose thermoplastic (acetate) liners driven by the direct-push rig. The acetate liners were cut to separate the sample by depth, then the sample from a particular interval was opened and the soil sample was transferred to a Ziploc® re-sealable plastic bag. The soil samples were field homogenized within the sample bags and subsequently labeled, placed in an ice chest, and delivered to ATL for analytical testing under chain-of-custody (COC) documentation.

QA/QC procedures were performed during the field exploration activities. These procedures included decontamination of sampling equipment before each boring was advanced and providing COC documentation for each sample submitted to the laboratory. The soil sampling equipment was cleansed between each boring by washing the equipment with an Alconox™ solution followed by a double rinse with deionized water. The field sampling activities were performed under the supervision of Geocon's field manager.

The direct-push 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 Traffic Stripe Paint Sampling Procedures

Two yellow traffic stripe paint samples (PC1 and PC2) were collected using a hammer to break a chip off the traffic stripe paint from the traffic stripe. The paint samples were placed in Ziploc® re-sealable plastic bags and subsequently labeled, and delivered to ATL under standard COC documentation.

4.4 Traffic Control

Traffic control, including the use of a "SHOULDER WORK AHEAD" advanced warning signs and orange traffic cones, provided by Geocon, was utilized where necessary based on the proximity of the work zone with respect to the active traffic lanes.

4.5 Laboratory Analyses

4.5.1 ADL Soil Samples

The soil samples collected within the project boundaries were submitted to ATL for the following analyses under ten working-day turn-around-time (TAT). The laboratory was instructed to homogenize the ADL soil samples prior to analysis in accordance with Contract 03A1368 requirements.

- One hundred fifty-nine soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.
- Twenty-two soil samples were analyzed for soluble (WET) lead following EPA Test Method 6010B.
- Sixteen randomly selected soil samples were analyzed for soil pH following EPA Test Method 9045.

4.5.2 Traffic Stripe Paint Samples

The traffic stripe paint samples collected within the project boundaries were submitted to ATL for the following analyses under ten working-day TAT.

- Two traffic stripe paint samples were analyzed for total lead and total chromium following EPA Test Method 6010B.
- One traffic stripe paint sample was analyzed for soluble (WET) lead following EPA Test Method 6010B.
- One traffic stripe paint sample was analyzed for TCLP soluble lead following EPA Test Method 1311.

4.5.3 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 every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every ten samples, batch of samples or type of matrix, whichever was 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 COC documentation was reviewed for accuracy and completeness. Reproductions of the laboratory reports and COC documentation are presented in Appendix A.

5.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

5.1 Site Conditions

Soil encountered during the excavation of borings was generally comprised of fill materials consisting of road base gravel to a depth of approximately 3 inches underlain by fine sandy silt to the maximum depth explored of approximately 24 inches. Groundwater was not encountered during the excavation of the soil borings.

5.2 ADL Soil Analytical Results

A summary of the soil analytical results are presented in Table 1. The laboratory reports and COC documentation are presented in Appendix A.

Total lead was detected in 93 of the 159 soil samples analyzed at concentrations ranging from 5.0 to 140 mg/kg. Twenty-two of the 159 soil samples had reported total lead concentrations greater than or equal to 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

WET soluble lead was reported for each of the 22 soil samples analyzed at concentrations ranging from 1.9 to 14 mg/l. Nine of the 22 soil samples had soluble (WET) lead concentrations greater than the STLC value for lead of 5.0 mg/l.

Soil pH values ranged from 5.4 to 6.8.

5.3 Traffic Stripe Paint Sample Analytical Results

Total lead was reported for the two traffic stripe paint samples at 2,900 mg/kg (PC1) and 260 mg/kg (PC2). Traffic stripe paint sample PC1 had a total lead concentration greater than the California hazardous waste threshold (TTLC) of 1,000 mg/kg for lead. Total chromium was reported for the two traffic stripe paint samples at 710 mg/kg (PC1) and 64 mg/kg (PC2), less than the California hazardous waste threshold for chromium of 2,500 mg/kg (TTLC).

Soluble (WET) lead was reported for traffic stripe paint sample PC2 at 0.48 mg/l. TCLP soluble lead was reported for traffic stripe paint sample PC1 at 1.5 mg/l.

The analytical results of the traffic stripe paint samples are summarized on Table 2. Laboratory reports and COC documentation are presented in Appendix A.

5.4 Laboratory QA/QC

We reviewed the laboratory QA/QC provided with the laboratory reports. The data show acceptable surrogate recoveries and non-detect results for the method blanks. However, the relative percent differences (RPDs) for EPA Method 6010 were outside the RPD limit. The Case Narrative in the laboratory report states "RPD for Duplicate (DUP), Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) is outside criteria for samples 097117-010ADUP, 097117-070ADUP, 097117-080AMSD, 097117-090ADUP, 097117-100AMSD and 097117-140ADUP; however, the analytical batch was validated by the Laboratory Control Sample (LCS)." The data showed acceptable recoveries and RPDs for the remainder of the matrix spikes and duplicates. Based on this limited data review, no additional qualifications of the soil data are necessary, and the data are of sufficient quality for the purposes of this report.

5.5 Statistical Evaluation for Lead Detected in Soil Samples

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs. The statistical methods used are discussed in a book entitled *Statistical Methods for Environmental Pollution Monitoring,* by Richard Gilbert; in an EPA *Technology Support Center Issue* document entitled, *The Lognormal Distribution in Environmental Applications,* by Ashok Singh et. al., dated December 1997; and in a book entitled *An Introduction to the Bootstrap,* by Bradley Efron and Robert J. Tibshirani.

5.5.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 90% and 95% UCLs of the arithmetic mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques used to calculate the UCLs are discussed in the previously referenced EPA document and in *An Introduction to the Bootstrap.* For those samples in which total

lead was not detected at concentrations exceeding the laboratory MRL, a value equal to one-half of the detection limit was used in the UCL calculation. The bootstrap results are included in Appendix B. The calculated UCLs and statistical results are summarized in the table below:

SAMPLE INTERVAL (inches)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0 to 8	55.8	57.7	49.1	5.6	140
8 to 16	9.5	10.2	7.3	2.5	70
16 to 24	4.0	4.1	3.6	2.5	13

5.5.2 Correlation of Total and Soluble Lead

Total and corresponding soluble (WET) lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of soluble lead (WET) concentrations based on the UCLs calculated above in Section 5.5.1.

To estimate the degree of interrelation between total and corresponding soluble (WET) lead values (x and y, respectively), the *correlation coefficient [r]* is used. The correlation coefficient is a ratio that ranges from +1 to –1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of –1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for the 22 (x, y) data points (i.e., soil samples analyzed for both total lead [x] and soluble [WET] lead [y]) and equaled 0.533. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable correlation between total and soluble lead concentrations could not be established for the data points since the *correlation coefficient* is less than 0.8. To achieve an acceptable correlation, the total and soluble (WET) lead data from three of the 22 data points were excluded from the regression analysis (one data point with the highest ratio of total lead to soluble (WET) lead and two data points with the lowest ratio of total lead to soluble (WET) lead) and the *correlation coefficient* equaled 0.8. Exceedance of the theoretical 1:10 total to soluble lead ratio typically results from inherent soil sample heterogeneity and separate sample aliquots utilized for total and soluble lead analyses.

For the *correlation coefficient* that indicates a linear relationship between total and soluble (WET) lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by

forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be $y = 0.0553(x)$, where x represents total lead concentrations and y represents predicted soluble lead (WET) concentrations.

This equation was used to estimate the expected WET soluble lead concentrations for the UCLs calculated in Section 5.5.1. Regression analysis results and a scatter plot depicting the (x, y) data points along with the regression line are included in Appendix B. The 90% and 95% UCL-predicted WET soluble lead concentrations are summarized in Section 6.1.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 ADL Soil Waste Disposal/Reuse Classification

Waste classifications based on the 90% UCL of the lead content for the relevant excavation depths has historically been considered sufficient to satisfy a good faith effort by the EPA as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL of the lead content in the waste for the relevant depths; this is in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, the 90% UCLs are to be used to evaluate onsite reuse and the 95% UCLs are to be used to evaluate offsite disposal.

The table below summarizes the predicted soluble (WET) lead concentrations and the waste classification for excavated soil within this area based on the calculated total lead UCLs and the relationship between total and soluble (WET) lead. Excavation scenarios and the 90% and 95% UCL-predicted soluble (WET) lead calculations are summarized in Table 3.

Excavation Depth	**90% UCL Total Lead (mg/kg)**	**90% UCL Predicted WET Lead (mg/l)**	**95% UCL Total Lead (mg/kg)**	**95% UCL Predicted WET Lead (mg/l)**	**Waste Classification**
0 to 8 inches	55.8	3.1	57.7	3.2	Non-hazardous
Underlying soil (8 to 24 inches)	*6.8*	*0.4*	*7.2*	*0.4*	*Non-hazardous*

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the above table, soil materials excavated to a maximum depth of 24 inches would not be classified as a California hazardous waste since the 90% UCL-predicted soluble (WET) lead concentrations are less than the lead STLC of 5.0 mg/l. Consequently, the top 24 inches of excavated soil could be reused or disposed as non-hazardous soil with respect to lead content.

If soil within the project limits is scarified in-place, moisture-conditioned, and recompacted during roadway improvement activities, it may not be considered a "waste."

6.2 Traffic Stripe Paint Waste Classification/Disposal

The yellow traffic stripe paint was sampled per Caltrans' request since it may be removed from the underlying asphalt concrete by grinding or sand blasting, which would create a paint waste stream. The highest reported total lead concentration for the yellow traffic stripe paint samples was 2,900 mg/kg (PC1). Since the total lead concentration of one of the two yellow traffic stripe paint samples (PC1) is greater than the TTLC value for lead of 1,000 mg/kg, the yellow traffic stripe paint may

require disposal as a California hazardous waste. Analytical testing of the yellow traffic stripe paint waste stream would be required to determine appropriate disposal options.

Based on the TCLP soluble lead results less than the federal RCRA hazardous waste threshold of 5.0 mg/l, the yellow traffic stripe paint at the Site will not require disposal as a RCRA hazardous waste.

6.3 Worker Protection

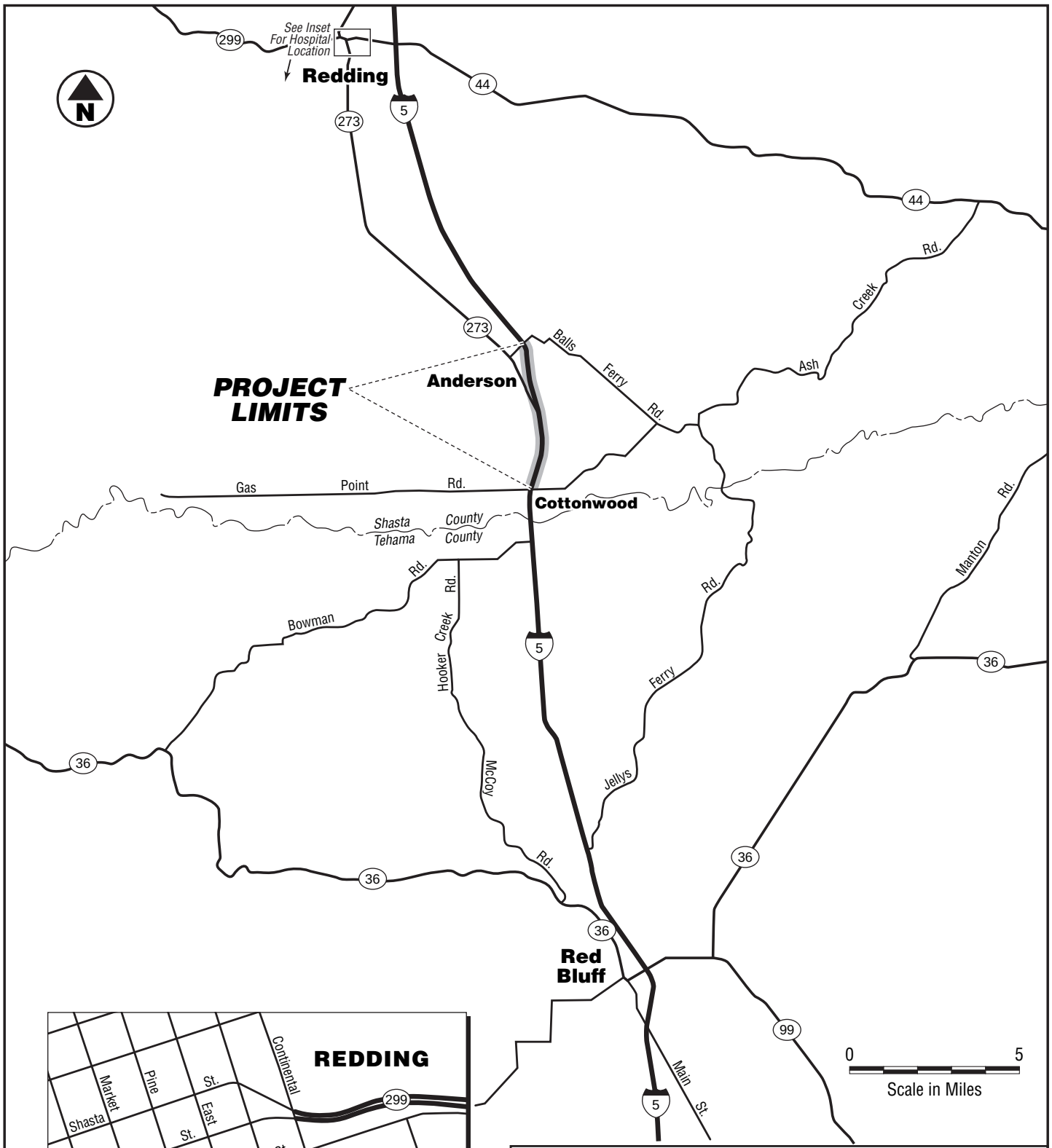
Per Caltrans' requirements, the contractor(s) should prepare a project-specific Lead Compliance Plan (CCR Title 8, Section 1532.1, the "Lead in Construction" standard) to minimize worker exposure to lead-impacted soil. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

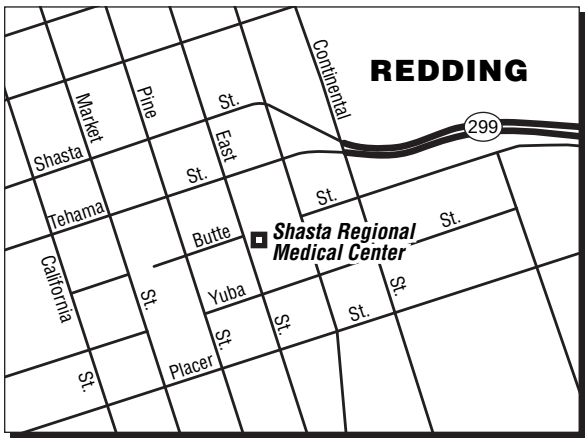
Since material at the Site contains lead and/or chromium and according to Caltrans, removal of the yellow traffic stripe paint may produce toxic waste streams, we recommend that a health and safety plan be prepared to minimize worker exposure. The health and safety plan should include a discussion of the constituents of concern, routes of exposure, permissible exposure limits, and personal protective measures. The health and safety plan should be reviewed and signed by the onsite construction workers prior to any field activities. We also recommend that contractors on the Site grinding asphalt which has been coated with yellow paint prepare a dust control plan. The dust control plan should include dust mitigation and monitoring procedures.

7.0 REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. We strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.





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Cottonwood Hills Truck Climbing Lanes

Shasta County, California

GEOCON Proj. No. S9300-06-12

VICINITY MAP

Task Order No. 12 | March 2008 | Figure 1

LEGEND:

DPN1 ⊙ Approximate Direct-Push Boring Location

0 100
Scale in Feet

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Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-1

LEGEND:

DPN1 Approximate Direct-Push Boring Location

PC1 Approximate Paint Chip Sample Location

0 100
Scale in Feet

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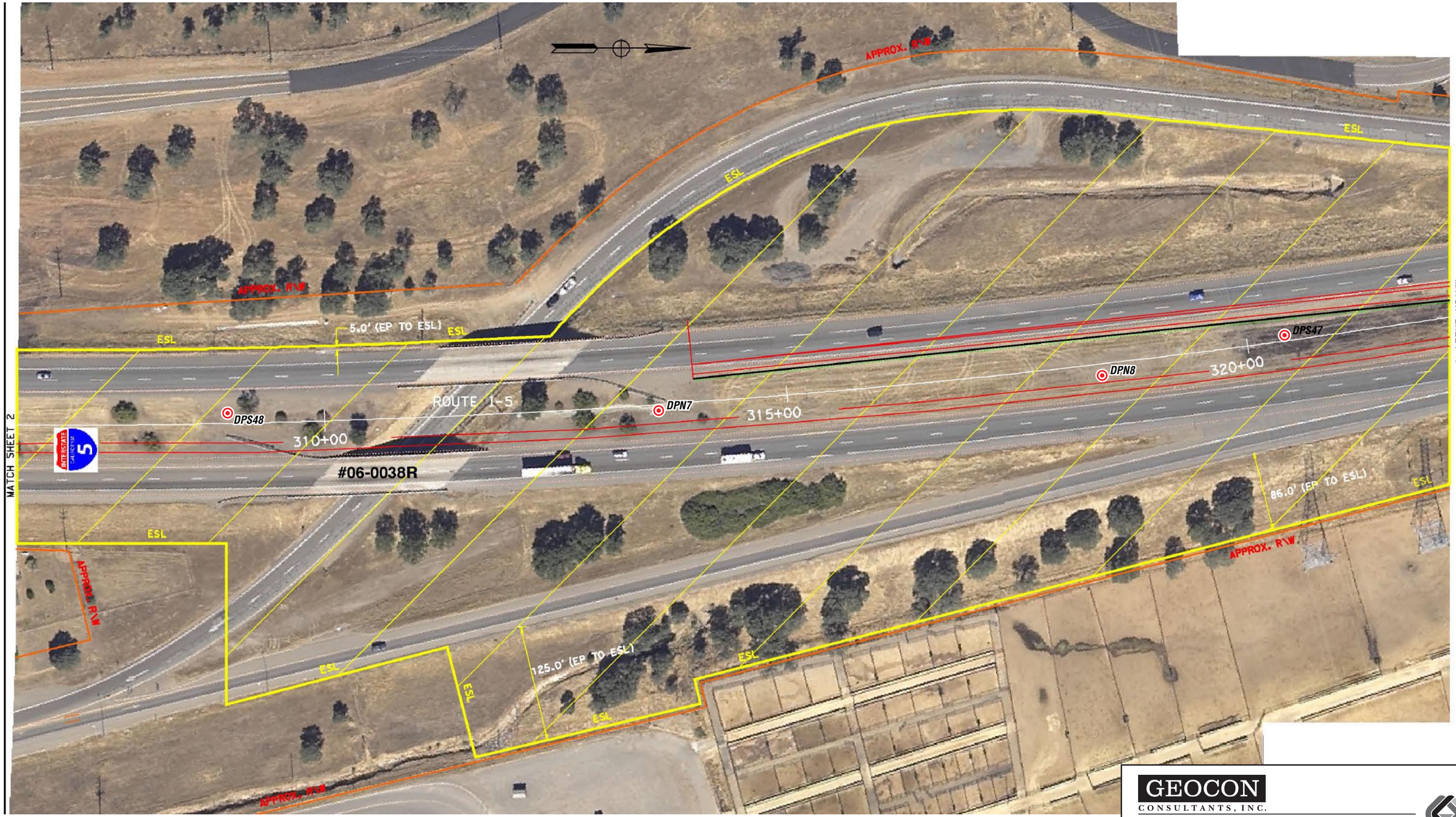
Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	SITE PLAN	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-2



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

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Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-3

LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

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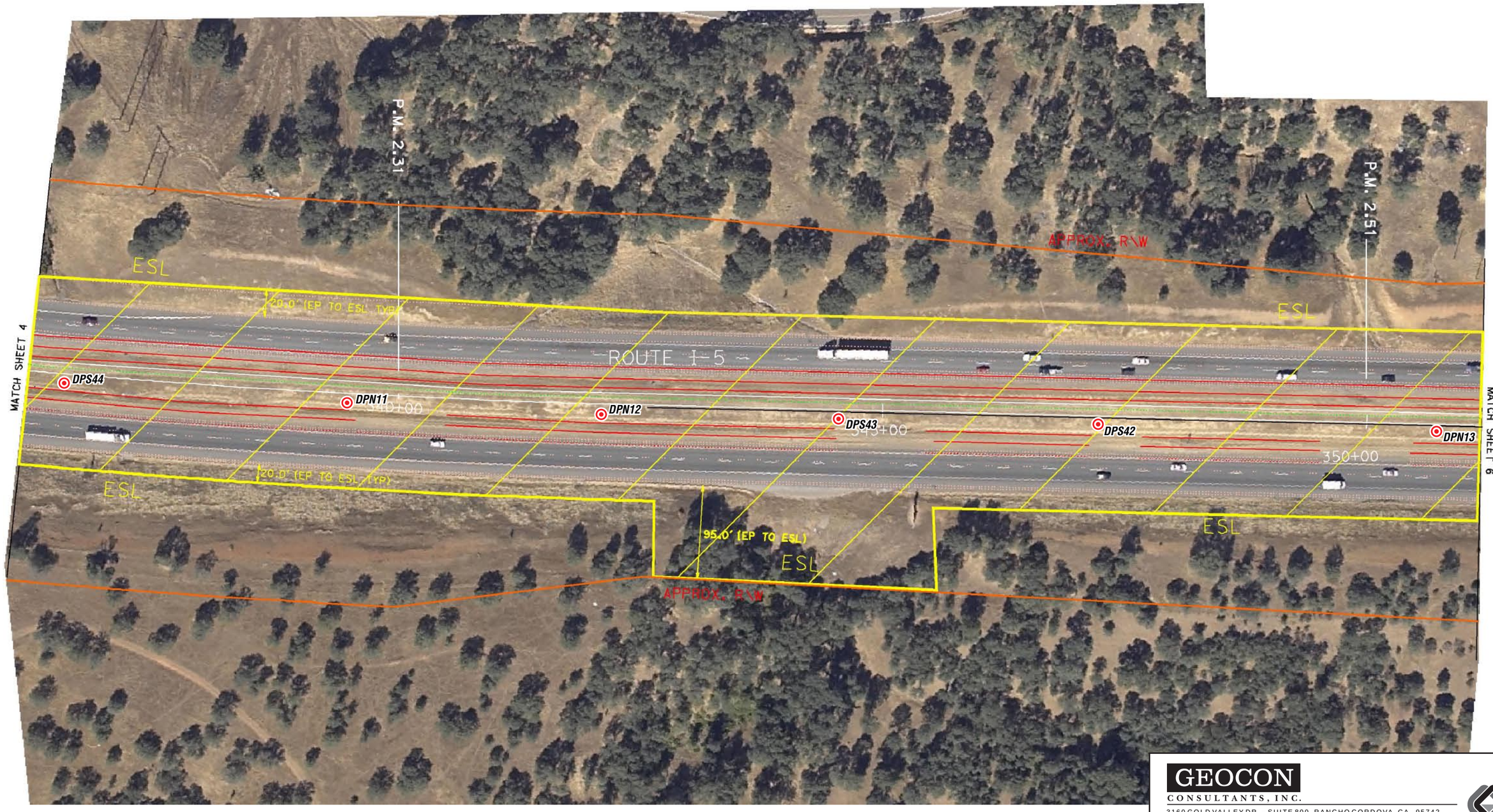
Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-4



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

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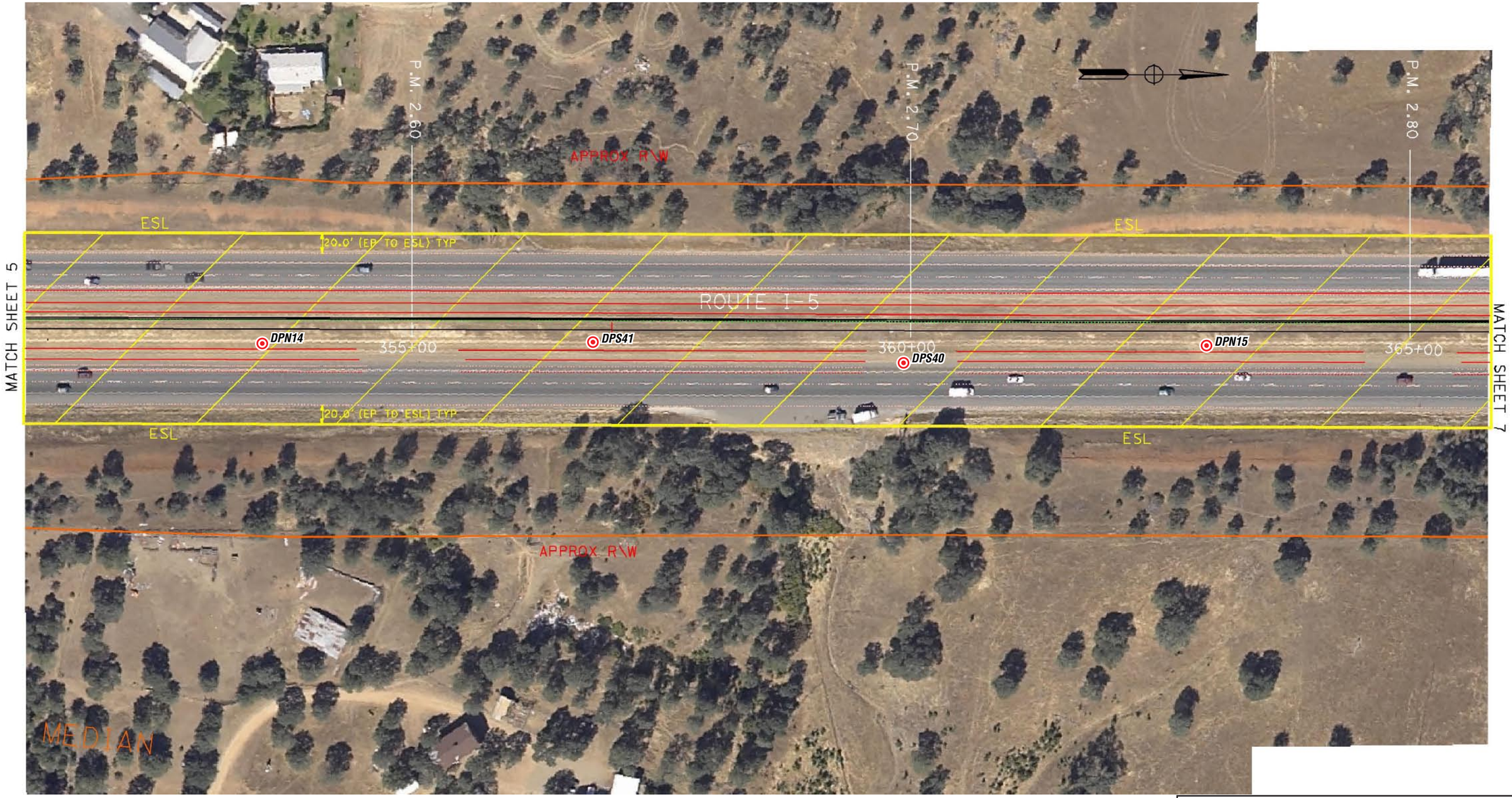
Cottonwood Hills Truck Climbing Lanes

Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-5



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

GEOCON
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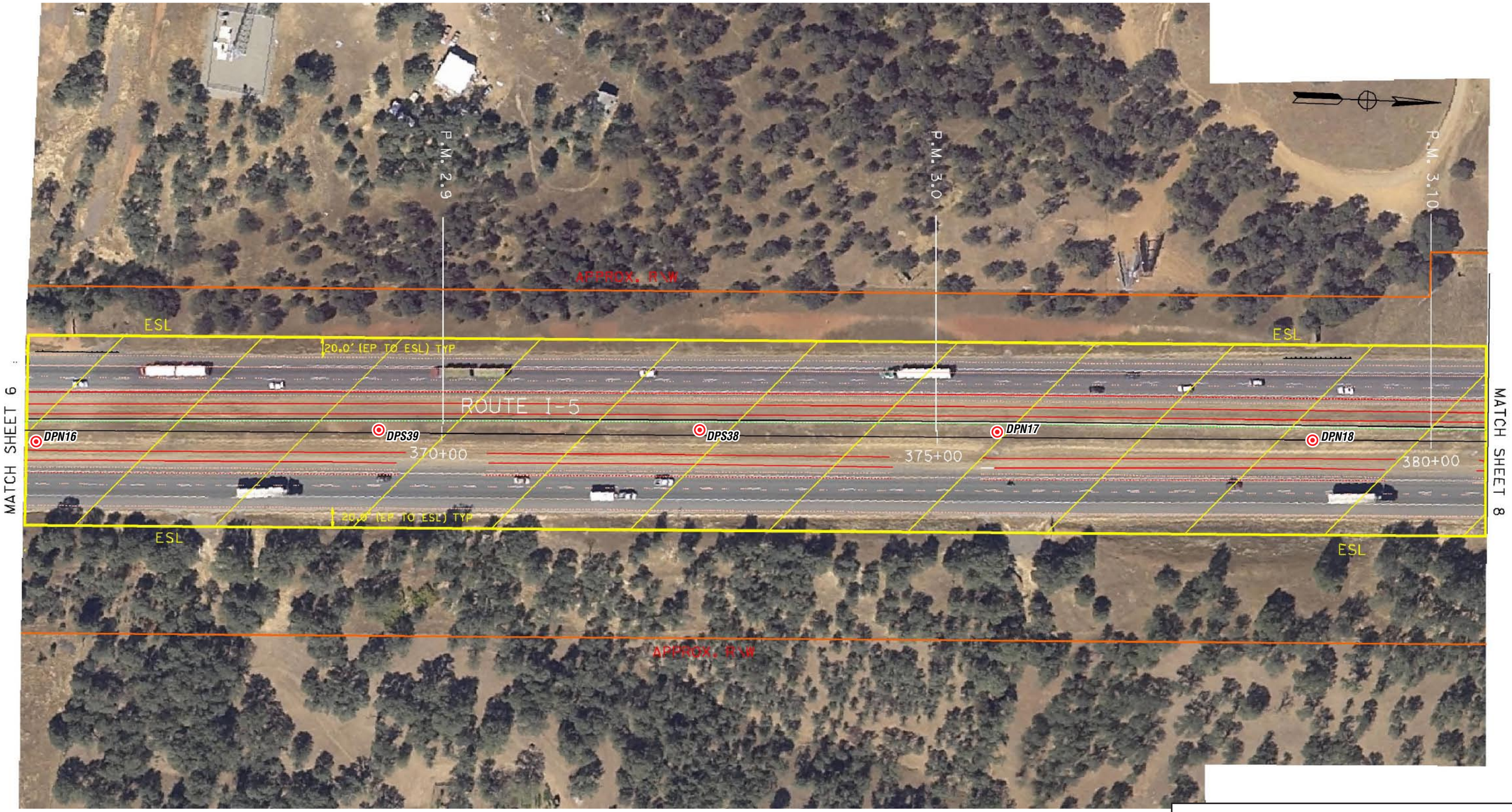
PHONE 916 852-9118 – FAX 916 852-9132

Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	SITE PLAN	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-6



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

GEOCON
CONSULTANTS, INC.
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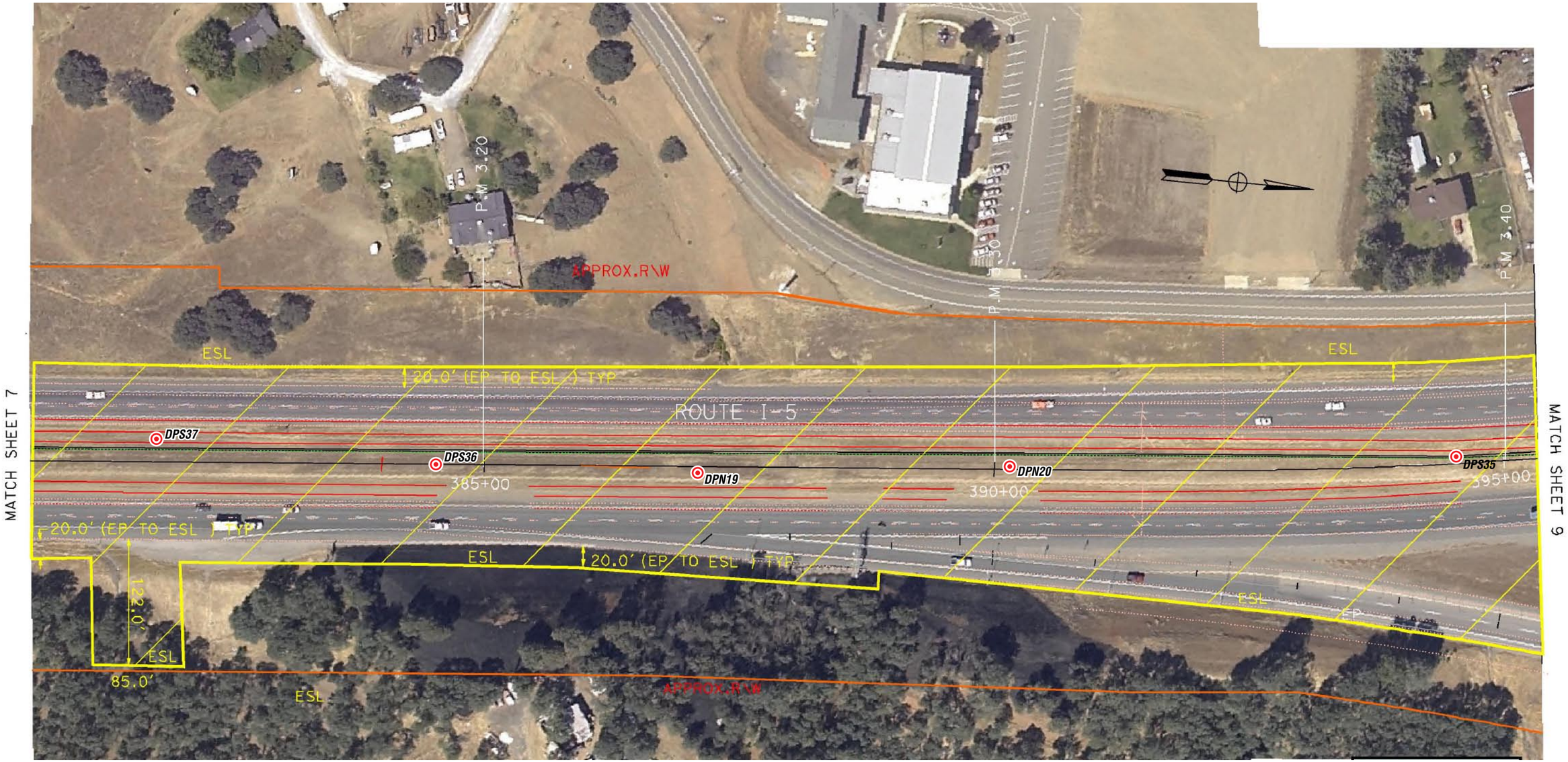
Cottonwood Hills Truck Climbing Lanes

Shasta County, California

GEOCON Proj. No. S9300-06-12

SITE PLAN

Task Order No. 12 | March 2008 | Figure 2-7



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR. – SUITE 800 - RANCHO CORDOVA, CA. 95742
PHONE 916 852-9118 – FAX 916 852-9132

Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-8

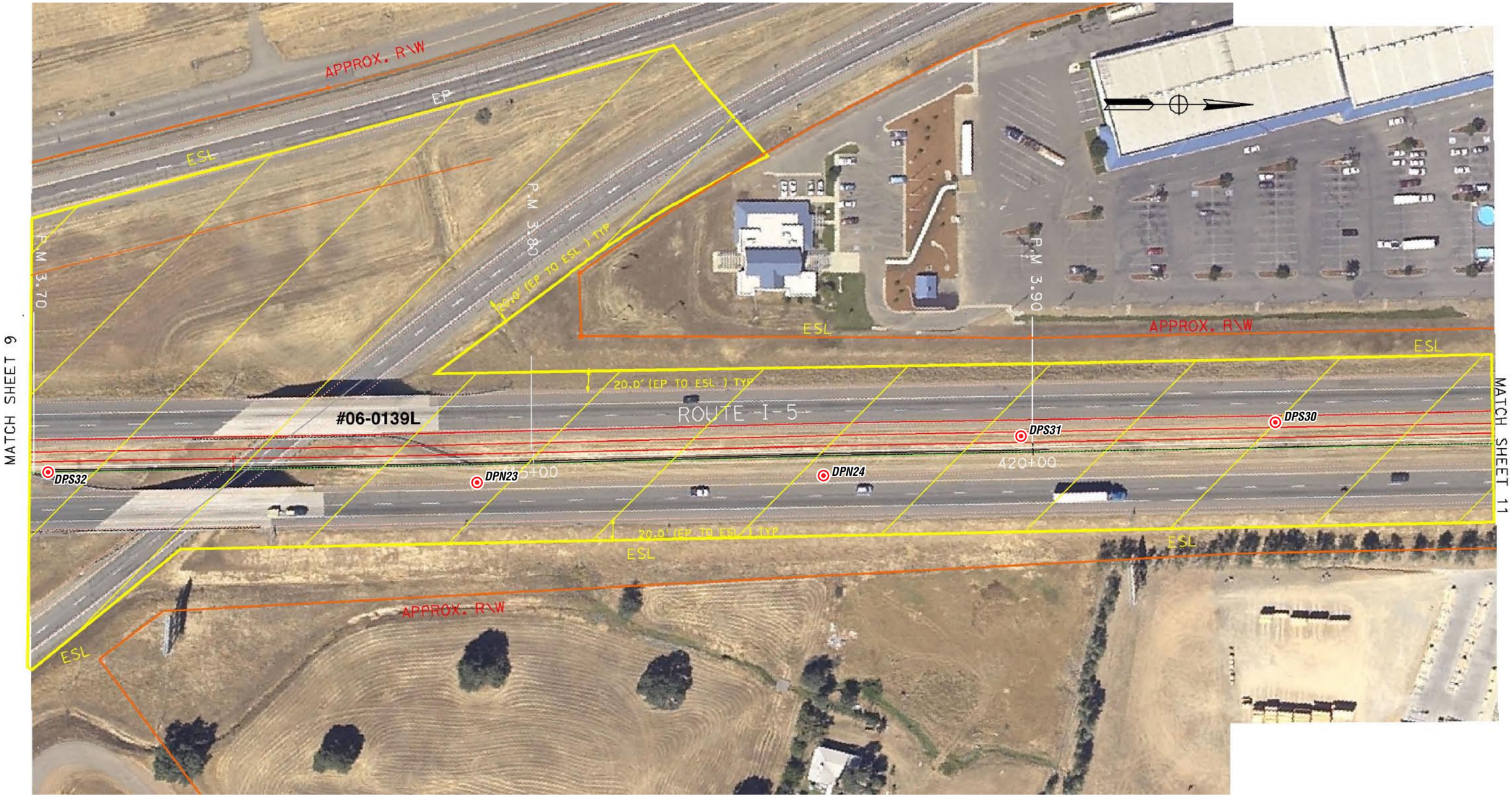
LEGEND:

DPN1 ⊙ Approximate Direct-Push Boring Location

0 100
Scale in Feet

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR. – SUITE 800 - RANCHO CORDOVA, CA. 95742
PHONE 916 852-9118 – FAX 916 852-9132

Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-9



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR. – SUITE 800 - RANCHO CORDOVA, CA. 95742
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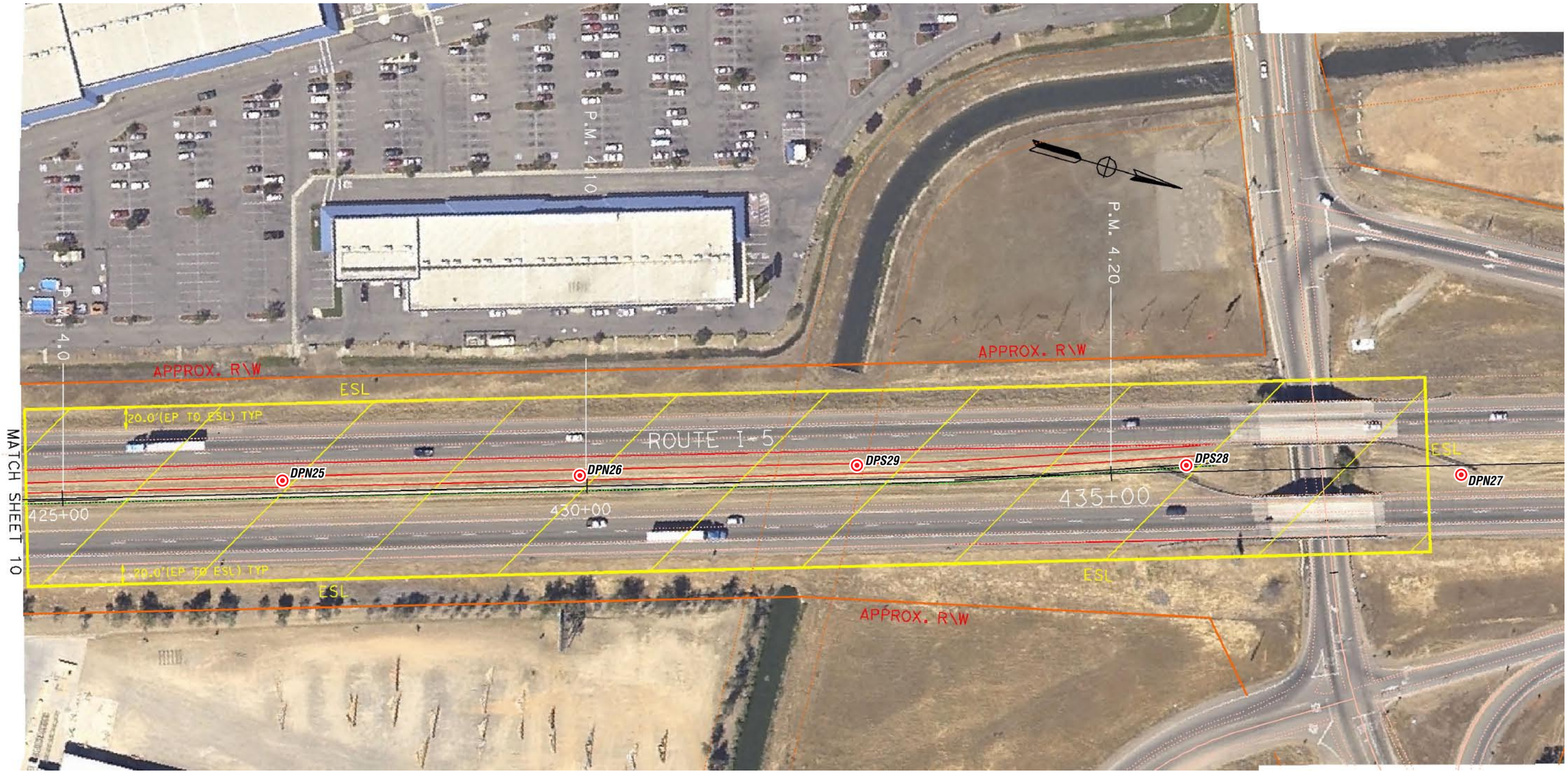
Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	SITE PLAN	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-10



LEGEND:

DPN1 Approximate Direct-Push Boring Location

0 100
Scale in Feet

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR. – SUITE 800 - RANCHO CORDOVA, CA. 95742
PHONE 916 852-9118 – FAX 916 852-9132

Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	SITE PLAN	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2-11

TABLE 1
SUMMARY OF SOIL BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	SOLUBLE (WET) LEAD (mg/l)	SOIL pH
DPN 1-0	2/13/2008	40.393935431	-122.284519725	46	---	---
DPN 1-8	2/13/2008			6.2	---	---
DPN 1-16	2/13/2008			<5.0	---	6.6
DPN 2-0	2/13/2008	40.394756618	-122.284259510	15	---	---
DPN 2-8	2/13/2008			<5.0	---	---
DPN 2-16	2/13/2008			<5.0	---	---
DPN 3-0	2/13/2008	40.397224754	-122.283438643	120	5.5	---
DPN 3-8	2/13/2008			<5.0	---	---
DPN 3-16	2/13/2008			5.3	---	---
DPN 4-0	2/13/2008	40.398060764	-122.283167859	25	---	---
DPN 4-8	2/13/2008			<5.0	---	---
DPN 4-16	2/13/2008			5.0	---	---
DPN 5-0	2/13/2008	40.400583727	-122.282320018	56	1.9	---
DPN 5-8	2/13/2008			5.9	---	---
DPN 5-16	2/13/2008			5.3	---	---
DPN 6-0	2/13/2008	40.401397805	-122.282070868	53	2.5	6.6
DPN 6-8	2/13/2008			<5.0	---	---
DPN 6-16	2/13/2008			<5.0	---	---
DPN 7-0	2/13/2008	40.404188088	-122.281209853	28	---	---
DPN 7-8	2/13/2008			5.4	---	---
DPN 7-16	2/13/2008			<5.0	---	---
DPN 8-0	2/13/2008	40.405024425	-122.281052994	66	3.1	---
DPN 8-8	2/13/2008			<5.0	---	---
DPN 8-16	2/13/2008			<5.0	---	---
DPN 9-0	2/13/2008	40.407531785	-122.280693833	27	---	---
DPN 9-8	2/13/2008			<5.0	---	---
DPN 9-16	2/13/2008			<5.0	---	---
DPN 10-0	2/13/2008	40.408371050	-122.280656314	22	---	---
DPN 10-8	2/13/2008			<5.0	---	---
DPN 10-16	2/13/2008			<5.0	---	6.3
DPN 11-0	2/13/2008	40.410900267	-122.280697249	87	4.8	6.7
DPN 11-8	2/13/2008			<5.0	---	---
DPN 11-16	2/13/2008			<5.0	---	---
DPN 12-0	2/13/2008	40.411754129	-122.280811336	38	---	---
DPN 12-8	2/13/2008			<5.0	---	---
DPN 12-16	2/13/2008			<5.0	---	---

TABLE 1
SUMMARY OF SOIL BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	SOLUBLE (WET) LEAD (mg/l)	SOIL pH
DPN 13-0	2/13/2008	40.414244317	-122.281142845	140	7.3	---
DPN 13-8	2/13/2008			<5.0	---	---
DPN 13-16	2/13/2008			<5.0	---	---
DPN 14-0	2/13/2008	40.415070359	-122.281267173	31	---	---
DPN 14-8	2/13/2008			<5.0	---	---
DPN 14-16	2/13/2008			<5.0	---	---
DPN 15-0	2/13/2008	40.417581896	-122.281649129	100	7.3	---
DPN 15-8	2/13/2008			<5.0	---	---
DPN 15-16	2/13/2008			<5.0	---	---
DPN 16-0	2/13/2008	40.418419610	-122.281769036	29	---	---
DPN 16-8	2/13/2008			<5.0	---	---
DPN 16-16	2/13/2008			<5.0	---	---
DPN 17-0	2/13/2008	40.420942093	-122.282124824	36	---	---
DPN 17-8	2/13/2008			<5.0	---	6.2
DPN 17-16	2/13/2008			<5.0	---	---
DPN 18-0	2/13/2008	40.421767693	-122.282276812	58	4.2	---
DPN 18-8	2/13/2008			<5.0	---	---
DPN 18-16	2/13/2008			<5.0	---	---
DPN 19-0	2/13/2008	40.424290272	-122.282628267	41	---	6.8
DPN 19-8	2/13/2008			<5.0	---	---
DPN 19-16	2/13/2008			<5.0	---	---
DPN 20-0	2/13/2008	40.425123825	-122.282765017	41	---	---
DPN 20-8	2/13/2008			<5.0	---	---
DPN 20-16	2/13/2008			<5.0	---	---
DPN 21-0	2/13/2008	40.427619479	-122.283395250	47	---	---
DPN 21-8	2/13/2008			<5.0	---	---
DPN 21-16	2/13/2008			<5.0	---	---
DPN 22-0	2/13/2008	40.428439561	-122.283682199	5.6	---	---
DPN 22-8	2/13/2008			5.3	---	6.2
DPN 22-16	2/13/2008			<5.0	---	---
DPN 23-0	2/13/2008	40.431548303	-122.284784187	66	2.4	---
DPN 23-8	2/13/2008			11	---	---
DPN 23-16	2/13/2008			<5.0	---	---
DPN 24-0	2/13/2008	40.432340723	-122.285064296	7.6	---	---
DPN 24-8	2/13/2008			<5.0	---	---
DPN 24-16	2/13/2008			<5.0	---	---

TABLE 1
SUMMARY OF SOIL BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	SOLUBLE (WET) LEAD (mg/l)	SOIL pH
DPN 25-0	2/13/2008	40.434795929	-122.285937355	23	---	---
DPN 25-8	2/13/2008			5.7	---	---
DPN 25-16	2/13/2008			<5.0	---	---
DPN 26-0	2/13/2008	40.436237155	-122.286442998	6.7	---	---
DPN 26-8	2/13/2008			<5.0	---	---
DPN 26-16	2/13/2008			5.6	---	---
DPN 27-0	2/13/2008	40.437875686	-122.287021708	66	5.1	6.5
DPN 27-8	2/13/2008			6.6	---	---
DPN 27-16	2/13/2008			5.4	---	---
DPS 28-0	2/13/2008	40.437316404	-122.286910375	100	4.8	6.4
DPS 28-8	2/13/2008			12	---	---
DPS 28-16	2/13/2008			13	---	---
DPS 29-0	2/13/2008	40.436485228	-122.286619936	12	---	---
DPS 29-8	2/13/2008			<5.0	---	---
DPS 29-16	2/13/2008			<5.0	---	---
DPS 30-0	2/13/2008	40.434024472	-122.285774556	91	5.6	---
DPS 30-8	2/13/2008			10	---	---
DPS 30-16	2/13/2008			<5.0	---	---
DPS 31-0	2/13/2008	40.433202877	-122.285474335	17	---	---
DPS 31-8	2/13/2008			<5.0	---	---
DPS 31-16	2/13/2008			5.3	---	---
DPS 32-0	2/13/2008	40.430571528	-122.284533401	91	6.3	---
DPS 32-8	2/13/2008			15	---	---
DPS 32-16	2/13/2008			<5.0	---	---
DPS 33-0	2/13/2008	40.429742069	-122.284261088	20	---	6.0
DPS 33-8	2/13/2008			<5.0	---	---
DPS 33-16	2/13/2008			<5.0	---	---
DPS 34-0	2/13/2008	40.427326528	-122.283409966	110	6.8	---
DPS 34-8	2/13/2008			7.7	---	6.1
DPS 34-16	2/13/2008			<5.0	---	---
DPS 35-0	2/13/2008	40.426418143	-122.283153151	71	3.4	---
DPS 35-8	2/13/2008			5.0	---	---
DPS 35-16	2/13/2008			5.4	---	---
DPS 36-0	2/13/2008	40.423748526	-122.282754825	130	14	---
DPS 36-8	2/13/2008			17	---	---
DPS 36-16	2/13/2008			<5.0	---	---

TABLE 1
SUMMARY OF SOIL BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	SOLUBLE (WET) LEAD (mg/l)	SOIL pH
DPS 37-0	2/13/2008	40.422918772	-122.282633194	26	---	---
DPS 37-8	2/13/2008			<5.0	---	---
DPS 37-16	2/13/2008			6.7	---	---
DPS 38-0	2/13/2008	40.420403388	-122.282275296	77	3.1	---
DPS 38-8	2/13/2008			70	5.7	---
DPS 38-16	2/13/2008			<5.0	---	---
DPS 39-0	2/13/2008	40.419075960	-122.282066482	14	---	---
DPS 39-8	2/13/2008			<5.0	---	5.4
DPS 39-16	2/13/2008			<5.0	---	---
DPS 40-0	2/13/2008	40.416948489	-122.281768387	130	3.3	---
DPS 40-8	2/13/2008			5.9	---	---
DPS 40-16	2/13/2008			6.9	---	---
DPS 41-0	2/13/2008	40.416116556	-122.281654389	25	---	---
DPS 41-8	2/13/2008			<5.0	---	---
DPS 41-16	2/13/2008			6.5	---	---
DPS 42-0	2/13/2008	40.413603982	-122.281273310	25	---	---
DPS 42-8	2/13/2008			66	2.5	---
DPS 42-16	2/13/2008			<5.0	---	---
DPS 43-0	2/13/2008	40.412759593	-122.281139691	24	---	5.9
DPS 43-8	2/13/2008			5.1	---	---
DPS 43-16	2/13/2008			5.5	---	---
DPS 44-0	2/13/2008	40.410215578	-122.280866563	10	---	---
DPS 44-8	2/13/2008			10	---	---
DPS 44-16	2/13/2008			<5.0	---	---
DPS 45-0	2/13/2008	40.409361196	-122.280829809	5.7	---	---
DPS 45-8	2/13/2008			<5.0	---	---
DPS 45-16	2/13/2008			<5.0	---	---
DPS 46-0	2/13/2008	40.406815492	-122.280951643	20	---	---
DPS 46-8	2/13/2008			7.2	---	---
DPS 46-16	2/13/2008			<5.0	---	---
DPS 47-0	2/13/2008	40.405922895	-122.281062182	42	---	---
DPS 47-8	2/13/2008			8.9	---	6.1
DPS 47-16	2/13/2008			7.3	---	---
DPS 48-0	2/13/2008	40.403063577	-122.281726245	130	2.4	---
DPS 48-8	2/13/2008			8.1	---	---
DPS 48-16	2/13/2008			5.5	---	---

TABLE 1
SUMMARY OF SOIL BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	SOLUBLE (WET) LEAD (mg/l)	SOIL pH
DPS 49-0	2/13/2008	40.402272574	-122.281967812	17	---	5.8
DPS 49-8	2/13/2008			<5.0	---	---
DPS 49-16	2/13/2008			<5.0	---	---
DPS 50-0	2/13/2008	40.399755255	-122.282810510	92	4.9	---
DPS 50-8	2/13/2008			7.7	---	---
DPS 50-16	2/13/2008			<5.0	---	---
DPS 51-0	2/13/2008	40.398932010	-122.283075283	7.5	---	---
DPS 51-8	2/13/2008			<5.0	---	---
DPS 51-16	2/13/2008			<5.0	---	6.1
DPS 52-0	2/13/2008	40.396499931	-122.283876640	28	---	---
DPS 52-8	2/13/2008			8.1	---	---
DPS 52-16	2/13/2008			5.7	---	---
DPS 53-0	2/13/2008	40.395664025	-122.284130655	6.4	---	---
DPS 53-8	2/13/2008			6.7	---	---
DPS 53-16	2/13/2008			6.4	---	---

Notes: DPN 1-0
- 0 — Top of sample interval in inches below surface grade
- DPN 1 — Boring Identification

mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
< = Less than the laboratory test method detection limits
--- = Not analyzed
WET = Waste Extraction Test analyzed by EPA Method 7420

TABLE 2
SUMMARY OF TRAFFIC STRIPE PAINT SAMPLE ANALYTICAL RESULTS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	TOTAL LEAD (mg/kg)	SOLUBLE (WET) LEAD (mg/l)	TCLP LEAD (mg/l)	CHROMIUM (mg/kg)
PC 1	2/13/2008	2,900	---	1.5	710
PC 2	2/13/2008	260	0.48	---	64

Notes:
PC 1 = Yellow traffic stripe paint sample identification
mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
WET = Waste Extraction Test analyzed by EPA Method 7420
TCLP = Toxicity Characteristic Leaching Procedure
--- = Not analyzed

TABLE 3
SUMMARY OF STATISTICAL ANALYSIS
COTTONWOOD HILLS TRUCK CLIMBING LANES
INTERSTATE 5 POST MILE 1.2 TO 4.2
SHASTA COUNTY, CALIFORNIA

Total Lead UCLs (mg/kg)

Sample Interval (inches)	90% UCL	95% UCL
0 to 8	55.8	57.7
8 to 16	9.5	10.2
16 to 24	4.0	4.1

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0 to 8 inches	55.8	3.1	57.7	3.2
Underlying Soil (8 to 24 inches)	*6.8*	*0.4*	*7.2*	0.4
0 to 16 inches	32.7	1.8	34.0	1.9
Underlying Soil (16 to 24 inches)	*4.0*	*0.2*	*4.1*	0.2
0 to 24 inches	23.1	1.3	24.0	1.3

Notes:
UCL = Upper Confidence Level
90% UCL applicable for waste classification and onsite reuse
95% UCL applicable for risk assessment and offsite disposal
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope: $y = 0.0553\ x$

APPENDIX A

February 25, 2008

John Juhrend
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
TEL: (916) 852-9118
FAX: (916) 852-9132

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097117

RE: COTTONWOOD HILLS, S9300-06-12

RECEIVED
FEB 2 8 2008
BY: GEOCON

Attention: John Juhrend

Enclosed are the results for sample(s) received on February 15, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

for Eddie F. Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Project: COTTONWOOD HILLS, S9300-06-12
Lab Order: 097117

CASE NARRATIVE

Analytical Comments for Method 6010

Dilution was necessary for sample 097117-160A, due to sample matrix.

RPD for Duplicate (DUP), Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for samples 097117-010ADUP, 097117-070ADUP, 097117-080AMSD, 097117-090ADUP, 097117-100AMSD and 097117-140ADUP; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-001A	DPN 1-0	46	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-002A	DPN 1-8	6.2	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-003A	DPN 1-16	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-004A	DPN 2-0	15	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-005A	DPN 2-8	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-006A	DPN 2-16	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-007A	DPN 3-0	120	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-008A	DPN 3-8	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-009A	DPN 3-16	5.3	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-010A	DPN 4-0	25	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-011A	DPN 4-8	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-012A	DPN 4-16	5.0	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-013A	DPN 5-0	56	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-014A	DPN 5-8	5.9	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-015A	DPN 5-16	5.3	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-016A	DPN 6-0	53	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-017A	DPN 6-8	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-018A	DPN 6-16	ND	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-019A	DPN 7-0	28	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-020A	DPN 7-8	5.4	mg/Kg	43704	5.0	1	2/13/2008	2/20/2008
097117-021A	DPN 7-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-022A	DPN 8-0	66	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-023A	DPN 8-8	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-024A	DPN 8-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-025A	DPN 9-0	27	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-026A	DPN 9-8	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-027A	DPN 9-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-028A	DPN 10-0	22	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-029A	DPN 10-8	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-030A	DPN 10-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-031A	DPN 11-0	87	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-032A	DPN 11-8	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-033A	DPN 11-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-034A	DPN 12-0	38	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-035A	DPN 12-8	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-036A	DPN 12-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-037A	DPN 13-0	140	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-038A	DPN 13-8	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-039A	DPN 13-16	ND	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-040A	DPN 14-0	31	mg/Kg	43705	5.0	1	2/13/2008	2/20/2008
097117-041A	DPN 14-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-042A	DPN 14-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-043A	DPN 15-0	100	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-044A	DPN 15-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-045A	DPN 15-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-046A	DPN 16-0	29	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-047A	DPN 16-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-048A	DPN 16-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-049A	DPN 17-0	36	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-050A	DPN 17-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-051A	DPN 17-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-052A	DPN 18-0	58	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-053A	DPN 18-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-054A	DPN 18-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-055A	DPN 19-0	41	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-056A	DPN 19-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-057A	DPN 19-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-058A	DPN 20-0	41	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-059A	DPN 20-8	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-060A	DPN 20-16	ND	mg/Kg	43706	5.0	1	2/13/2008	2/20/2008
097117-061A	DPN 21-0	47	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-062A	DPN 21-8	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-063A	DPN 21-16	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-064A	DPN 22-0	5.6	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-065A	DPN 22-8	5.3	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-066A	DPN 22-16	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-067A	DPN 23-0	66	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-068A	DPN 23-8	11	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-069A	DPN 23-16	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-070A	DPN 24-0	7.6	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-071A	DPN 24-8	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-072A	DPN 24-16	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-073A	DPN 25-0	23	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-074A	DPN 25-8	5.7	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-075A	DPN 25-16	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-076A	DPN 26-0	6.7	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-077A	DPN 26-8	ND	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-078A	DPN 26-16	5.6	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-079A	DPN 27-0	66	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-080A	DPN 27-8	6.6	mg/Kg	43707	5.0	1	2/13/2008	2/20/2008
097117-081A	DPN 27-16	5.4	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-082A	DPS 28-0	100	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-083A	DPS 28-8	12	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-084A	DPS 28-16	13	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-085A	DPS 29-0	12	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-086A	DPS 29-8	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-087A	DPS 29-16	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-088A	DPS 30-0	91	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-089A	DPS 30-8	10	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-090A	DPS 30-16	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-091A	DPS 31-0	17	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-092A	DPS 31-8	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-093A	DPS 31-16	5.3	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-094A	DPS 32-0	91	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-095A	DPS 32-8	15	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-096A	DPS 32-16	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-097A	DPS 33-0	20	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-098A	DPS 33-8	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-099A	DPS 33-16	ND	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-100A	DPS 34-0	110	mg/Kg	43708	5.0	1	2/13/2008	2/21/2008
097117-101A	DPS 34-8	7.7	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-102A	DPS 34-16	ND	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-103A	DPS 35-0	71	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-104A	DPS 35-8	5.0	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-105A	DPS 35-16	5.4	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-106A	DPS 36-0	130	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-107A	DPS 36-8	17	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-108A	DPS 36-16	ND	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-109A	DPS 37-0	26	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-110A	DPS 37-8	ND	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-111A	DPS 37-16	6.7	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-112A	DPS 38-0	77	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-113A	DPS 38-8	70	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-114A	DPS 38-16	ND	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-115A	DPS 39-0	14	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-116A	DPS 39-8	ND	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-117A	DPS 39-16	ND	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-118A	DPS 40-0	130	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-119A	DPS 40-8	5.9	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-120A	DPS 40-16	6.9	mg/Kg	43709	5.0	1	2/13/2008	2/21/2008
097117-121A	DPS 41-0	25	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-122A	DPS 41-8	ND	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-123A	DPS 41-16	6.5	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-124A	DPS 42-0	25	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-125A	DPS 42-8	66	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-126A	DPS 42-16	ND	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-127A	DPS 43-0	24	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-128A	DPS 43-8	5.1	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-129A	DPS 43-16	5.5	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-130A	DPS 44-0	10	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-131A	DPS 44-8	10	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-132A	DPS 44-16	ND	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-133A	DPS 45-0	5.7	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-134A	DPS 45-8	ND	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-135A	DPS 45-16	ND	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-136A	DPS 46-0	20	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-137A	DPS 46-8	7.2	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-138A	DPS 46-16	ND	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-139A	DPS 47-0	42	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-140A	DPS 47-8	8.9	mg/Kg	43710	5.0	1	2/13/2008	2/21/2008
097117-141A	DPS 47-16	7.3	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-142A	DPS 48-0	130	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-143A	DPS 48-8	8.1	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-144A	DPS 48-16	5.5	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: 2/25/2008

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-145A	DPS 49-0	17	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-146A	DPS 49-8	ND	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-147A	DPS 49-16	ND	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-148A	DPS 50-0	92	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-149A	DPS 50-8	7.7	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-150A	DPS 50-16	ND	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-151A	DPS 51-0	7.5	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-152A	DPS 51-8	ND	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-153A	DPS 51-16	ND	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-154A	DPS 52-0	28	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-155A	DPS 52-8	8.1	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-156A	DPS 52-16	5.7	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-157A	DPS 53-0	6.4	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-158A	DPS 53-8	6.7	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008
097117-159A	DPS 53-16	6.4	mg/Kg	43711	5.0	1	2/13/2008	2/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Date: 2/25/2008

ANALYTICAL RESULTS

pH
EPA 9045C

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	pH	**Analyst:**	CNP

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-003A	DPN 1-16	6.6	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-016A	DPN 6-0	6.6	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-030A	DPN 10-16	6.3	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-031A	DPN 11-0	6.7	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-050A	DPN 17-8	6.2	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-055A	DPN 19-0	6.8	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-065A	DPN 22-8	6.2	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-079A	DPN 27-0	6.5	pH Units	R91410	0.10	1	2/13/2008	2/19/2008
097117-082A	DPS 28-0	6.4	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-097A	DPS 33-0	6.0	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-101A	DPS 34-8	6.1	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-116A	DPS 39-8	5.4	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-127A	DPS 43-0	5.9	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-140A	DPS 47-8	6.1	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-145A	DPS 49-0	5.8	pH Units	R91411	0.10	1	2/13/2008	2/19/2008
097117-153A	DPS 51-16	6.1	pH Units	R91411	0.10	1	2/13/2008	2/19/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *25-Feb-08*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	PC 1
Lab Order:	097117	**Collection Date:**	2/13/2008
Project:	COTTONWOOD HILLS, S9300-06-12	**Matrix:**	SOIL
Lab ID:	097117-160A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_080220A	QC Batch: 43716				PrepDate: 2/19/2008	Analyst: **CL**
Chromium	710	1.0		mg/Kg	1	2/20/2008 09:31 AM
Lead	2900	2.0		mg/Kg	2	2/20/2008 12:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *25-Feb-08*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	PC 2
Lab Order:	097117	**Collection Date:**	2/13/2008
Project:	COTTONWOOD HILLS, S9300-06-12	**Matrix:**	SOIL
Lab ID:	097117-161A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_080220A	QC Batch: 43716				PrepDate: 2/19/2008	Analyst: **CL**
Chromium	64	1.0		mg/Kg	1	2/20/2008 09:37 AM
Lead	260	1.0		mg/Kg	1	2/20/2008 09:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

Date: *25-Feb-08*

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **MB-43716** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91426**
Client ID: **PBS** Batch ID: **43716** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **2/20/2008** SeqNo: **1401149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									
Lead	ND	1.0									

Sample ID: **LCS-43716** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91426**
Client ID: **LCSS** Batch ID: **43716** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **2/20/2008** SeqNo: **1401150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	47.281	1.0	50.00	0	94.6	80	120				
Lead	46.150	1.0	50.00	0	92.3	80	120				

Sample ID: **097145-001ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91426**
Client ID: **ZZZZZZ** Batch ID: **43716** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **2/20/2008** SeqNo: **1401158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.717	1.0						19.57	14.9	20	
Lead	9.444	1.0						9.991	5.63	20	

Sample ID: **097145-001AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91426**
Client ID: **ZZZZZZ** Batch ID: **43716** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **2/20/2008** SeqNo: **1401159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	113.983	1.0	125.0	19.57	75.5	47	122				
Lead	101.347	1.0	125.0	9.991	73.1	37	128				

Sample ID: **097145-001AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91426**
Client ID: **ZZZZZZ** Batch ID: **43716** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **2/20/2008** SeqNo: **1401160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **097145-001AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91426**
Client ID: **ZZZZZZ** Batch ID: **43716** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **2/20/2008** SeqNo: **1401160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	109.133	1.0	125.0	19.57	71.7	47	122	114.0	4.35	20	
Lead	98.493	1.0	125.0	9.991	70.8	37	128	101.3	2.86	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43704A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **PBS** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43704** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **LCSS** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	255.528	5.0	250.0	0	102	80	120				

Sample ID: **097117-010ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **DPN 4-0** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.410	5.0						25.26	100	20	R

Sample ID: **097117-010AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **DPN 4-0** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	253.164	5.0	250.0	25.26	91.2	37	128				

Sample ID: **MB-43704B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **PBS** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-020ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **DPN 7-8** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.257	5.0						5.380	0	20	

Sample ID: **097117-020AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **DPN 7-8** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	232.104	5.0	250.0	5.380	90.7	37	128				

Sample ID: **097117-020AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91461**
Client ID: **DPN 7-8** Batch ID: **43704** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	210.412	5.0	250.0	5.380	82.0	37	128	232.1	9.80	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43705A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **PBS** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43705** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **LCSS** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	241.847	5.0	250.0	0	96.7	80	120				

Sample ID: **097117-030ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **DPN 10-16** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.645	5.0						2.275	0	20	

Sample ID: **097117-030AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **DPN 10-16** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	210.673	5.0	250.0	2.275	83.4	37	128				

Sample ID: **MB-43705B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **PBS** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-040ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **DPN 14-0** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	26.906	5.0						30.62	12.9	20	

Sample ID: **097117-040AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **DPN 14-0** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	239.192	5.0	250.0	30.62	83.4	37	128				

Sample ID: **097117-040AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91462**
Client ID: **DPN 14-0** Batch ID: **43705** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	269.970	5.0	250.0	30.62	95.7	37	128	239.2	12.1	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Geocon Consultants, Inc.
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Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43706A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **PBS** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43706** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **LCSS** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	256.693	5.0	250.0	0	103	80	120				

Sample ID: **097117-050ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **DPN 17-8** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.591	5.0						3.523	0	20	

Sample ID: **097117-050AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **DPN 17-8** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	202.973	5.0	250.0	3.523	79.8	37	128				

Sample ID: **MB-43706B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **PBS** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-060ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **DPN 20-16** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.292	5.0						3.779	0	20	

Sample ID: **097117-060AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **DPN 20-16** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	224.908	5.0	250.0	3.779	88.5	37	128				

Sample ID: **097117-060AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91463**
Client ID: **DPN 20-16** Batch ID: **43706** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	189.312	5.0	250.0	3.779	74.2	37	128	224.9	17.2	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43707A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **PBS** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43707** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **LCSS** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	264.767	5.0	250.0	0	106	80	120				

Sample ID: **097117-070ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **DPN 24-0** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.233	5.0						7.611	37.0	20	R

Sample ID: **097117-070AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **DPN 24-0** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	214.289	5.0	250.0	7.611	82.7	37	128				

Sample ID: **MB-43707B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **PBS** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-080ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **DPN 27-8** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.887	5.0						6.582	11.1	20	

Sample ID: **097117-080AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **DPN 27-8** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	227.595	5.0	250.0	6.582	88.4	37	128				

Sample ID: **097117-080AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91464**
Client ID: **DPN 27-8** Batch ID: **43707** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/20/2008** SeqNo: **1401772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	137.955	5.0	250.0	6.582	52.5	37	128	227.6	49.0	20	R

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43708A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **PBS** Batch ID: **43708** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43708** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **LCSS** Batch ID: **43708** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	275.187	5.0	250.0	0	110	80	120				

Sample ID: **097117-090ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **DPS 30-16** Batch ID: **43708** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.492	5.0						4.769	66.2	20	R

Sample ID: **097117-090AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **DPS 30-16** Batch ID: **43708** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	228.079	5.0	250.0	4.769	89.3	37	128				

Sample ID: **MB-43708B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **PBS** Batch ID: **43708** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-100ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **DPS 34-0** Batch ID: **43708** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	117.661	5.0						113.2	3.84	20	

Sample ID: **097117-100AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **DPS 34-0** Batch ID: **43708** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	316.651	5.0	250.0	113.2	81.4	37	128				

Sample ID: **097117-100AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91465**
Client ID: **DPS 34-0** Batch ID: **43708** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	404.427	5.0	250.0	113.2	116	37	128	316.7	24.3	20	R

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43709A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **PBS** Batch ID: **43709** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43709** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **LCSS** Batch ID: **43709** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	275.874	5.0	250.0	0	110	80	120				

Sample ID: **097117-110ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **DPS 37-8** Batch ID: **43709** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.321	5.0						3.972	0	20	

Sample ID: **097117-110AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **DPS 37-8** Batch ID: **43709** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	215.845	5.0	250.0	3.972	84.7	37	128				

Sample ID: **MB-43709B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **PBS** Batch ID: **43709** TestNo: **EPA 6010B EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-120ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **DPS 40-16** Batch ID: **43709** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6.861	5.0						6.939	1.13	20	

Sample ID: **097117-120AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **DPS 40-16** Batch ID: **43709** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	229.746	5.0	250.0	6.939	89.1	37	128				

Sample ID: **097117-120AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91466**
Client ID: **DPS 40-16** Batch ID: **43709** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1401828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	209.306	5.0	250.0	6.939	80.9	37	128	229.7	9.31	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43710A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **PBS** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43710** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **LCSS** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	260.958	5.0	250.0	0	104	80	120				

Sample ID: **097117-130ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **DPS 44-0** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402451**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.311	5.0						10.15	19.9	20	

Sample ID: **097117-130AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **DPS 44-0** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402452**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	182.035	5.0	250.0	10.15	68.8	37	128				

Sample ID: **MB-43710B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **PBS** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-140ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **DPS 47-8** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	17.593	5.0						8.936	65.3	20	R

Sample ID: **097117-140AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **DPS 47-8** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	220.558	5.0	250.0	8.936	84.6	37	128				

Sample ID: **097117-140AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91500**
Client ID: **DPS 47-8** Batch ID: **43710** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	217.840	5.0	250.0	8.936	83.6	37	128	220.6	1.24	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-43711A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **PBS** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-43711** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **LCSS** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	260.860	5.0	250.0	0	104	80	120				

Sample ID: **097117-150ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **DPS 50-16** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.234	5.0						4.198	0	20	

Sample ID: **097117-150AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **DPS 50-16** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	217.010	5.0	250.0	4.198	85.1	37	128				

Sample ID: **MB-43711B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **PBS** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **097117-159ADUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **DPS 53-16** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.306	5.0						6.400	0	20	

Sample ID: **097117-159AMS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **DPS 53-16** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	197.360	5.0	250.0	6.400	76.4	37	128				

Sample ID: **097117-159AMSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **2/19/2008** RunNo: **91501**
Client ID: **DPS 53-16** Batch ID: **43711** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **2/21/2008** SeqNo: **1402841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	194.474	5.0	250.0	6.400	75.2	37	128	197.4	1.47	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **097091-004ADUP** SampType: **DUP** TestCode: **9045_S** Units: **pH Units** Prep Date: RunNo: **91410**
Client ID: **ZZZZZZ** Batch ID: **R91410** TestNo: **EPA 9045C** Analysis Date: **2/19/2008** SeqNo: **1400796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.250	0.10						7.170	1.11	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **097117-153A DUP** SampType: **DUP** TestCode: **9045_S** Units: **pH Units** Prep Date: RunNo: **91411**
Client ID: **DPS 51-16** Batch ID: **R91411** TestNo: **EPA 9045C** Analysis Date: **2/19/2008** SeqNo: **1400820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.900	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #:
Logged By: Date: 2/15/07

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: GSO

Sample Condition Upon Receipt:
1. CHILLED 12.2 Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
			Margo	2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	097117-001	DPN 1-0	2/13/08	0855											X			X					E	1	ZIP		
	-2	DPN 1-8		0856											X			X						1	ZIP		
	-3	DPN 1-16		0857											X	X		X						1	ZIP		
	-4	DPN 2-0		0904											X			X						1	ZIP		
	-5	DPN 2-8		0905											X			X						1	ZIP		
	-6	DPN 2-16		0906											X			X						1	ZIP		
	-7	DPN 3-0		0914											X			X						1	ZIP		
	-8	DPN 3-8		0915											X			X						1	ZIP		
	-9	DPN 3-16		0916											X			X						1	ZIP		
	-10	DPN 4-0		0921											X			X						1	ZIP		

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube, V=VOA, L=Liter, P=Pint, J=Jar, B=Tedlar, G=Glass, P=Plastic, M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/07

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn: _____
Co: SAME AS ABOVE
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: SAME AS ABOVE
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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Sample/Records - Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON		TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117 - 11	DPN 4-8	2/13/08	0922											X				X						E	1	ZIP	
	- 12	DPN 4-16		0923											X				X							1	ZIP	
	- 13	DPN 5-0		0930											X				X							1	ZIP	
	- 14	DPN 5-8		0931											X				X							1	ZIP	
	- 15	DPN 5-16		0932											X				X							1	ZIP	
	- 16	DPN 6-0		0936											X	X			X							1	ZIP	
	- 17	DPN 6-8		0937											X				X							1	ZIP	
	- 18	DPN 6-16		0938											X				X							1	ZIP	
	- 19	DPN 7-0		0945											X				X							1	ZIP	
	- 20	DPN 7-8		0946											X				X							1	ZIP	

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Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/07

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/12/08	1630
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	2/15/08	900
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	897117 -21	DPN7-16	2/13/08	0947											X			X						E	1	ZIP		
	-22	DPN8-0		0952											X			X							1	ZIP		
	-23	DPN8-8		0953											X			X							1	ZIP		
	-24	DPN8-16		0954											X			X							1	ZIP		
	-25	DPN9-0		1002											X			X							1	ZIP		
	-26	DPN9-8		1003											X			X							1	ZIP		
	-27	DPN9-16		1004											X			X							1	ZIP		
	-28	DPN10-0		1010											X			X							1	ZIP		
	-29	DPN10-8		1011											X			X							1	ZIP		
	-30	DPN10-16		1012											X	X		X							1	ZIP		

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TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/07

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)

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Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON		TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-31	DPN 11-0	2/13/08	1018											X	X		X						E	1	ZIP		
	-32	DPN 11-8		1019											X			X							1	ZIP		
	-33	DPN 11-16		1020											X			X							1	ZIP		
	-34	DPN 12-0		1024											X			X							1	ZIP		
	-35	DPN 12-8		1025											X			X							1	ZIP		
	-36	DPN 12-16		1026											X			X							1	ZIP		
	-37	DPN 13-0		1032											X			X							1	ZIP		
	-38	DPN 13-8		1033											X			X							1	ZIP		
	-39	DPN 13-16		1034											X			X							1	ZIP		
	-40	DPN 14-0		1040											X			X							1	ZIP		

- TAT starts 8AM the following day if samples received after 3 PM

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Container Types: T=Tube. V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

5 of 17

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/07

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON		TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-41	DPN14-8	2/13/08	1041											X				X						E	1	ZIP		
	-42	DPN14-16		1042											X				X							1	ZIP		
	-43	DPN15-0		1052											X				X							1	ZIP		
	-44	DPN15-8		1053											X				X							1	ZIP		
	-45	DPN15-16		1054											X				X							1	ZIP		
	-46	DPN16-0		1100											X				X							1	ZIP		
	-47	DPN16-8		1101											X				X							1	ZIP		
	-48	DPN16-16		1102											X				X							1	ZIP		
	-49	DPN17-0		1107											X				X							1	ZIP		
	-50	DPN17-8		1108											X	X			X							1	ZIP		

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/07

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

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Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
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				2/15/08	900

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Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn: _____
Co: SAME AS ABOVE
Addr: _____
City: State: Zip:

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Attn: _____
Co: SAME AS ABOVE
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-51	DPN17-16	2/13/08	1109											X			X					E	1	ZIP		
	-52	DPN18-0		1114											X			X						1	ZIP		
	-53	DPN18-8		1115											X			X						1	ZIP		
	-54	DPN18-16		1116											X			X						1	ZIP		
	-55	DPN19-0		1121											X	X		X						1	ZIP		
	-56	DPN19-8		1122											X			X						1	ZIP		
	-57	DPN19-16		1123											X			X						1	ZIP		
	-58	DPN20-0		1129											X			X						1	ZIP		
	-59	DPN20-8		1130											X			X						1	ZIP		
	-60	DPN20-16		1131											X			X						1	ZIP		

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Container Types: T=Tube, V=VOA, L=Liter, P=Pint, J=Jar, B=Tedlar, G=Glass, P=Plastic, M=Metal

Preservatives: H=HCl, N=HNO_3, S=H_2SO_4, C=4°C, Z=$Zn(AC)_2$, O=NaOH, T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #:
Logged By: Date: 2/17/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

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Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested — SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON		TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-61	DPN21-0	2/13/08	1136											X				X						E	1	ZIP		
	-62	DPN21-8		1137											X				X							1	ZIP		
	-63	DPN21-16		1138											X				X							1	ZIP		
	-64	DPN22-0		1142											X				X							1	ZIP		
	-65	DPN22-8		1143											X	X			X							1	ZIP		
	-66	DPN22-16		1144											X				X							1	ZIP		
	-67	DPN23-0		1151											X				X							1	ZIP		
	-68	DPN23-8		1152											X				X							1	ZIP		
	-69	DPN23-16		1153											X				X							1	ZIP		
	-70	DPN24-0		1202											X				X							1	ZIP		

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Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

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FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
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2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
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Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
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Co: SAME AS ABOVE
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City: State: Zip:

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Caltrans billing per contract 03A1368

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QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode____ OTHER _____

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	097117-71	DPN 24-8	2/13/08	1203											X				X					E	1	ZIP		
	-72	DPN 24-16		1204											X				X						1	ZIP		
	-73	DPN25-0		1214											X				X						1	ZIP		
	-74	DPN25-8		1215											X				X						1	ZIP		
	-75	DPN25-16		1216											X				X						1	ZIP		
	-76	DPN26-0		1222											X				X						1	ZIP		
	-77	DPN26-8		1223											X				X						1	ZIP		
	-78	DPN26-16		1224											X				X						1	ZIP		
	-79	DPN27-0		1236											X	X			X						1	ZIP		
	-80	DPN27-8		1237											X				X						1	ZIP		

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FOR LABORATORY USE ONLY

P.O. #:
Logged By: f Date: 2/18/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

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Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

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Print Name Date
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Special Instructions/Comments:
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	097117-81	DPN 27-16	2/13/08	1238											X			X					E	1	ZIP		
	-82	DPS 28-0		1255											X	X		X						1	ZIP		
	-83	DPS 28-8		1256											X			X						1	ZIP		
	-84	DPS 28-16		1257											X			X						1	ZIP		
	-85	DPS29-0		1303											X			X						1	ZIP		
	-86	DPS29-8		1304											X			X						1	ZIP		
	-87	DPS29-16		1305											X			X						1	ZIP		
	-88	DPS30-0		1309											X			X						1	ZIP		
	-89	DPS30-8		1310											X			X						1	ZIP		
	-90	DPS30-16		1311											X			X						1	ZIP		

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Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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	097117-91	DPS31-0	2/13/08	JSG #1316											X			X					E	1	ZIP		
	-92	DPS31-8		1317											X			X						1	ZIP		
	-93	DPS31-16		1318											X			X						1	ZIP		
	-94	DPS32-0		1325											X			X						1	ZIP		
	-95	DPS32-8		1326											X			X						1	ZIP		
	-96	DPS32-16		1327											X			X						1	ZIP		
	-97	DPS33-0		1334											X	X		X						1	ZIP		
	-98	DPS33-8		1335											X			X						1	ZIP		
	-99	DPS33-16		1336											X			X						1	ZIP		
	-100	DPS34-0		1340											X			X						1	ZIP		

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FOR LABORATORY USE ONLY

P.O. #:
Logged By: Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	597117-101	DPS34-8	2/13/08	1341											X	X		X					E	1	ZIP		
	-102	DPS34-16		1342											X			X						1	ZIP		
	-103	DPS35-0		1348											X			X						1	ZIP		
	-104	DPS35-8		1349											X			X						1	ZIP		
	-105	DPS35-16		1350											X			X						1	ZIP		
	-106	DPS36-0		1353											X			X						1	ZIP		
	-107	DPS36-8		1354											X			X						1	ZIP		
	-108	DPS36-16		1355											X			X						1	ZIP		
	-109	DPS37-0		1359											X			X						1	ZIP		
	-110	DPS37-8		1400											X			X						1	ZIP		

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube, V=VOA, L=Liter, P=Pint, J=Jar, B=Tedlar, G=Glass, P=Plastic, M=Metal

Preservatives: H=HCl, N=HNO_3, S=H_2SO_4, C=4°C, Z=$Zn(AC)_2$, O=NaOH, T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

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Attention: J. JUHREND
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City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	2/15/08	900
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
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Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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Storage Fees (applies when storage is requested):
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Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON		TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-111	DPS37-16	2/13/08	1401											X			X						E	1	ZIP		
	-112	DPS38-0		M06											X			X							1	ZIP		
	-113	DPS38-8		1407											X			X							1	ZIP		
	-114	DPS38-16		1408											X			X							1	ZIP		
	-115	DPS39-0		1412											X			X							1	ZIP		
	-116	DPS39-8		1413											X	X		X							1	ZIP		
	-117	DPS39-16		1414											X			X							1	ZIP		
	-118	DPS40-0		1419											X			X							1	ZIP		
	-119	DPS40-8		1420											X			X							1	ZIP		
	-120	DPS40-16		1421											X			X							1	ZIP		

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Container Types: T=Tube, V=VOA, L=Liter, P=Pint, J=Jar, B=Tedlar, G=Glass, P=Plastic, M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #:
Logged By: Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

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Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

Circle or Add Analysis(es) Requested; SPECIFY APPROPRIATE MATRIX

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-121	DPS41-0	2/13/08	1426											X			X					E	1	ZIP		
	-122	DPS41-8		1427											X			X						1	ZIP		
	-123	DPS41-16		1428											X			X						1	ZIP		
	-124	DPS42-0		1431											X			X						1	ZIP		
	-125	DPS42-8		1432											X			X						1	ZIP		
	-126	DPS42-16		1433											X			X						1	ZIP		
	-127	DPS43-0		1437											X	X		X						1	ZIP		
	-128	DPS43-8		1438											X			X						1	ZIP		
	-129	DPS43-16		1439											X			X						1	ZIP		
	-130	DPS44-0		1443											X			X						1	ZIP		

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Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

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Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

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Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
			Mary	2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-131	DPS44-8	2/13/08	1444											X			X					E	1	ZIP		
	-132	DPS44-16		1445											X			X						1	ZIP		
	-133	DPS45-0		1449											X			X						1	ZIP		
	-134	DPS45-8		1450											X			X						1	ZIP		
	-135	DPS45-16		1451											X			X						1	ZIP		
	-136	DPS46-0		1455											X			X						1	ZIP		
	-137	DPS46-8		1456											X			X						1	ZIP		
	-138	DPS46-16		1457											X			X						1	ZIP		
	-139	DPS47-0		1503											X			X						1	ZIP		
	-140	DPS47-8		1504											X	X		X						1	ZIP		

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Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

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3275 Walnut Avenue
Signal Hill, CA 90755
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FOR LABORATORY USE ONLY

P.O. #:
Logged By: Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
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Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
				2/15/08	900

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Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
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Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

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QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

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	097117-141	DPS 47-16	2/13/08	1505											X			X					E	1	ZIP		
	-142	DPS 48-0		1513											X			X						1	ZIP		
	-143	DPS 48-8		1514											X			X						1	ZIP		
	-144	DPS 48-16		1515											X			X						1	ZIP		
	-145	DPS 49-0		1520											X	X		X						1	ZIP		
	-146	DPS 49-8		1521											X			X						1	ZIP		
	-147	DPS 49-16		1522											X			X						1	ZIP		
	-148	DPS 50-0		1527											X			X						1	ZIP		
	-149	DPS 50-8		1528											X			X						1	ZIP		
	-150	DPS 50-16		1529											X			X						1	ZIP		

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P.O. #:
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Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
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			Margo	2/15/08	900

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	097117-151	DPS 51-6	2/13/08	1538										X					X						E	1	ZOP		
	-152	DPS 51-8		1539																									
	-153	DPS 51-16		1540											X														
	-154	DPS 52-6		1544																									
	-155	DPS 52-8		1550																									
	-156	DPS 52-16		1551																									
	-157	DPS 53-0		1558																									
	-158	DPS 53-8		1559																									
	-159	DPS 53-16		1660																									
	-160	PC 1		1531													X						X						

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FOR LABORATORY USE ONLY

P.O. #:
Logged By: Date: 2/15/08

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other:

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: J. JUHREND
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: COTTONWOOD HILLS
Project #: S9300-06-12
Sampler: (Printed Name) JOSH EWERT (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
JOSH EWERT	2/14/08	1630	GOLDEN STATE OVERNIGHT	2/14/08	1630
			Margo	2/15/08	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: J. EWERT 2/14/08
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans billing per contract 03A1368

Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TPHd and TPHmo)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SVOCs (8270C)	CHROMIUM (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	PAINT	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	097117-161	PC 2	2/13/08	1534											X			X						X	E	1	ZIP		

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

March 05, 2008

RECEIVED
MAR 10 2008
BY: GEOCON

ACCREDITED IN ACCORDANCE WITH nelac

John Juhrend
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
TEL: (916) 852-9118
FAX: (916) 852-9132

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097117

RE: COTTONWOOD HILLS, S9300-06-12

Attention: John Juhrend

Enclosed are the results for sample(s) received on February 15, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Project: COTTONWOOD HILLS, S9300-06-12
Lab Order: 097117

CASE NARRATIVE

Analytical Comments for Method 7420

Dilution was necessary for sample 097117-106A, due to sample matrix.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: 3/5/2008

ANALYTICAL RESULTS

LEAD BY ATOMIC ABSORPTION (STLC)
WET/ EPA 7420

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	LKN

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-007A	DPN 3-0	5.5	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-013A	DPN 5-0	1.9	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-016A	DPN 6-0	2.5	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-022A	DPN 8-0	3.1	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-031A	DPN 11-0	4.8	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-037A	DPN 13-0	7.3	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-043A	DPN 15-0	7.3	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-052A	DPN 18-0	4.2	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-067A	DPN 23-0	2.4	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-079A	DPN 27-0	5.1	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-082A	DPS 28-0	4.8	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-088A	DPS 30-0	5.6	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-094A	DPS 32-0	6.3	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-100A	DPS 34-0	6.8	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-103A	DPS 35-0	3.4	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-106A	DPS 36-0	14	mg/L	44009	0.50	2	2/13/2008	3/5/2008
097117-112A	DPS 38-0	3.1	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-113A	DPS 38-8	5.7	mg/L	44009	0.25	1	2/13/2008	3/5/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: 3/5/2008

ANALYTICAL RESULTS

LEAD BY ATOMIC ABSORPTION (STLC)
WET/ EPA 7420

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	097117
Project:	COTTONWOOD HILLS, S9300-06-12	**Date Received**	2/15/2008 9:00:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	LKN

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
097117-118A	DPS 40-0	3.3	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-125A	DPS 42-8	2.5	mg/L	44009	0.25	1	2/13/2008	3/5/2008
097117-142A	DPS 48-0	2.4	mg/L	44010	0.25	1	2/13/2008	3/5/2008
097117-148A	DPS 50-0	4.9	mg/L	44010	0.25	1	2/13/2008	3/5/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *05-Mar-08*

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: **MB-44009A** SampType: **MBLK** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **PBS** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **LCS-44009** SampType: **LCS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **LCSS** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.084	0.25	5.000	0	102	80	120				

Sample ID: **097117-079A-DUP** SampType: **DUP** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **DPN 27-0** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.105	0.25						5.078	0.533	20	

Sample ID: **097117-079A-MS** SampType: **MS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **DPN 27-0** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412052**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	10.339	0.50	5.000	5.078	105	80	120				

Sample ID: **MB-44009B** SampType: **MBLK** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **PBS** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: **097117-125A-DUP** SampType: **DUP** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **DPS 42-8** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.489	0.25						2.505	0.631	20	

Sample ID: **097117-125A-MS** SampType: **MS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **DPS 42-8** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	7.064	0.25	5.000	2.505	91.2	80	120				

Sample ID: **097117-125A-MSD** SampType: **MSD** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92015**
Client ID: **DPS 42-8** Batch ID: **44009** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	7.072	0.25	5.000	2.505	91.3	80	120	7.064	0.107	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: **MB-44010A** SampType: **MBLK** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92016**
Client ID: **PBS** Batch ID: **44010** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **LCS-44010** SampType: **LCS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92016**
Client ID: **LCSS** Batch ID: **44010** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.065	0.25	5.000	0	101	80	120				

Sample ID: **097117-148A-DUP** SampType: **DUP** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92016**
Client ID: **DPS 50-0** Batch ID: **44010** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.927	0.25						4.918	0.167	20	

Sample ID: **097117-148A-MS** SampType: **MS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92016**
Client ID: **DPS 50-0** Batch ID: **44010** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412072**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	10.129	0.50	5.000	4.918	104	80	120				

Sample ID: **097117-148A-MSD** SampType: **MSD** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/3/2008** RunNo: **92016**
Client ID: **DPS 50-0** Batch ID: **44010** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/5/2008** SeqNo: **1412073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	10.184	0.50	5.000	4.918	105	80	120	10.13	0.540	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Diane Galvan

From: Gemma Reblando [reblando@geoconinc.com]
Sent: Thursday, February 28, 2008 12:55 PM
To: Diane Galvan
Cc: John Juhrend ; Jeff Pizzi; Josh Ewert
Subject: Results/EDD - Cottonwood Hills (097117)

Hi Diane –
Please analyze the following soil samples for WET soluble lead under standard TAT:

ATL Work Order # 097117

007A
013A
016A
022A
031A
037A
043A
052A
067A
079A
082A
088A
094A
100A
103A
106A
112A
113A
118A
125A
142A
148A

Sincerely,

Gemma Reblando

Project Geologist
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
916.852.9118 Tel
916.852.9132 Fax
916.508.1914 Mobile

March 05, 2008

ACCREDITED IN ACCORDANCE WITH nelac

John Juhrend
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
TEL: (916) 852-9118
FAX: (916) 852-9132

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097117

RE: COTTONWOOD HILLS, S9300-06-12

RECEIVED
MAR 17 2008
BY: GEOCON

Attention: John Juhrend

Enclosed are the results for sample(s) received on February 15, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Feb-08*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	PC 1
Lab Order:	097117	**Collection Date:**	2/13/2008
Project:	COTTONWOOD HILLS, S9300-06-12	**Matrix:**	PAINT
Lab ID:	097117-160A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_080220A	QC Batch: 43716				PrepDate: 2/19/2008	Analyst: **CL**
Chromium	710	1.0		mg/Kg	1	2/20/2008 09:31 AM
Lead	2900	2.0		mg/Kg	2	2/20/2008 12:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Feb-08*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	PC 2
Lab Order:	097117	**Collection Date:**	2/13/2008
Project:	COTTONWOOD HILLS, S9300-06-12	**Matrix:**	PAINT
Lab ID:	097117-161A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_080220A	QC Batch: 43716				PrepDate: 2/19/2008	Analyst: **CL**
Chromium	64	1.0		mg/Kg	1	2/20/2008 09:37 AM
Lead	260	1.0		mg/Kg	1	2/20/2008 09:37 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Diane Galvan

From: Gemma Reblando [reblando@geoconinc.com]
Sent: Wednesday, March 05, 2008 9:10 AM
To: Diane Galvan; Bing Roura
Subject: Results/EDD - Cottonwood Hills (097117)

Hi Diane/Bing –

The lab report dated Feb. 25, 2008 for Work Order # 097117 - Cottonwood Hills, S9300-06-12, listed the matrix as □$B!H□ (BSOIL□$B!I□(B for paint samples PC1 and PC2 (pages 13 and 14). Caltrans requested that we correct this error. Please contact me for any questions. Thanks.

Sincerely,

Gemma Reblando

Project Geologist

Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
916.852.9118 Tel
916.852.9132 Fax
916.508.1914 Mobile

GEOCON

GEOTECHNICAL □$B!|□(B ENVIRONMENTAL □$B!|□(B MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas Portland

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March 11, 2008

John Juhrend
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
TEL: (916) 852-9118
FAX: (916) 852-9132

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097117

RE: COTTONWOOD HILLS, S9300-06-12

RECEIVED
MAR 17 2008
BY: GEOCON

Attention: John Juhrend

Enclosed are the results for sample(s) received on February 15, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

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Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-08*

CLIENT: Geocon Consultants, Inc.
Project: COTTONWOOD HILLS, S9300-06-12
Lab Order: 097117

Lab ID: 097117-160 **Collection Date:** 2/13/2008
Client Sample ID: PC 1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ATOMIC ABSORPTION (TCLP)						
EPA3010A			**EPA 1311/ 7420**			
RunID: AA2_080306B	QC Batch: 44103			PrepDate:	3/6/2008	Analyst: **LKN**
Lead	1.5	0.25		mg/L	1	3/6/2008

Lab ID: 097117-161 **Collection Date:** 2/13/2008
Client Sample ID: PC 2 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ATOMIC ABSORPTION (STLC)						
WET			**WET/ EPA 7420**			
RunID: AA2_080311A	QC Batch: 44084			PrepDate:	3/5/2008	Analyst: **LKN**
Lead	0.48	0.25		mg/L	1	3/11/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: **MB-44084A** SampType: **MBLK** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/5/2008** RunNo: **92215**
Client ID: **PBS** Batch ID: **44084** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/11/2008** SeqNo: **1415540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **LCS-44084** SampType: **LCS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/5/2008** RunNo: **92215**
Client ID: **LCSS** Batch ID: **44084** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/11/2008** SeqNo: **1415541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.081	0.25	5.000	0	102	80	120				

Sample ID: **097117-161A-DUP** SampType: **DUP** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/5/2008** RunNo: **92215**
Client ID: **PC 2** Batch ID: **44084** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/11/2008** SeqNo: **1415543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.419	0.25						0.4826	14.0	20	

Sample ID: **097117-161A-MS** SampType: **MS** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/5/2008** RunNo: **92215**
Client ID: **PC 2** Batch ID: **44084** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/11/2008** SeqNo: **1415544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.049	0.25	5.000	0.4826	91.3	80	120				

Sample ID: **097117-161A-MSD** SampType: **MSD** TestCode: **7420_ST** Units: **mg/L** Prep Date: **3/5/2008** RunNo: **92215**
Client ID: **PC 2** Batch ID: **44084** TestNo: **WET/ EPA 74 WET** Analysis Date: **3/11/2008** SeqNo: **1415545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.051	0.25	5.000	0.4826	91.4	80	120	5.049	0.0409	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: **MB-44103** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **3/6/2008** RunNo: **92057**
Client ID: **PBS** Batch ID: **44103** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **3/6/2008** SeqNo: **1412733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **MB-44081 TCLP** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **3/6/2008** RunNo: **92057**
Client ID: **PBS** Batch ID: **44103** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **3/6/2008** SeqNo: **1412734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **LCS-44103** SampType: **LCS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **3/6/2008** RunNo: **92057**
Client ID: **LCSS** Batch ID: **44103** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **3/6/2008** SeqNo: **1412735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.059	0.25	1.000	0	106	80	120				

Sample ID: **097436-002A-DUP** SampType: **DUP** TestCode: **7420_TC** Units: **mg/L** Prep Date: **3/6/2008** RunNo: **92057**
Client ID: **ZZZZZZ** Batch ID: **44103** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **3/6/2008** SeqNo: **1412741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.051	0.25						0.8813	17.6	20	

Sample ID: **097436-002A-MS** SampType: **MS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **3/6/2008** RunNo: **92057**
Client ID: **ZZZZZZ** Batch ID: **44103** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **3/6/2008** SeqNo: **1412742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.299	0.25	2.500	0.8813	96.7	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

CLIENT: Geocon Consultants, Inc.
Work Order: 097117
Project: COTTONWOOD HILLS, S9300-06-12

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: **097436-002A-MSD** SampType: **MSD** TestCode: **7420_TC** Units: **mg/L** Prep Date: **3/6/2008** RunNo: **92057**
Client ID: **ZZZZZZ** Batch ID: **44103** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **3/6/2008** SeqNo: **1412743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.414	0.25	2.500	0.8813	101	80	120	3.299	3.44	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Diane Galvan

From: Gemma Reblando [reblando@geoconinc.com]
Sent: Wednesday, March 05, 2008 8:58 AM
To: Diane Galvan
Cc: Jeff Pizzi; John Juhrend
Subject: Results/EDD - Cottonwood Hills (097117)

Hi Diane –

ATL Work Order # 097117.

Please analyze paint sample PC1 (160A) for TCLP lead and paint sample PC2 (161A) for WET soluble lead under standard TAT.

Thanks.

Sincerely,

Gemma Reblando

Project Geologist

Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
916.852.9118 Tel
916.852.9132 Fax
916.508.1914 Mobile

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March 24, 2008

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097117

John Juhrend
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
TEL: (916) 852-9118
FAX: (916) 852-9132

RE: COTTONWOOD HILLS, S9300-06-12

Attention: John Juhrend

Enclosed are the results for sample(s) received on February 15, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

for Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *24-Mar-08*

CLIENT: Geocon Consultants, Inc.
Project: COTTONWOOD HILLS, S9300-06-12
Lab Order: 097117

Lab ID: 097117-160 **Collection Date:** 2/13/2008
Client Sample ID: PC 1 **Matrix:** PAINT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ATOMIC ABSORPTION (TCLP)						
EPA3010A			**EPA 1311/ 7420**			
RunID: AA2_080306B	QC Batch: 44103				PrepDate: 3/6/2008	Analyst: **LKN**
Lead	1.5	0.25		mg/L	1	3/6/2008

Lab ID: 097117-161 **Collection Date:** 2/13/2008
Client Sample ID: PC 2 **Matrix:** PAINT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ATOMIC ABSORPTION (STLC)						
WET			**WET/ EPA 7420**			
RunID: AA2_080311A	QC Batch: 44084				PrepDate: 3/5/2008	Analyst: **LKN**
Lead	0.48	0.25		mg/L	1	3/11/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Diane Galvan

From: Gemma Reblando [reblando@geoconinc.com]
Sent: Monday, March 24, 2008 10:44 AM
To: Diane Galvan
Cc: Bing Roura
Subject: Results/EDD - Cottonwood Hills (097117)

Hi Diane:

We received a lab report for STLC/TCLP analyses dated March 11, 2008 for Work Order # 097117 - Cottonwood Hills, S9300-06-12. The sample matrix was listed as □$B!H□(BSOIL□$B!I□(B for paint samples PC1 and PC2 (page 2 of 5). Kindly correct this error. Please contact me for any questions. Thanks.

Sincerely,

Gemma Reblando

Project Geologist

Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
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916.852.9132 Fax
916.508.1914 Mobile

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APPENDIX B

DESCRIPTION OF DATA SET

Project Name:	Cottonwood Hills Truck Climbing Lanes
Project No.:	S9300-06-12
Sample Depth:	0 inch

DATA SET STATISTICS

Number of Valid Samples	53
Number of Unique Samples	41
Minimum	5.6
Maximum	140
Mean	49.10377358
Median	36
Standard Deviation	38.65183328
Variance	1493.964216
Coefficient of Variation	0.787145884
Skewness	0.894875993
Mean of log data	3.541249839
Standard Deviation of log data	0.909649962
90% Non-parametric UCLs	
Standard Bootstrap UCL	55.81346509
95% Non-parametric UCLs	
Standard Bootstrap UCL	57.7222753

DESCRIPTION OF DATA SET

Project Name:	Cottonwood Hills Truck Climbing Lanes
Project No.:	S9300-06-12
Sample Depth:	8 inches

DATA SET STATISTICS

Number of Valid Samples	53
Number of Unique Samples	21
Minimum	2.5
Maximum	70
Mean	7.339622642
Median	2.5
Standard Deviation	12.618094
Variance	159.216285
Coefficient of Variation	1.719175
Skewness	4.437471
Mean of log data	1.508736
Standard Deviation of log data	0.804624
90% Non-parametric UCLs	
Standard Bootstrap UCL	9.481451592
95% Non-parametric UCLs	
Standard Bootstrap UCL	10.2206365

DESCRIPTION OF DATA SET

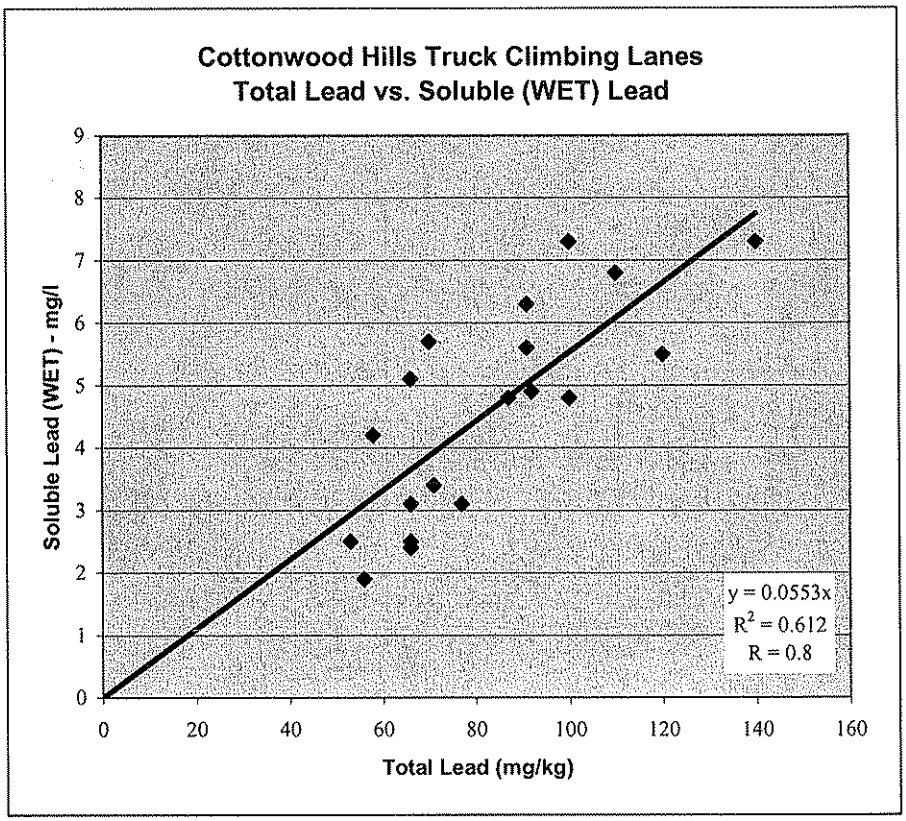
Project Name:	Cottonwood Hills Truck Climbing Lanes
Project No.:	S9300-06-12
Sample Depth:	16 inches

DATA SET STATISTICS

Number of Valid Samples	53
Number of Unique Samples	13
Minimum	2.5
Maximum	13
Mean	3.647169811
Median	2.5
Standard Deviation	2.039005
Variance	4.157540
Coefficient of Variation	0.559065
Skewness	2.295208
Mean of log data	1.186328
Standard Deviation of log data	0.432662
90% Non-parametric UCLs	
Standard Bootstrap UCL	3.994915228
95% Non-parametric UCLs	
Standard Bootstrap UCL	4.105148616

Cottonwood Hills Truck Climbing Lanes
S9300-06-12

Sample ID	Total Lead	WET Lead
DPS 48-0	130	2.4
DPS 40-0	130	3.3
DPN 5-0	56	1.9
DPN 23-0	66	2.4
DPS 42-8	66	2.5
DPS 38-0	77	3.1
DPN 3-0	120	5.5
DPN 8-0	66	3.1
DPN 6-0	53	2.5
DPS 35-0	71	3.4
DPS 28-0	100	4.8
DPN 13-0	140	7.3
DPS 50-0	92	4.9
DPN 11-0	87	4.8
DPS 30-0	91	5.6
DPS 34-0	110	6.8
DPS 32-0	91	6.3
DPN 18-0	58	4.2
DPN 15-0	100	7.3
DPN 27-0	66	5.1
DPS 38-8	70	5.7
DPS 36-0	130	14



ASBESTOS SURVEY

Cottonwood Hills Truck Climbing Lanes
Shasta County, California

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 2
P.O. BOX 496073
REDDING, CALIFORNIA

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON PROJECT NO. S9300-06-12
TASK ORDER NO. 12, EA NO. 02-371001

MARCH 2008

GEOCON
CONSULTANTS, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S

Project No. S9300-06-12
March 5, 2008

Jeff Pizzi, Task Order Manager
Caltrans – District 2
1657 Riverside Drive
Redding, California 96049

Subject: COTTONWOOD HILLS TRUCK CLIMBING LANES PROJECT
INTERSTATE 5 IN SHASTA COUNTY, CALIFORNIA
CONTRACT NO. 03A1368
TASK ORDER NO. 12, EA NO. 02-371001
ASBESTOS SURVEY REPORT

Dear Mr. Pizzi:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 12, we have performed an asbestos survey for the subject project in Shasta County, California. The scope of services included surveying four bridges for suspect asbestos-containing materials, collecting bulk samples, and submitting the samples to a laboratory for analysis.

The accompanying report summarizes the services performed and laboratory analysis.

The contents of this report reflect the views of Geocon Consultants, Inc., who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if you have questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

David A. Watts, CAC
Senior Project Scientist

John E. Juhrend, PE, CEG
Project Manager

DAW:JEJ:jaj

(5 + 3 CDs) Addressee

3160 Gold Valley Drive, Suite 800 ■ Rancho Cordova, California 95742 ■ Telephone (916)852-9118 ■ Fax (916)852-9132

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- 1.2 General Objectives 1

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1. Summary of Asbestos Results

APPENDIX
A. Analytical Laboratory Reports and Chain-of-custody Documentation

ASBESTOS SURVEY REPORT

1.0 INTRODUCTION

This asbestos survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 03A1368, Task Order No. 12 (TO-12).

1.1 Project Description

The project includes construction of one additional lane in the median in both the northbound and southbound directions and widening two bridges (06-0038R and 06-0139L) on Interstate 5 (I-5) in Shasta County, California. The project limits are depicted on the Vicinity Map, Figure 1. We performed asbestos survey activities of Bridges 06-0038R and 06-0139L at the project location.

1.2 General Objectives

The purpose of the scope of services outlined in TO-12 was to determine the presence and quantity of asbestos at the project location prior to I-5 improvement activities. Caltrans will use the information obtained from this investigation for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos disturbance activities.

2.0 BACKGROUND

2.1 Asbestos

The *Code of Federal Regulations (CFR),* 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or
- Category I material that has become friable; or

- Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be followed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Architectural Drawings and Previous Survey Activities

Bridge architectural plans and previous survey reports were not available for our review.

3.0 SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2008), performed the asbestos survey at the project location on February 13, 2008.

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for condition (evidence of deterioration, physical damage, and water damage) and friability. A total of 15 bulk asbestos samples of suspect materials were collected.

Our procedures for inspection and sampling in accordance with TO-12 are discussed below:

- Collected bulk asbestos samples after first wetting friable material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. When multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a 10-workday turn-around-time.

Bridge and sample group identification numbers, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on the Site Plan, Figure 2. Materials represented by the samples collected are shown in the attached photographs.

4.0 INVESTIGATIVE RESULTS

A summary of the analytical laboratory test results for asbestos is presented on Table 1. The laboratory analyses indicated the following:

Chrysotile asbestos at a concentration of 5% was detected in samples representing approximately one square foot of nonfriable thread compound used on the Bridge 06-0038R barrier rails.

Chrysotile and crocidolite asbestos at concentrations totaling 40% was detected in samples representing approximately 100 square feet of nonfriable sheet packing used on the south abutment of Bridge 06-0038R.

Chrysotile asbestos at a concentration of 70% was detected in samples representing approximately 50 square feet of nonfriable cementitious drainpipe used on Bridge 06-0038R.

Chrysotile and crocidolite asbestos at concentrations totaling 60% was detected in a sample representing approximately 20 square feet of nonfriable sheet packing used on the Bridge 06-0038R barrier rails.

Chrysotile asbestos at a concentration of 60% was detected in samples representing approximately 20 square feet of nonfriable sheet packing used on the Bridge 06-0139L barrier rails.

No asbestos was detected in samples of the remaining suspect materials collected.

5.0 RECOMMENDATIONS

Based on the analytical test results, we recommend that asbestos-containing cementitious drainpipe (a Category II nonfriable/nonhazardous material) used on Bridge 06-0038R be removed and disposed of by a licensed demolition contractor registered with Cal/OSHA for asbestos-related work (or by a licensed and certified asbestos abatement contractor) prior to any activities that would disturb the material.

NESHAP regulations do not require that asbestos-containing sheet packing and thread compound (Category I nonfriable/nonhazardous materials) identified during our survey be removed prior to demolition or treated as hazardous waste. However, the disturbance of these materials is still covered by the Cal/OSHA asbestos standard. We recommend that a licensed demolition contractor registered with Cal/OSHA for asbestos-related work (or a licensed and certified asbestos abatement contractor) perform demolition activities if the asbestos-containing materials identified during our survey are left in-place during demolition.

Contractors are responsible for informing the landfill of the contractor's intent to dispose of hazardous and/or asbestos wastes. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

Geocon also recommends the notification of contractors (that will be conducting renovation, demolition, or related activities) of the presence of asbestos in their areas (i.e., provide the contractor[s] with a copy of this report and a list of asbestos removed by asbestos abatement contractor[s] during subsequent abatement activities). Contractors should be instructed not to disturb asbestos during their work.

Written notification to U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not). For notification instructions, please see the following internet link: *http://www.arb.ca.gov/enf/asbestos/asbestosform.htm.*

6.0 REPORT LIMITATIONS

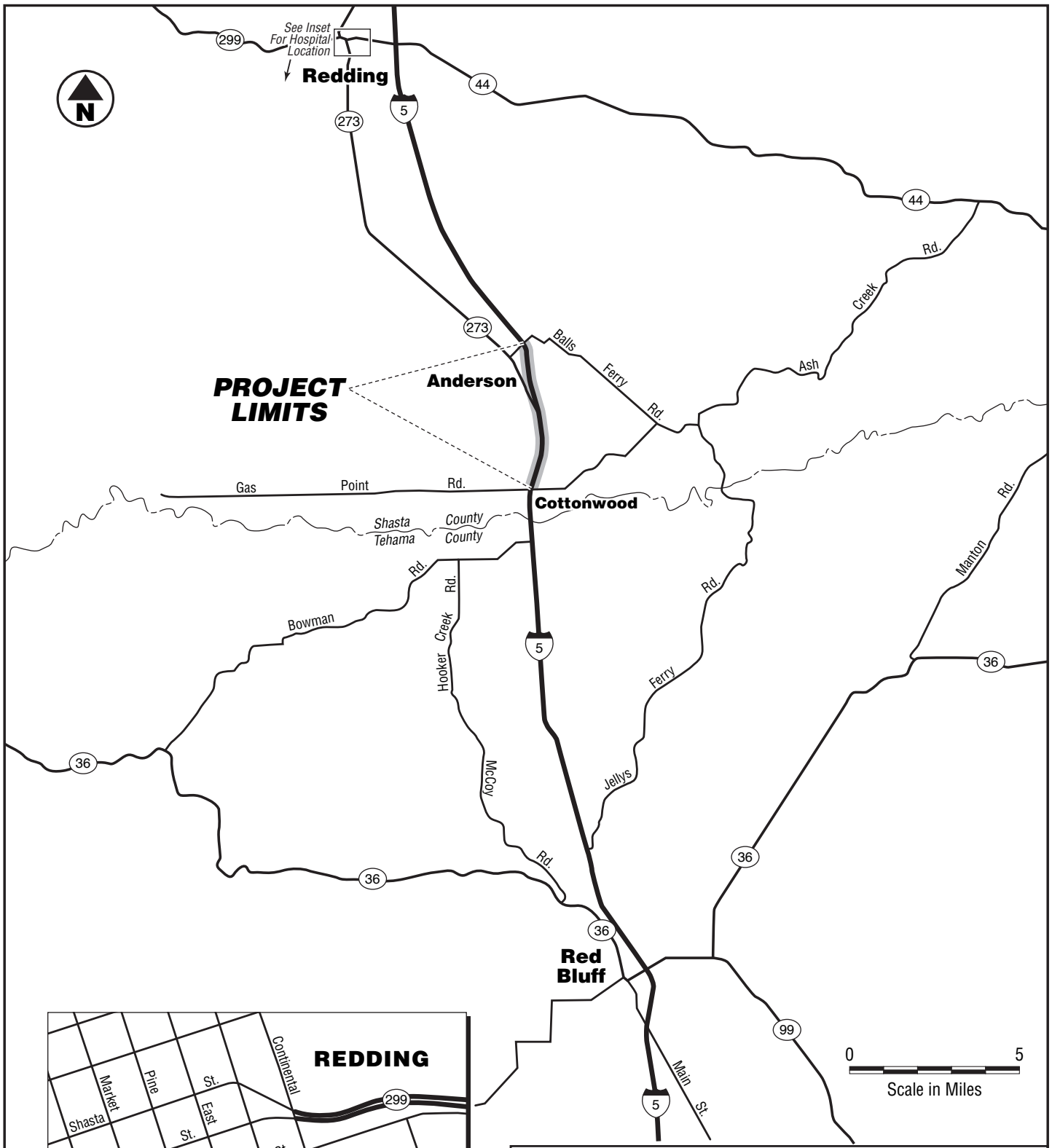
This asbestos survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos in structures. The survey addressed only the structures identified in Section 1.1. Due to the nature of structure surveys, asbestos use, and laboratory analytical limitations, some ACM at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases, may have been concealed to Geocon's investigator. Previous renovation work may have concealed or covered spaces or materials, or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos may exist in areas of the structures that were not accessible or sampled in conjunction with this TO.

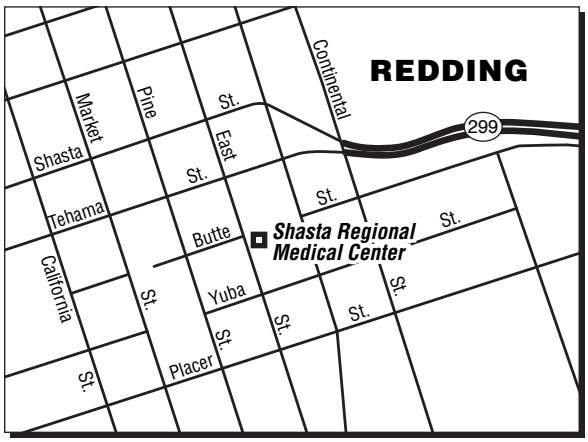
During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM are found, additional sampling and analysis should be performed to determine if the materials contain asbestos.

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.





GEOCON
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PHONE 916 852-9118 – FAX 916 852-9132

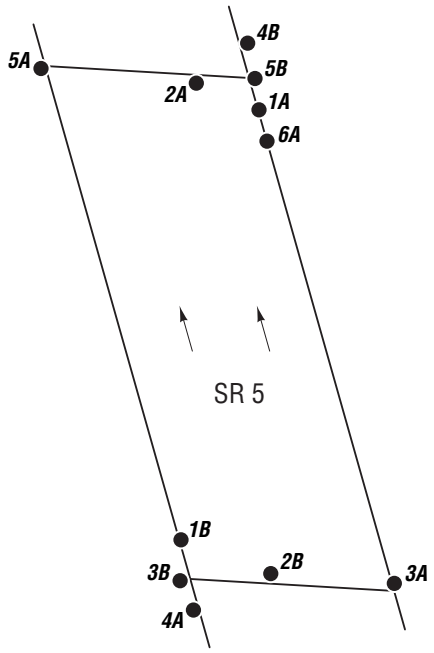
Cottonwood Hills Truck Climbing Lanes

Shasta County, California

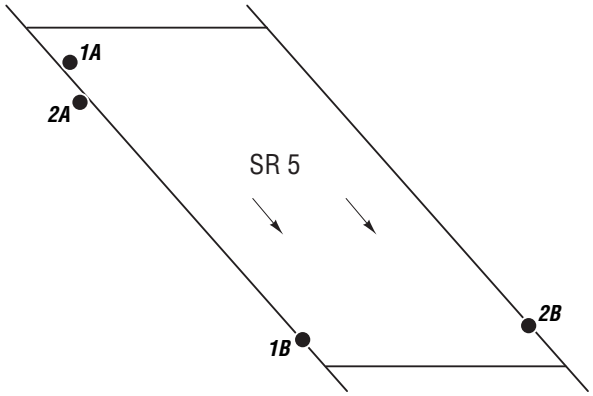
GEOCON Proj. No. S9300-06-12

VICINITY MAP

Task Order No. 12 | March 2008 | Figure 1



BRIDGE 06-0038R



BRIDGE 06-0139L

NO SCALE

LEGEND:

- Approximate Asbestos Sample Location

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Cottonwood Hills Truck Climbing Lanes		
Shasta County, California	**SITE PLAN**	
GEOCON Proj. No. S9300-06-12		
Task Order No. 12	March 2008	Figure 2

Photo 1 – Bridge 06-0038R

Photo 2 – Bridge 06-0038R deck joint (non-suspect)

Photo 3 – Bridge 06-0038R thread compound

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PHOTOGRAPHS 1, 2, & 3		
Cottonwood Hills Truck Climbing Lanes Shasta County, California		
S9300-06-12	Task Order No. 12	March 2008

Photo 4 – Bridge 06-0038R drainpipe

Photo 5 – Bridge 06-0038R south abutment joint

Photo 6 – Bridge 06-0038R north abutment joint

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PHOTOGRAPHS 4, 5, & 6		
Cottonwood Hills Truck Climbing Lanes Shasta County, California		
S9300-06-12	Task Order No. 12	March 2008

Photo 7 – Bridge 06-0038R barrier rail shims

Photo 8 – Bridge 06-0038R bearing

Photo 9 – Bridge 06-0139L

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PHOTOGRAPHS 7, 8, & 9		
Cottonwood Hills Truck Climbing Lanes Shasta County, California		
S9300-06-12	Task Order No. 12	March 2008

Photo 10 – Bridge 06-0139L deck joint

Photo 11 – Bridge 06-0139L bearing rail shims

Photo 12 – Bridge 06-0139L abutment

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PHOTOGRAPHS 10, 11, & 12		
Cottonwood Hills Truck Climbing Lanes Shasta County, California		
S9300-06-12	Task Order No. 12	March 2008

TABLE 1
SUMMARY OF ASBESTOS RESULTS
INTERSTATE 5 COTTONWOOD HILLS TRUCK CLIMBING LANES PROJECT
CALTRANS CONTRACT 03A1368, TASK ORDER NO. 12, EA 02-371001
SHASTA COUNTY, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Bridge No.	Sample Group No.	Description of Material	Approximate Quantity	Friable	Site Photos	Asbestos Concentration
06-0038R	**0038R-1**	**Thread compound**	**1 square foot**	**No**	**3**	**5%**
	0038R-2	**Sheet packing (south abutment/span joint)**	**100 square feet**	**No**	**5**	**40%**
	0038R-3	**Cementitious drainpipe**	**50 square feet**	**No**	**4**	**70%**
	0038R-4	Expansion joint material (abutments)	NA	NA	5 & 6	ND
	0038R-5	Expansion joint material (north abutment/span joint)	NA	NA	6	ND
	0038R-6	**Sheet packing (barrier rail shims)**	**20 square feet**	**No**	**7**	**60%**
06-0139L	0139L-1	Expansion joint material	NA	NA	10	ND
	0139L-2	**Sheet packing (barrier rail shims)**	**20 square feet**	**No**	**11**	**60%**

Notes:

NA = Not applicable (no asbestos detected)

ND = Not detected

APPENDIX A

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: milpitaslab@emsl.com

Attn: **David Watts**
Geocon Consultants
6671 Brisa Street
Livermore, CA 94550

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **S9300-06-12, SR5, Shasta County**

Customer ID: GECN21
Customer PO:
Received: 02/14/08 10:00 AM
EMSL Order: 090801114

EMSL Proj:
Analysis Date: 2/28/2008
Report Date: 2/29/2008

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
0038R-1A, Thread compound *090801114-0001*		Gray Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
0038R-1B, Thread compound *090801114-0002*		Gray Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
0038R-2A, Sheet PKG, so abutment, span *090801114-0003*		Gray Fibrous Homogeneous		60% Non-fibrous (other)	**35% Chrysotile** **5% Crocidolite**
0038R-2B, Sheet PKG, so abutment, span *090801114-0004*		Gray Fibrous Homogeneous		60% Non-fibrous (other)	**35% Chrysotile** **5% Crocidolite**
0038R-3A, Cementitious pipe *090801114-0005*		White Fibrous Homogeneous		30% Non-fibrous (other)	**70% Chrysotile**
0038R-3B, Cementitious pipe *090801114-0006*		White Fibrous Homogeneous		30% Non-fibrous (other)	**70% Chrysotile**

Analyst(s)

Rui Cindy Geng (15)

RECEIVED
MAR 19 2008
BY: GEOCON

Baojia Ke, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.Samples received in good condition unless otherwise noted.

Analysis performed by EMSL San Leandro (NVLAP #101048-3)

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: milpitaslab@emsl.com

Attn: **David Watts**
Geocon Consultants
6671 Brisa Street
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Fax: (925) 371-5915 Phone: (925) 371-5900

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EMSL Proj:
Analysis Date: 2/28/2008
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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos %	Type
0038R-4A, EJM, abutments, head wall *090801114-0007*		Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)		**None Detected**
0038R-4B, EJM, abutments, head wall *090801114-0008*		Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)		**None Detected**
0038R-5A, EJM, no abutment span *090801114-0009*		Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)		**None Detected**
0038R-5B, EJM, no abutment spanB *090801114-0010*		Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)		**None Detected**
0038R-6A, Sheet packing, barrier rail shims *090801114-0011*		Gray Non-Fibrous Homogeneous			40%	Non-fibrous (other)	**58%** **2%**	**Chrysotile** **Crocidolite**
0139L-1A, EJM, deck span *090801114-0012*		Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)		**None Detected**

Analyst(s)

Rui Cindy Geng (15)

Baojia Ke, Laboratory Manager
or other approved signatory

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Report Date: 2/29/2008

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
0139L-1B, EJM, deck span *090801114-0013*		Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)		**None Detected**
0139L-2A, Sheet packing, barrier rail shims *090801114-0014*		Gray Non-Fibrous Homogeneous			40%	Non-fibrous (other)	**60%**	**Chrysotile**
0139L-2B, Sheet packing, barrier rail shims *090801114-0015*		Gray Non-Fibrous Heterogeneous			40%	Non-fibrous (other)	**60%**	**Chrysotile**

Analyst(s)

Rui Cindy Geng (15)

Baojia Ke, Laboratory Manager
or other approved signatory

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Analysis performed by EMSL San Leandro (NVLAP #101048-3)

THIS IS THE LAST PAGE OF THE REPORT.

Chain of Custody Form

Analyze sample sets until positive: ☐ Yes ☒ No

Project No.: 39300-06-12
Client Name: GEOCON
Analytical Fee (per sample): $ PLM
Date(s) Inspected: 13 FEB 2008
Report Results to: D. WATTS
Office Location: LIVERMORE
Other Comments: 10-DAY TAT
Consultants Ph. #: (925) 371-5900
Consultants Fax #: (925) 371-5915
Site Name: SR 5
Building No. —
Site Address: SHASTA COUNTY

Material Code	Site No.	[redacted]	Material Link No.	A	B	C	D	E	F	G	H	I	J	K	Not Sampled	Material Description
		0038R	1	X	X											THREAD COMPOUND
			2	X	X											SHEET PKG - SO. ABUTMENT/SPAN
			3	X	X											CEMENTITIOUS PIPE
			4	X	X											EJM - ABUTMENT/HEADWALL
			5	X	X											EJM - NO. ABUTMENT/SPAN
			6	X												SHEET PACKING - BARRIER RAIL SHIMS
		0139L	1	X	X											EJM - DECK/SPAN
			2	X	X											SHEET PACKING - BARRIER RAIL SHIMS

Relinquished by: Print Name: D. WATTS Signature: [signature] Date/Time: 13 FEB 2008 1606
Received by: Print Name: Signature: UPS Date/Time: 13 FEB 2008 1600

Relinquished by: Print Name: Signature: Date/Time:
Received by: Print Name: M. A. Signature: [signature] Date/Time: 2/14/08 10am

Flooring
CFT = Ceramic floor tile grout/mastic (M)
F = Floor material-Generic(M)
FMAS = Floor mastic(M)
FT = Vinyl composite tile floor (M)
FS = Vinyl composite sheet floor (M)
FLC = Floor leveling compound (M)
TERR = Terrazzo flooring (M)

Wall/Ceiling/Other
ACOU = Textured acoustical (sprayed) (S)
BBM = Baseboard mastic (M)
CM = Ceiling (unspecified type) (M)
CS = Ceiling (unspecified type) (S)
CP = Ceiling panel - Lay-in (M)
CMAS = Ceiling mastic (M)
CT = Ceiling tile - Splined or nailed (M)
CTG = Ceiling tile - Glued (M)
CWT = Ceramic wall tile grout & mastic(M)
DEBM = Debris (unspecified) (M)
DEBS = Debris (unspecified) (S)
DEBT = Debris (unspecified) (TSI)
DOOR = Door core insulation - Fire door (M)
OFM = Other friable material (M)
OFS = Other friable material (S)
ONFM = Other nonfriable material (M)
ONFS = Other nonfriable materials (S)
PL = Plaster (wall or ceiling) (S)
SHR = Sheetrock (no joint compound) (M)
SHRJC = Sheetrock with joint compound (M)
STUC = Stucco (S)
FP = Structural fireproofing (S)
TRAN = Transite panel (M)
TX = Surface texturing on walls/ceiling (S)
WM = Wall (unspecified type) (M)
WS = Wall (unspecified type) (S)
WT = Wall tile - Splined or nailed (M)
WTG = Wall tile - Glued on (M)

Piping/TSI
FI = Fitting insulation (type not specified) (TSI)
FICHW = Fitting - Chilled water system (TSI)
FICON = Fitting - Condensate (TSI)
FIDCW = Fitting - Domestic cold water (TSI)
FIDHW = Fitting - Domestic hot water (TSI)
FIHHW = Fitting - Heating hot water (TSI)
FISTM = Fitting - Steam (TSI)
DI = Duct insulation (TSI)
DTAPE = HVAC - Duct joint tape/compound (M)
DFLEX = HVAC - Flexible duct/flex duct joint (M)
DFLUE = Mech. equipment - Flue insulation (TSI)
MGSKT = Mech. equipment-Gasket (M)
MTANK = Mech. equipment-Tank insulation (TSI)
PI = Pipe insulation (type not specified) (TSI)
PICHW = Pipe insulation-Chilled water system (TSI)
PICON = Pipe insulation-Condensate (TSI)
PIDCW = Pipe insulation-Domestic cold water (TSI)
PIDHW = Pipe insulation-Domestic hot water (TSI)
PIHHW = Pipe insulation-Heating hot water (TSI)
PISTM = Pipe insulation-Steam (TSI)
PTRAN = Pipe-Transite (M)

Roofing
RF = Roofing material (M)
RFAG = Asphalt and gravel (M)
RFAT = Asphalt roof tile (M)
RFFLS = Flashing (M)
RFFLT = Felt material (M)
RFMAS = Penetration mastic (M)
RFROL = Rolled sheet type (M)
RTRAN = Transite shingle (M)

(M) = Miscellaneous material
(S) = Surfacing material
(TSI) = Thermal System Insulation

13