Contract No. 01- 491404
Co. Del Norte Rte 101 PM 39.6/43.7

INFORMATION HANDOUT

PERMITS

DEL NORTE COUNTY COASTAL GRADING PERMIT

MATERIALS INFORMATION

AERIALLY DEPOSITED LEAD AND TRAFFIC STRIPE PAINT
SITE INVESTIGATION REPORT

OPTIONAL DISPOSAL SITE

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County of Del Norte
Engineering and Surveying
981 H Street Suite 110
Crescent City, CA 95531
(707) 464-7229

Grading Permit Application

Assessor's Parcel Number _____

Property Owner: CA Department of Transportation **Applicant/Agent (if different):** Amber Kelley, Assoc Env Planner

Address: PO Box 496073, Redding, CA 96049-6073 **Phone Number:** (530) 225-3510 **Fax Number:** (530) 225-3019

Project Description (include general description and reason for application): This project proposes to reduce the number and severity of accidents on a segment of SR 101 in Del Norte County. This will be achieved by widening the existing 2-foot shoulders to 4-feet from postmile (PM) 41.0 to 42.25, and installing ground-in rumble strips on the centerline and shoulders from PM 39.6 to 43.7. Metal beam guardrail will be installed on the existing concrete box culverts located at PM 41.69 and 42.00. All work will be conducted within the State right of way.

Attach a scaled site map showing all property lines, grading area, roads, structures, ditches, fences, swales, etc.

Approximate depth of cut and/or fill: 2.1 Feet
Approximate area to be graded: 51,536 Square Feet
Approximate quantity of material: 107,200 Cubic Feet
Removal of vegetation only: _____ Yes ___X___ No

NOTICES

1) Any work conducted after issuance of this permit but prior to the end of the appeal period is at the applicant's risk.
2) Issuance of this permit does not authorize any work which will violate the provisions of any recorded or unrecorded covenants, conditions, restrictions, or easements. The permit holder is solely responsible for determining the existence of such covenants, conditions, restrictions, or easements.

AFFIDAVIT

I declare under penalty of perjury that this application and all the foregoing is true and correct.

Signed: Amber Kelley Date: January 21, 2010

APPROVALS

Division	Required	Not Required	Approved By	Date
Planning				
In Coastal Zone?	✓	CGP2010-07-C approved by [illegible]		4/7/2010
Building				
Engineering	✓		[illegible]	4/7/2010

PERMIT FEES

Grading Permit Fee $
Plan Check Fee $4,585.00 pd 1/25/10 #272147
Inspection Fee $
Total Fees $

Permit Issued By: ART RESCHKE Date Issued: 4/7/2010 Permit Number: 2010-07 G
Date Project Completed: _____

#272147 $760.00 1/25/10 MJL

County of Del Norte

Community Development Department
Engineering and Surveying Division
981 H Street, Suite 110
Crescent City, Ca 95531
(707) 464-7229

Grading Permit Conditions – California Department of Transportation (Caltrans)

CONDITIONS OF PERMIT:

1) This permit is for a coastal grading permit for shoulder widening Route 101 from Mile Post (MP) 41.0 to MP 42.25, installing rumble strips along the centerline and shoulder from MP 39.6 to MP 43.7 and install metal beam guardrail at MP 41.69 and MP 42.0 in the Smith River Area in Del Norte County;
2) All excess material removed from the project area shall be transported and disposed of at a permitted site. Any material removed from the project and transported to an unpermitted site shall invalidate this Coastal Grading Permit;
3) All work shall be completed in accordance with project description and plans submitted to the Del Norte County Community Development Department;
4) The applicant is responsible for obtaining any other required permits from other agencies. Copies of final permits shall be submitted to the County of Del Norte prior to construction activity;
5) The applicant shall be on notice that it is the policy of the County of Del Norte that, should any archaeological resources be found during any excavation activities, work shall be halted until an evaluation of the find is made either by a qualified archaeologist or a representative of the local Rancheria; and
6) This entitlement is specifically conditioned on the applicant agreeing to indemnify and hold harmless the County of Del Norte, the Planning Commission of the County of Del Norte, the Board of Supervisors of the County of Del Norte, their officers, employees and agents against any and all claims arising out of the issuance of the entitlement and specifically against any expense arising from defending any legal action challenging the issuance of the entitlement, including but not limited to the value of time devoted to such defense by County officers, employees and agents and the amount of any judgment, including costs of suit and attorney fees, recovered against the County or any of its officers, employees or agent in such legal action. The County of Del Norte reserves the option to either undertake the defense of any such legal action or to tender such defense to the applicant. Should the County tender such defense to the applicant and the applicant fail or neglect to diligently defend such legal action, the County may consider such failure or neglect to be a material breach of this conditions and forthwith revoke this entitlement.

Acceptance of Conditions: Amber Kelley 4-7-10
Signature of Applicant Date

Conditions Drafted By: 4-7-10
Art Reeve, County Engineer Date

Project No. S9300-06-119
March , 2010

Mr. Steve Werner
California Department of Transportation - District 1
PO Box 3700
Eureka, California 95501

Subject: STATE ROUTE 101 (DN-101) PM 39.6 TO 43.7 RUMBLE STRIPS PROJECT
DEL NORTE COUNTY, CALIFORNIA
CONTRACT NO. 03A1368
TASK ORDER NO. 119, EA 01-491400
AERIALLY DEPOSITED LEAD AND TRAFFIC STRIPE PAINT
SITE INVESTIGATION REPORT

Dear Mr. Werner:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order Number 119, and Expense Authorizations 01-491400, Geocon Consultants, Inc. has performed environmental engineering services for the subject project. The Site consists of Caltrans right-of-way along State Route 101 from Post Mile 39.6 to 43.7 in Del Norte County, California. The accompanying report summarizes the services performed, including the advancement of 32 hand-auger borings for shallow soil sampling, traffic stripe paint sampling, and laboratory testing.

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

GGR:JEJ:krh

(5 + 5 CDs) Addressee

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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 State Route 101 (DN-101) Post Mile (PM) 39.6 to 43.7 Rumble Strips Project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order (TO) Number 119, and Expense Authorization (EA) 01-491400.

1.1 Project Description and Proposed Improvements

The project area consists of Caltrans right-of-way along the northbound (NB) and southbound (SB) shoulders of DN-101 from approximate PM 39.6 to 43.7 (the Site) in Del Norte County, California. Proposed improvements include roadway widening for construction of rumble strips along a 2.4-mile-long portion of DN-101. The approximate project locations are depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2-1 through 2-5.

1.2 General Objectives

The purpose of the scope of services outlined in TO No. 119 was to evaluate whether impacts due to ADL from motor vehicle exhaust exist in the surface and near surface soils within the project boundaries and to determine whether the yellow traffic stripe paint on the roadway contains lead. The investigative results will be used by Caltrans to inform the construction contractor(s) if lead-impacted soil and lead-containing paint are present within the project boundaries for construction worker health and 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 historic emissions from vehicles formerly powered by leaded gasoline.

2.2 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 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. 119:

3.1 Pre-field Activities

- Prepared a *Health and Safety Plan* dated February 15, 2010, 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 NB and SB shoulders of DN-101 between PM 39.6 and 43.7. On February 17 and 18, 2010, 72 soil samples were collected from 32 hand-auger borings at the Caltrans designated soil sampling locations. The soil borings were excavated to an approximate maximum sampling depth of 2.0 feet. Soil samples were collected at approximate depth intervals of 0.0 to 1.0 foot and 1.0 to 2.0 feet.

We also collected three yellow traffic stripe paint samples at the Caltrans designated sampling locations.

4.0 INVESTIGATIVE METHODS

4.1 Boring and Paint Sample Location Rationale

The soil boring locations were designated by Caltrans in the vicinity of proposed improvements. Borings 1E through 16E were advanced along the shoulder of northbound DN-101. Borings 1W through 16W were advanced along the shoulder of southbound DN-101. The approximate soil boring locations are depicted on Figures 2-1 through 2-5.

The traffic stripe paint samples were collected at locations designated by Caltrans within the proposed construction area. The yellow traffic stripe paint samples (101-PS1 through 101-PS3) were collected from the yellow centerline of DN-101. The approximate paint sample locations are depicted on Figures 2-1 and 2-5.

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 3.3 feet. The latitude and longitude of the boring locations are summarized in Table 1.

4.2 Soil Sampling Procedures

A total of 64 soil samples were collected from 32 hand-auger borings excavated at the Site. The soil samples were collected and transferred directly from the hand-auger 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.

Quality assurance/quality control (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 borings were backfilled with the excess soil cuttings. The decontamination water was discharged to the ground surface away from surface water bodies or storm drain inlets.

4.3 Paint Sampling Procedures

The traffic stripe paint samples were collected using a hammer to break a chip off the traffic stripe paint. The paint samples were placed in Ziploc® re-sealable plastic bags, 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

The soil and paint samples collected within the project boundaries were submitted to ATL for laboratory analyses under expedited 48-hour turn-around-time (TAT). The laboratory was instructed to homogenize the soil samples prior to analysis for lead in accordance with Contract 03A1368 requirements.

- Sixty-four soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.
- Twenty soil samples with total lead concentrations greater than or equal to 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) were further analyzed for WET and DI-WET soluble lead by EPA Test Method 7420.
- Five soil samples with total lead concentrations greater than or equal to 100 mg/kg (twenty times the TCLP value for lead of 5.0 mg/l) were further analyzed for TCLP soluble lead by EPA Test Method 1311.
- Three traffic stripe paint samples were analyzed for total lead following EPA Test Method 6010B.
- Eleven randomly selected soil samples were analyzed for soil pH following EPA Test Method 9045.

4.6 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 reporting 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 Soil Conditions

Soil encountered during the excavation of borings was generally comprised of road base materials consisting of gravels and cobbles with silt and clay to an approximate depth of 1.0 foot and underlain by silty clay to the maximum sampling depth of approximately 2.0 feet. Groundwater was not encountered in the soil borings.

5.2 ADL Soil Analytical Results

Total lead was detected in each of the 64 soil samples at concentrations ranging from 5.9 to 170 mg/kg. Twenty of the 64 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 20 soil samples analyzed at concentrations ranging from 1.5 to 8.8 mg/l. Three of the 20 soil samples had WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l. DI-WET soluble lead was not reported for the 20 soil samples analyzed.

TCLP soluble lead was only reported for one of the five soil samples analyzed at a concentration of 0.38 mg/l.

Soil pH values ranged from 6.0 to 7.8.

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

5.3 Paint Sample Analytical Results

Total lead was reported for yellow traffic stripe paint samples 101-PS1, 101-PS2 and 101-PS3 at concentrations of 1.1, 1.6 and 2.1 mg/kg, respectively, less than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

The analytical results of the paint samples are summarized on Table 2. The 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. Relative percent difference for Duplicate (DUP) was outside criteria for samples 110301-050ADUP, 110302-008ADUP and 110348-001ADUP. However, the analytical batch was validated by the Laboratory Control Sample. 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 the 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.* The bootstrap results are included in Appendix B. The calculated UCLs and statistical results are summarized in the table below:

SAMPLE INTERVAL (feet)	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)
0.0 to 1.0	68.9	71.4	60.7	5.9	170
1.0 to 2.0	30.8	32.1	25.9	6.2	82

5.5.2 Correlation of Total and Soluble Lead

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

To estimate the degree of interrelation between total and corresponding WET soluble 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 (x, y) data points (i.e., soil samples analyzed for both total lead [x] and WET soluble lead [y]) and equaled 0.8395, which indicates a good correlation between total lead and WET soluble lead data. To achieve an acceptable correlation, the total and WET soluble lead data from samples 2E-0-1 (110, 8.8), 3E-0-1 (130, 3.4), 4W-0-1 (82, 6.0), 6W-0-1 (110, 2.2) and 13E-0-1 (95, 1.8) were excluded from the regression analysis. The excluded total and WET soluble lead data have the highest squared residual WET soluble lead values (presented in Appendix B). Consequently, excluding these data points from the regression yields an acceptable *correlation coefficient* greater than 0.8.

For the *correlation coefficient* that indicates a linear relationship between total and WET soluble 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 $y = 0.0422(x)$, where x represents total lead concentrations and y represents predicted WET soluble lead 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 6.0.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Hazardous waste classification based on the 90% UCL is considered sufficient to satisfy a good faith effort as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, 90% UCLs are to be used to evaluate onsite reuse, and 95% UCLs are to be used to evaluate offsite reuse or disposal.

Based on the TCLP soluble lead results of less than 5.0 mg/l, soil generated at the Site will not require disposal as a RCRA hazardous waste. 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."

6.1 ADL Soil Waste Classification/Disposal

The table below summarizes the excavation scenarios, the UCL-predicted WET soluble lead calculations and the waste classification for excavated soil at the Site based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

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
0.0 to 1.0 foot	68.9	2.9	71.4	3.0	Non-hazardous
Underlying soil (1.0 to 2.0 feet)	30.8	1.3	32.1	1.4	Non-hazardous
0.0 to 2.0 feet	49.9	2.1	51.8	2.2	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal
Predicted WET lead concentrations were calculated using the equation of the regression line: $y = 0.0422x$

Based on the data presented in the table above, soil excavated to a depth of 2.0 feet or shallower would not be classified as a California hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are less than the STLC value for lead of 5.0 mg/l. Consequently, soil excavated to a depth of 2.0 feet or shallower can be reused onsite or disposed of as non-hazardous soil with respect to lead content.

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 analytical results of the traffic stripe paint will be used by Caltrans to provide contractors with preliminary analytical data of the traffic stripe paint.

Total lead was detected in the yellow traffic stripe paint samples (101-PS1, 101-PS2 and 101-PS3) collected at the Site at concentrations of 1.1, 1.6 and 2.1 mg/kg, respectively. Thus, the yellow traffic stripe paint will not require disposal as a California hazardous waste since the total lead concentrations are less than 50 mg/kg (i.e. ten times the STLC value for lead of 5.0 mg/l).

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 Lead Compliance 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.

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.

TABLE 1
SUMMARY OF BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
STATE ROUTE 101 (DN-101) POST MILE 39.6 TO 43.7 RUMBLE STRIPS PROJECT
DEL NORTE COUNTY, CALIFORNIA

SAMPLE ID	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
1E-0-1	41.934646752	-124.168763020	34	---	---	---	---
1E-1-2			37	---	---	---	6.4
1W-0-1	41.934548285	-124.168799515	14	---	---	---	---
1W-1-2			27	---	---	---	---
2E-0-1	41.935046756	-124.170397236	110	**8.8**	<0.25	0.38	7.0
2E-1-2			82	1.5	<0.25	---	---
2W-0-1	41.934962740	-124.170449868	43	---	---	---	---
2W-1-2			32	---	---	---	---
3E-0-1	41.935605951	-124.172148350	130	3.4	<0.25	<0.25	---
3E-1-2			8.9	---	---	---	---
3W-0-1	41.935518519	-124.172188765	84	3.7	<0.25	---	6.4
3W-1-2			15	---	---	---	---
4E-0-1	41.936244789	-124.173717910	43	---	---	---	---
4E-1-2			18	---	---	---	---
4W-0-1	41.936160757	-124.173775011	82	**6.0**	<0.25	---	7.0
4W-1-2			64	2.7	<0.25	---	---
5E-0-1	41.936840129	-124.175075108	56	2.5	<0.25	---	---
5E-1-2			18	---	---	---	6.3
5W-0-1	41.936756822	-124.175136567	40	---	---	---	---
5W-1-2			59	3.2	<0.25	---	---
6E-0-1	41.937268442	-124.176059863	50	2.2	<0.25	---	---
6E-1-2			38	---	---	---	---
6W-0-1	41.937176851	-124.176099619	110	2.2	<0.25	<0.25	---
6W-1-2			26	---	---	---	---
7E-0-1	41.937883314	-124.177460579	69	3.8	<0.25	---	---
7E-1-2			79	2.6	<0.25	---	6.3
7W-0-1	41.937795839	-124.177505114	39	---	---	---	---
7W-1-2			15	---	---	---	---
8E-0-1	41.938425099	-124.178690426	41	---	---	---	---
8E-1-2			33	---	---	---	---
8W-0-1	41.938339309	-124.178743237	35	---	---	---	---
8W-1-2			13	---	---	---	---
9E-0-1	41.938872980	-124.179703685	100	3.7	<0.25	<0.25	7.8
9E-1-2			26	---	---	---	---
9W-0-1	41.938787155	-124.179754391	94	3.8	<0.25	---	6.2
9W-1-2			37	---	---	---	---

TABLE 1
SUMMARY OF BORING COORDINATES, LEAD AND SOIL pH ANALYTICAL RESULTS
STATE ROUTE 101 (DN-101) POST MILE 39.6 TO 43.7 RUMBLE STRIPS PROJECT
DEL NORTE COUNTY, CALIFORNIA

SAMPLE ID	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
10E-0-1	41.939375461	-124.180850686	40	---	---	---	---
10E-1-2			15	---	---	---	---
10W-0-1	41.939290843	-124.180915871	170	**7.6**	<0.25	<0.25	---
10W-1-2			15	---	---	---	---
11E-0-1	41.939923108	-124.182096091	77	3.1	<0.25	---	---
11E-1-2			8.1	---	---	---	---
11W-0-1	41.939850463	-124.182169860	74	2.5	<0.25	---	---
11W-1-2			65	3.5	<0.25	---	6.0
12E-0-1	41.940540059	-124.183494646	23	---	---	---	---
12E-1-2			6.2	---	---	---	---
12W-0-1	41.940448295	-124.183541558	40	---	---	---	---
12W-1-2			11	---	---	---	---
13E-0-1	41.941131328	-124.184863540	95	1.8	<0.25	---	7.2
13E-1-2			7.3	---	---	---	---
13W-0-1	41.941052191	-124.184914111	44	---	---	---	---
13W-1-2			8.6	---	---	---	---
14E-0-1	41.941755905	-124.186287435	34	---	---	---	---
14E-1-2			8.6	---	---	---	---
14W-0-1	41.941675448	-124.186323233	89	4.8	<0.25	---	---
14W-1-2			8.1	---	---	---	---
15E-0-1	41.942395131	-124.187751187	26	---	---	---	6.0
15E-1-2			6.9	---	---	---	---
15W-0-1	41.942318218	-124.187801497	22	---	---	---	---
15W-1-2			16	---	---	---	---
16E-0-1	41.943025959	-124.189083219	5.9	---	---	---	---
16E-1-2			9.9	---	---	---	---
16W-0-1	41.942927775	-124.189148132	29	---	---	---	---
16W-1-2			16	---	---	---	---

Notes: 1E-0-1
Sample depth interval in feet
Boring identification
mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
< = Less than the laboratory reporting limit
--- = Not analyzed
WET = Waste Extraction Test using citric acid
DI-WET = Waste Extraction Test using de-ionized water
TCLP = Toxicity Characteristic Leaching Procedure
Concentrations in **bold** type are greater than or equal to the Soluble Threshold Limit Concentration value for lead of 5.0 mg/l

OPTIONAL DISPOSAL SITE
for
01-491401

Caltrans Storage Facility
1805 Elk Valley Road
Crescent City, CA

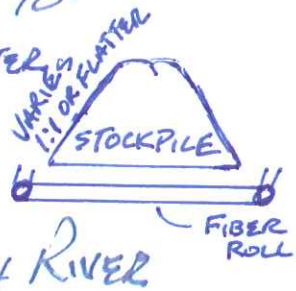
Materials Information: For 3900 cubic yards of excess roadway excavation

DISPOSAL/STORAGE SITE
1805 ELK VALLEY RD
CRESCENT CITY, CA

DISTANCE TO JOBSITE: 13 MILES

STOCKPILE: 3900 CY
EST. DIMENSIONS OF PILE
100' X 100' X 10'

PLACE FULL PERIMETER FIBER ROLL AT BASE OF STOCKPILE



PROJECT NAME: SMITH RIVER RUMBLE STRIP & SHOULDER WIDEN
LOCATION: 01-DN PM 39.6/43.7
EA: 01-49404