Supplemental Hazardous Materials Survey

Barton Road Bridge Removal and Road Construction
Project No. BRLS-5065(024); Bridge No. 54C-0379
Barton Road, West of Grand Terrace Road
Colton and Grand Terrace, San Bernardino County, CA

January 21, 2021
Terracon Project No. CB175228

Prepared for:
CNS Engineers, Inc.
Riverside, California

Prepared by:
Terracon Consultants, Inc.
Tustin, California

January 21, 2021

CNS Engineers, Inc.
11870 Pierce Street, Suite 265
Riverside, California 92505

Attn: Mr. Steve Hosford
E: steve.hosford@cnseng.com

RE: Supplemental Asbestos and Lead Survey
Barton Road Bridge
Barton Road and Grand Terrace Road
Colton, California 92313
Terracon Project No. CB175228

Dear Mr. Hosford:

Terracon Consultants, Inc. (Terracon) is pleased to present the findings of the supplemental asbestos and lead survey performed on December 15, 2020 at the above referenced site. This survey was conducted in general accordance with CNS Engineering, Inc. Subconsultant Agreement dated May 24, 2019. We understand that this survey was requested due to the planned demolition of the bridge and the section of Barton Road between South Terrace Avenue and Grand Terrace Road.

Terracon appreciates the opportunity to provide this service to CNS Engineers, Inc. If you have any questions regarding this report, or if you need assistance with project oversight and sampling during demolition of this site, please contact the undersigned at (949) 383-1976.

Sincerely,
Terracon Consultants, Inc.

Mark Korte, CAC
Project Manager

For Kenneth Pilgrim, CAC
Environmental Department Manager

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SUPPLEMENTAL HAZARDOUS MATERIALS SURVEY REPORT
Barton Road Bridge
Barton Road and Grand Terrace Road
Colton, California 92313

Terracon Project No. CB175228

January 20, 2021

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted a supplemental asbestos and lead survey of the above referenced site located at Barton Road and Grand Terrace Road in Colton, California on December 15, 2020. An initial survey of the site was conducted on August 6, 2019 by a State of California Certified Site Surveillance Technician (CSST) and California Department of Public Health (CDPH) certified lead inspector/assessor in general accordance with CNS Engineering, Inc. Subconsultant Agreement dated May 24, 2019.

A supplemental survey was necessary since certain suspect materials were not feasible to sample during the initial survey due to the lack of traffic control. The initial report can be found in Appendix D.

1.1 Project Objective

We understand an asbestos survey was requested due to the planned demolition of the above-mentioned section of Barton Road. EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation or demolition activities. The asbestos NESHAP requires that potentially regulated ACM (RACM) be identified, classified and quantified prior to planned disturbances or demolition activities.

The lead and chromium sampling was requested due to historical use of lead and chromium in traffic lane paints and thermoplastic striping (PTS). The detectable concentrations of lead chromate in the PTS applied to roadways would classify the waste generated as hazardous.

2.0 SITE DESCRIPTION

The site consists of an approximately 1,100-foot length of an asphalt-paved, two-lane road, that spans the approximate distance between Grand Terrace Road (east of the site) and South Terrace Avenue (west of the site). The site is improved with the Barton Road Bridge (Bridge No. 54C-0379), approximately 175 feet long by 25 feet wide, which was originally built in 1936 (on the central portion of the site), over a former abandoned railroad track (removed) and Union Pacific right-of-way, sidewalks (shutdown due to safety concerns), and easements (along the northern and southern perimeters of the site), and utilities.

3.0 FIELD ACTIVITIES

The supplemental survey was conducted on December 15, 2020, by Mr. Mark Korte, a California Division of Occupational Safety and Health (DOSH) – Certified Site Surveillance Asbestos Consultant and a CDPH Lead Sampling Technician. Copies of Mr. Korte's certifications are attached in Appendix C. A summary of the field activities is described below.

3.1 Visual Assessment

Terracon began the supplemental survey with a visual assessment, identification and inventory of readily visible and accessible homogeneous areas of suspect ACM and suspect lead and chromium-containing paints. A homogeneous area consists of building materials that appear similar throughout in terms of color and texture. The assessment was limited to visually accessible materials. Building materials identified as glass (includes fiberglass), wood, masonry, metal, plastic were not considered suspect ACM.

3.2 Physical Assessment

Asbestos

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the EPA as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

Lead and Chromium Paint

A physical assessment of paint and coatings on the road section was conducted to determine its condition. The painted surfaces were assessed as intact, fair or damaged condition depending on degree of damage.

3.3 Sample Collection

Asbestos

Based on results of the visual observation, Terracon collected bulk samples of suspect ACM in general accordance with AHERA sampling protocols. Samples of the suspect ACM were collected using wet methods, where applicable, to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers.

During the supplemental survey, Terracon collected three (3) bulk samples from one (1) homogeneous area (HA) of suspect ACM, mastic under the street reflectors. The asbestos survey material summary is in Section 3.4.

Lead and Chromium Paint

For the supplemental lead and chromium paint survey, Terracon collected one (1) sample from the yellow paint strip in the center of the road for analysis by inductively coupled plasma (ICP), EPA Method 6010B. The lead and chromium and paint sample summary is Section 3.4.

3.4 Sample Analysis

Asbestos

Samples of suspect ACM were delivered under chain-of-custody protocol to EMLab P&K (EMLab) of Irvine, California. EMLab is a laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) under the National Institute of Standards and Technology (NIST) for analysis by polarized light microscopy (PLM). The percentage of asbestos, where applicable, was determined by microscopical visual estimation. Copies of the analytical report and chain-of-custody form is provided in Appendix A.

The NESHAP, states that asbestos bulk samples that contain less than 10% asbestos as determined by visual PLM analysis are to be subsequently analyzed by point counting or accepted as asbestos containing. Consistent with the NESHAP, the EPA has clarified that results of point counting supersede visual PLM results.

Below is a summary of the findings from the survey activities conducted on November 5, 2020.

Table I
Asbestos Bulk Sample Results

HA	Material	Material Location(s)	Result	NESHAP Classification	Condition	Square Feet
Main Building – Recreation Center						
01	Black Mastic Under Traffic Reflectors	Yellow Center Line on Road	ND (None Detected)	N/A	Good	5

* N/A = Not Applicable, CH = Chrysotile

Lead and Chromium in Paint

The sample for lead and chromium paint associated with the yellow traffic line was delivered under proper chain-of-custody to Eurofins Calscience Irvine in Irvine, California. Eurofins is an Environmental Lead Laboratory Accreditation Program (ELLAP) accredited laboratory. The paint

sample was analyzed by EPA Method 6010B using inductively coupled plasma (ICP). Copies of the analytical report and chain-of-custody form is provided in Appendix A.

The results and sample summary for the sampling conducted on December 15, 2020 can be found below:

Table II
Lead and Chromium Sample Results

Sample Number	Color/Type	Substrate	Sample Location	Condition	Result (ppm)
Lead					
01	Yellow Paint	Asphalt	Center Road Paint Stripe	Intact	3.9
Chromium					
01	Yellow Paint	Asphalt	Center Road Paint Stripe	Intact	6.7

< = Below the Laboratory Limit of Detection

4.0 REGULATORY OVERVIEW

Asbestos

As a consequence of the health hazard from inhalation of asbestos fibers, a body of federal and state regulations has been developed. Federal regulations pertaining to asbestos are included in AHERA (US EPA 40 CFR 763); NESHAP (EPA 40 CFR 61); OSHA Asbestos Standards (29 CFR 1910.1001 and 29 CFR 1926.1101), and ASHARA (Asbestos School Hazard Abatement Reauthorization Act). Many states have additional requirements including state-specific licensing and certification. In California, these regulations include, but are not limited to: Cal/OSHA in Title 8, Sections 1529 and 5208 and the South Coast Air Quality Management District (SCAQMD) Rule 1403.

The federal asbestos NESHAP standard (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. NESHAP also requires the identification and classification of asbestos removal in the South Coast Air Quality Management District. Under NESHAP, ACM are classified as either friable (regulated ACM), Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACM includes packings, gaskets, resilient floor coverings and asphalt roofing products containing more than 1% asbestos. Category II non-friable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, along with Category I and Category II non-friable ACM, which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered regulated ACM (RACM).

Building materials confirmed to be ACM through the collection of bulk sampling and subsequent laboratory analysis, or presumed ACM, must be removed prior to intentional disturbance during planned renovation/demolition activities. Asbestos abatement must be conducted by Cal/OSHA-accredited workers and registered asbestos abatement contractors. Third-party air monitoring is recommended during abatement activities.

Cal/OSHA requires that only properly licensed and certified asbestos abatement contractors are allowed to remove ACM. As per NESHAP, all RACM shall be removed from a facility being demolished or renovated before any non-burning demolition or renovation begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. According to SCAQMD, if more than 100 square feet of any ACM is to be stripped, removed, dislodged, cut, drilled, or similarly disturbed, or for any demolition, the asbestos abatement contractor or facility owner must submit an Asbestos Notification of Demolition and Renovation form to SCAQMD along with the appropriate fees within at least 10 working days prior to the scheduled asbestos removal activity or demolition start date. Planned renovations that do not meet the definition of 'demolition or renovation of a facility' per SCAQMD and where no ACM exists do not require notification to SCAQMD.

The federal OSHA Asbestos standard for construction (29 CFR 1926.1101) and the Cal/OSHA asbestos standard for general industry and the construction industry (CCR Title 8, Sections 5208 and 1529, respectively) regulate workplace exposure to asbestos. Both the federal OSHA and Cal/OSHA standards require that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers per cubic centimeter of air (0.1 f/cc) as an eight-hour time weighted average. The federal OSHA and Cal/OSHA standards classifies construction and maintenance activities which could disturb ACM and specifies work practices and precautions which employers must follow when engaging in each class of regulated work. However, workers who deliberately disturb any amount of asbestos should have pertinent training and wear proper personal protective equipment according to federal and state regulatory requirements (i.e., Cal/OSHA 8 CCR 1529 (g) (1) through (9) for Class I, II and III work).
Asbestos containing construction materials (ACCM) is a term developed by Cal/OSHA out of concern for non-hazardous building materials used inside and outside a building that contain less than 1% asbestos. The definition of ACCM includes any manufactured building material that has more than one-tenth of 1% (>0.1%) asbestos content. The SCAQMD requires point counting of friable samples of ACM at concentrations of less than 10% to determine more accurately the content of asbestos and proper classification of the material for proper abatement and disposal requirements. Alternatively, materials may be presumed as ACMs. If the material is less than one

tenth of 1%, the material is not regulated by the EPA however Cal/OSHA worker protection regulations apply if any asbestos is detected.

Lead Paint

The Resource Conservation and Recovery Act (RCRA) gave the USEPA authority to regulate the waste status of demolition and renovation debris, including lead-containing materials. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leaching Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). EPA exempts from most RCRA requirements those generators whose combined hazardous waste generation is less than 100 kilograms (kg) per month.

Detectable lead quantities may constitute a lead dust hazard during renovation/demolition activities. Personnel performing renovation/demolition activities that may disturb painted components with concentrations of lead above the designated analytical detection limit should comply with all current OSHA regulations in order to minimize employee exposure. OSHA regulates construction activities that disturb lead-containing material regardless of the concentration. Currently, any proposed renovation/demolition is subject to the OSHA regulations (29 CFR 1926.62 – Lead Exposure in Construction).

In California, the lead standard was adopted by Cal-OSHA as Title 8 CCR, Section 1532.1 (Occupational Lead Poisoning Prevention Program). The California Department of Public Health also regulates accreditations, certifications and work practices for activities involving lead-containing materials under Title 17 CCR. The federal and Cal-OSHA regulations define specific training requirements, engineering controls and working practices for construction personnel subject to this standard. Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA Lead Exposure in Construction standard.

Contractors and employers are required to comply with 29 CFR 1926.62 and Title 8 CCR 1532.1. Construction work covered by federal and Cal-OSHA standards includes any repair or renovation activities or other activities that disturb in-place lead-containing materials. Employers must assure that no employee will be exposed to lead at concentrations greater than 50 micrograms per cubic meter ($\mu g/m^3$) averaged over an eight-hour period without adequate protection. The Federal and California OSHA Standards also establish an action level of 30 $\mu g/m^3$, which if exceeded, triggers the requirement for medical monitoring.

Proper waste stream categorization is required for the disposal of all lead containing materials and painted construction debris with total lead content that exceeds 50 ppm. The debris should be classified as hazardous waste if lead waste concentrations exceed either the total lead concentration or soluble lead concentration regulatory limits. Total lead concentration is determined

by Total Threshold Limit Concentration (TTLC). Soluble or leachable lead is determined by the Soluble Threshold Limit Concentration (STLC, California required test) and/or Toxicity Characteristic Leaching Procedure (TCLP) (Federal EPA required test). Regulatory limits characterize a lead waste as a hazardous waste if lead concentrations exceed 1,000 ppm by TTLC or 5 milligrams per liter by STLC or TCLP.

The above overview is not intended to be inclusive of all potentially pertinent regulatory information. The relevant EPA and OSHA standards should be consulted prior to undertaking activities involving the demolition, renovation, or maintenance of ACMs or surfaces coated with lead paints.

Chromium in Paint

Similar to the use of lead paint, chrome yellow (containing lead chromate) was used as the primary yellow pigment in traffic lane paints and thermoplastic striping. In California, lead chromate traffic striping has been phased out of traffic paint between 1997 and 2000 and was phased out from thermoplastic striping by 2004. The concentrations of lead chromate in the traffic lane paints and thermoplastic striping applied to roadways is considered hazardous waste. During construction activities, chromium is considered to have potential to impact the environment and workers on site, as well as affect disposal methods.

5.0 FINDINGS AND CONCLUSIONS

Asbestos

Asbestos was not detected in the samples collected.

Should suspect materials other than those which were identified during the initial and supplemental survey be uncovered prior to or during the renovation and demolition, those materials should be assumed asbestos-containing until sampling and analysis can confirm or refute the asbestos content.

Lead-Containing and Chromium Paint

Based on the results of laboratory analysis, the sampled material was found to contain a lead concentration above the laboratory limit of detection and is considered lead-containing paint (LCP). Additional lead-based paints (LBP) and LCP are listed in the Initial Pre-Demolition Hazardous Materials Survey report, which can be found in Appendix D.

Based on the laboratory analysis, the sampled material was found to contain chromium in concentrations above the laboratory limit of detection.

Solubility testing (STLC) of the paint should be conducted for the chromium prior to disposal to determine if the waste is hazardous. STLC is not required for lead since the total concentration of lead detected in the sampled collected is not above 50 ppm.

The laboratory results and chain of custody for the suspect lead and chromium paint sample can be found in Appendix A.

6.0 GENERAL COMMENTS

This supplemental survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the buildings. The information contained in this report is relevant to the date on which this survey was performed and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by CNS Engineering, Inc. for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.

APPENDIX A

ASBESTOS, LEAD, & CHROMIUM LABORATORY ANALYTICAL LABORATORY DATA
(From the samples collected on 12/15/20)

eurofins | EMLab P&K

Report for:

Mark Korte, Danish Mansoor
Terracon Consultants, Inc. - Tustin, CA
1421 Edinger Ave
suite C
Tustin, CA 92780

Regarding: Project: CB175228; Barton Rd/Grand Terrace Rd, Colton, CA
EML ID: 2541475

Approved by:

Approved Signatory
Danny Li

Dates of Analysis:
Asbestos PLM: 12-17-2020

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200757-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EMLab P&K
17461 Derian Ave, Suite 100, Irvine, CA 92614
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Mark Korte, Danish Mansoor
Re: CB175228; Barton Rd/Grand Terrace Rd, Colton,
CA

Date of Sampling: 12-15-2020
Date of Receipt: 12-15-2020
Date of Report: 12-18-2020

ASBESTOS PLM REPORT

Total Samples Submitted:	3
Total Samples Analyzed:	3
Total Samples with Layer Asbestos Content > 1%:	0

Location: 1-MS5-1, Black Mastic Under Reflectors, Center Line of Bridge-Middle Lab ID-Version‡: 12112816-1

Sample Layers	Asbestos Content
Black Mastic	ND
Sample Composite Homogeneity:	Good

Location: 1-MS5-2, Black Mastic Under Reflectors, Center Line of Bridge-East Lab ID-Version‡: 12112817-1

Sample Layers	Asbestos Content
Black Mastic	ND
Sample Composite Homogeneity:	Good

Location: 1-MS5-3, Black Mastic Under Reflectors, Center Line of Bridge-East Lab ID-Version‡: 12112818-1

Sample Layers	Asbestos Content
Black Mastic	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

ASBESTOS CHAIN OF CUSTODY

PLM EPA 600/R-93/116

Terracon
1421 Edinger Avenue, Suite C
Tustin, CA 92780
Phone: 949.261.0051

002541475

Inspector: Mark Korte
Client/Project Name: Barton Road Bridge
Project Number: CB175228
Address: Barton Rd | Grand Terrace Rd
Colton, CA
Laboratory: EMLab

DATE: 12/15/2020

EMAIL RESULTS TO: X Danish.Mansoor@terracon.com, ~~Charles.Yoon@terracon.com~~ Mark.Korte@Terracon.com
Mike.Benefield@terracon.com, Denise.Wallen@terracon.com
Other:

TURN-AROUND TIME: ____ 3 Hours ____ 6 Hours ____ 24 Hours ____ 48 Hours ____ 72 Hours X 1 Week

H.A.	SAMPLE NUMBER	MATERIAL DESCRIPTION	SAMPLE LOCATION	SQUARE FEET	CONDITION (G / D / SD)
1	MSS- 1	Black Mastic under Reflectors	Center line of Bridge - Middle	5	G
↓	2	↓	East	↓	↓
↓	3	↓	↓		

Relinquished By: Mark Korte Signature: _____ Date / Time: 12/15/2020

Received By: _____ Signature: _____ Date / Time: 12/15/2020 16:00

LAB ID NO: _____

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-276146-1
Laboratory SDG: Barton Rd & Grand Terrace Rd, Colton, CA
Client Project/Site: Barton Bridge

For:
Terracon Consulting Eng & Scientists
1421 Edinger Ave, Suite C
Tustin, California 92780

Attn: Danish Mansoor

Authorized for release by:
12/27/2020 7:44:30 AM

Danielle Roberts, Senior Project Manager
(949)260-3249
Danielle.Roberts@Eurofinset.com

Table of Contents

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-276146-1	1	Solid	12/15/20 00:01	12/15/20 14:45	

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Job ID: 440-276146-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-276146-1

Comments
No additional comments.

Receipt
The sample was received on 12/15/2020 2:45 PM; the sample arrived in good condition. The temperature of the cooler at receipt was 21.5º C.

Receipt Exceptions

The following sample was received at the laboratory without a sample collection time documented on the chain of custody or on the container: 1 (440-276146-1). The sample was logged in with a time of collection at 00:01am per default.

Metals
Method 6010B: The following sample was diluted due to the nature of the sample matrix: 1 (440-276146-1). Elevated reporting limits (RLs) are provided.

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision of Lead for preparation batch 440-633733 and analytical batch 440-634006 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 440-633898.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Client Sample ID: 1

Lab Sample ID: 440-276146-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3.9	J	4.0	2.0	mg/Kg	10	☼	6010B	Total/NA
Chromium	6.7		2.0	1.0	mg/Kg	10	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1
Date Collected: 12/15/20 00:01
Date Received: 12/15/20 14:45

Lab Sample ID: 440-276146-1
Matrix: Solid
Percent Solids: 99.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.9	J	4.0	2.0	mg/Kg	☼	12/17/20 08:37	12/17/20 16:48	10
Chromium	6.7		2.0	1.0	mg/Kg	☼	12/17/20 08:37	12/17/20 16:48	10

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Client Sample ID: 1
Date Collected: 12/15/20 00:01
Date Received: 12/15/20 14:45

Lab Sample ID: 440-276146-1
Matrix: Solid
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	633733	12/17/20 08:37	NE1	TAL IRV
Total/NA	Analysis	6010B		10			634006	12/17/20 16:48	P1R	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-633733/1-A ^5
Matrix: Solid
Analysis Batch: 634006

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 633733

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<2.0		2.0	0.99	mg/Kg		12/17/20 08:37	12/17/20 15:08	5
Chromium	<0.99		0.99	0.50	mg/Kg		12/17/20 08:37	12/17/20 15:08	5

Lab Sample ID: LCS 440-633733/2-A ^5
Matrix: Solid
Analysis Batch: 634006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 633733

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead			49.8	44.3		mg/Kg		89	80 - 120		
Chromium			49.8	45.2		mg/Kg		91	80 - 120		

Lab Sample ID: 440-275199-A-21-C MS ^5
Matrix: Solid
Analysis Batch: 634006

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 633733

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead	130	F2 F1	49.3	147	F1	mg/Kg		38	75 - 125		
Chromium	20		49.3	65.5		mg/Kg		92	75 - 125		

Lab Sample ID: 440-275199-A-21-D MSD ^5
Matrix: Solid
Analysis Batch: 634006

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 633733

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	130	F2 F1	49.8	320	F1 F2	mg/Kg		386	75 - 125	74	20
Chromium	20		49.8	66.5		mg/Kg		93	75 - 125	1	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Metals

Prep Batch: 633733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276146-1	1	Total/NA	Solid	3050B	
MB 440-633733/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 440-633733/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
440-275199-A-21-C MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-275199-A-21-D MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Analysis Batch: 634006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276146-1	1	Total/NA	Solid	6010B	633733
MB 440-633733/1-A ^5	Method Blank	Total/NA	Solid	6010B	633733
LCS 440-633733/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	633733
440-275199-A-21-C MS ^5	Matrix Spike	Total/NA	Solid	6010B	633733
440-275199-A-21-D MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	633733

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Barton Bridge

Job ID: 440-276146-1
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Job ID: 440-276146-1
Project/Site: Barton Bridge
SDG: Barton Rd & Grand Terrace Rd, Colton, CA

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-21
Oregon	NELAP	4028 - 008	01-29-21

Terracon

1421 Edinger Avenue, Suite C
Edinger, California 92780

Lead
Chain of Custody

Project Name: Barton Bridge Address: Barton Rd & Grand Terrace Rd, Colton, CA

Project #: CB175228 Sampled By: Mark Korte Sampling Date: 12/17/20

Laboratory: ☐ EMSL/LA Testing ☐ EM Lab ☐ Other: _____ **Email Report to:** ☒ Danish.Mansoor@Terracon.com & Mark.Korte@Terracon.com
☐ Mike.Benefield@Terracon.com & Denise.Wallen@Terracon.com

Turnaround Time: ☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☒ 1 Week Other: _____

Analysis: ☐ Paint Chips (% by weight and ppm) SW846-7000B/7420 ***FAA*** ☐ Air Sample NIOSH 7082 ***FAA*** ☐ Air Sample NIOSH 7303 ***ICP***

☐ Wipes SW846-1311/7000B/7420 ***FAA*** ☐ Wipes SW846-6010B/C ***ICP*** ☐ TCLP ☐ TTLC ☐ STLC ☒ Paint Chips SW846-6010B/C ***ICP***

Lead and Chromium

Sample I.D. #	Color	Substrate	Sample Location	Volume/Area	Condition (Intact/Fair/Poor)
1	Yellow	Asphalt	Yellow Paint Stripe in Center of Road/Bridge		Int.

440-276146 Chain of Custody

Relinquished: Name: Mark Korte Signature: _____ Date: 12/15/2020

Received: Name: Alex S. Signature: _____ Date: 12/15/2020 1440

216/215 16.75

Page 1 of 1

Page 13 of 14

12/27/2020

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 440-276146-1
SDG Number: Barton Rd & Grand Terrace Rd, Colton, CA

Login Number: 276146
List Number: 1
Creator: Skinner, Alma D

List Source: Eurofins Irvine

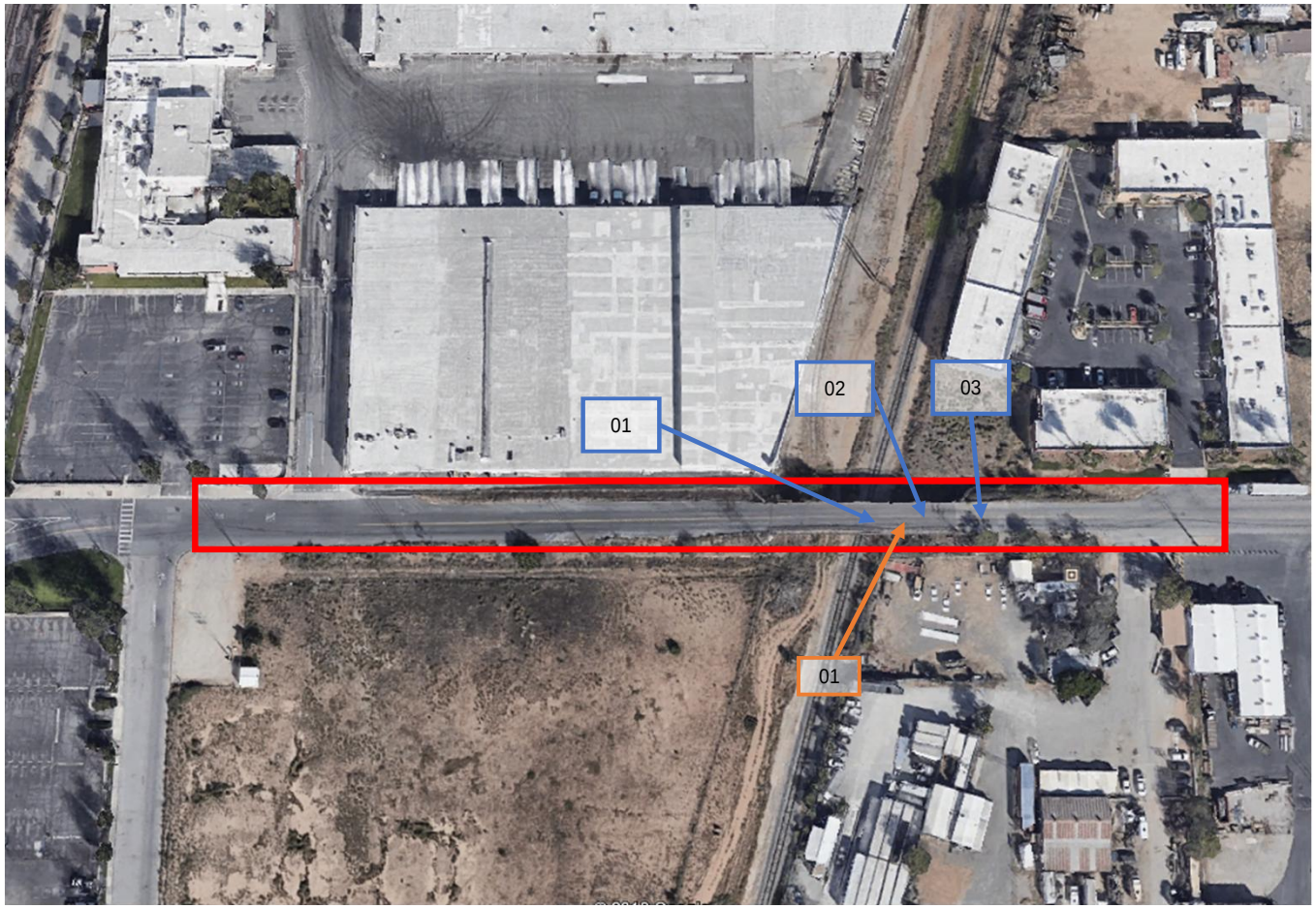
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No time on COC or containers.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No time on COC or sample containers
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX B

SAMPLE LOCATION DIAGRAM

LEGEND

- Asbestos Samples
- Lead and Chromium Samples
- Survey Area



N

Prepared for: CNS Engineers, Inc.
Project: Supplemental Hazardous Materials Survey
Scale: Not to Scale
Terracon Project Number: CB175228

Terracon

Sample Location Drawing	Exhibit
Barton Road Bridge Barton Road and Grand Terrace Road	1

APPENDIX C

LICENSES AND CERTIFICATIONS

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Name: **Mark A Korte**

Certification No.: **19-6503**

Expires on: **05/15/21**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

California Department of PublicHealth

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
 **Mark Korte**	Lead Sampling Technician	LRC-00000878	6/16/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD.

APPENDIX D

INITIAL ASBESTOS AND LEAD SURVEY REPORT

Pre-Demolition Hazardous Materials Survey

Barton Road Bridge Removal and Road Construction

Project No. BRLS-5065(024); Bridge No. 54C-0379

Barton Road, West of Grand Terrace Road

Colton and Grand Terrace, San Bernardino County, CA

October 21, 2019

Terracon Project No. CB175228

Prepared for:

City of Colton, Public Works Department/Engineering Division
Colton, California

Prepared by:

Terracon Consultants, Inc.
Tustin, California

October 21, 2019

Terracon

City of Colton, Public Works Department/Engineering Division
c/o CNS Engineers, Inc.
11870 Pierce Street, Suite 265
Riverside, California 92505

Attn: Mr. Steve Hosford
E: steve.hosford@cnseng.com

Re: Barton Road Bridge Removal and Road Construction
Project No. BRLS-5065(024); Bridge No. 54C-0379
Barton Road, West of Grand Terrace Road
Colton and Grand Terrace, San Bernardino County, California
Terracon Project No. CB175228

Dear Mr. Hosford:

The purpose of this report is to present the results of the pre-demolition hazardous materials survey performed on August 6, 2019 at the above referenced site located at Barton Road and Grand Terrace Road in Colton, California. This survey was performed in accordance with City of Colton, Public Works Department/Engineering Division Request for Proposal (RFP) dated July 20, 2017, and Subconsultant Professional Services Agreement, CNS Project No. 17015, dated May 24, 2019. We understand that this survey was requested due to the planned demolition of the bridge and the section of Barton road between South Terrace Avenue and Grand Terrace Road.

Asbestos was not identified in the samples collected. Lead was detected in eight (8) of the sampled materials and chromium was detected in six (6) of the sampled materials. Due to safety concerns, one (1) material was assumed to contain asbestos and one (1) material was assumed to contain lead and chromium in the paint. Please refer to the attached report for details.

Terracon appreciates the opportunity to provide this service to CNS Engineers, Inc. If you have any questions regarding this report, or if you need assistance with project oversight and sampling during demolition of this site, please contact the undersigned at (949) 383-1976.

Sincerely,
Terracon Consultants, Inc.

Danish Mansoor, CAC
Project Manager

For Steffen Steiner, CAC
Office Manager

TABLE OF CONTENTS

PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY REPORT
Barton Road Bridge
Barton Road and Grand Terrace Road
Colton, California 92313

Terracon Project No. CB175228

October 21, 2019

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted a pre-demolition hazardous materials survey of the above referenced site located at Barton Road and Grand Terrace Road in Colton, California. The survey was conducted on August 6, 2019 by a State of California Certified Site Surveillance Technician (CSST) and California Department of Public Health (CDPH) certified lead inspector/assessor in general accordance with the CNS Engineering, Inc. Subconsultant Agreement dated May 24, 2019.

1.1 Project Objective

We understand this asbestos survey was requested due to the planned demolition of the above-mentioned section of Barton Road. EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation or demolition activities. The asbestos NESHAP requires that potentially regulated ACM (RACM) be identified, classified and quantified prior to planned disturbances or demolition activities.

The lead and chromium sampling was requested due to historical use of lead and chromium in traffic lane paints and thermoplastic striping (PTS). The concentrations of lead chromate in the PTS applied to roadways would classify waste PTS as hazardous.

2.0 SITE DESCRIPTION

The site consists of an approximately 1,100-foot length of an asphalt-paved, two-lane road, that spans the approximate distance between Grand Terrace Road (east of the site) and South Terrace Avenue (west of the site). The site is improved with the Barton Road bridge (Bridge No. 54C-0379), approximately 175-feet long by 25-feet wide, which was originally built in 1936 (on the central portion of the site), over a former abandoned railroad track (removed) and Union Pacific right-of-way, sidewalks (shutdown due to safety concerns), and easements (along the northern and southern perimeters of the site), and utilities.

3.0 FIELD ACTIVITIES

The hazardous materials survey was conducted on August 6, 2019, by Mr. Mike Jarboe, a California Division of Occupational Safety and Health (DOSH) - Certified Site Surveillance Technicians (CSST) and a CDPH Lead Inspector/Assessor. A copy of Mr. Jarboe's licenses are attached in Appendix E. A summary of the field activities is described below.

3.1 Visual Assessment

Terracon began the asbestos, lead and chromium sampling activities with a visual assessment, identification and inventory of readily visible and accessible homogeneous areas of suspect ACM and suspect lead and chromium-containing paints. A homogeneous area consists of building materials that appear similar throughout in terms of color and texture. The assessment was limited to visually accessible materials. Building materials identified as glass (includes fiberglass), wood, masonry, metal, plastic were not considered suspect ACM.

3.2 Physical Assessment

Asbestos

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the EPA as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

Lead and Chromium Paint

A physical assessment of each suspect painted component and/or surface coating was conducted to determine its condition. The painted surfaces were assessed as intact, fair or damaged condition depending on degree of damage.

3.3 Sample Collection

Asbestos

Based on results of the visual observation, bulk samples of suspect ACM were collected in general accordance with AHERA sampling protocols. Representative samples of suspect materials were collected in each homogeneous area. Bulk samples were collected using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers.

Twenty-five (25) bulk samples were collected from seven (7) homogeneous materials. The asbestos survey sample summary can be found in Appendix A.

Lead and Chromium Paint

Eight (8) painted surfaces were sampled from the subject area scheduled for demolition. General sampling locations are provided in Appendix A. The laboratory results of the suspect materials sampled are in Appendix C.

3.4 Sample Analysis

Asbestos

Bulk samples were submitted under chain of custody to EMLab P&K (EMLab) of Irvine, California for analysis by polarized light microscopy (PLM) per EPA methodology EPA/600/R-93/116. EMLab is a laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) under the National Institute of Standards and Technology (NIST) for analysis by PLM.

Asbestos was not detected in the samples collected. The laboratory results and chain of custody for the suspect asbestos samples can be found in Appendix C.

Due to safety concerns, the black mastic located underneath the reflectors in the center of the road were assumed to contain asbestos.

Lead and Chromium

The paint samples collected for lead and chromium were delivered under chain-of-custody to Eurofins TestAmerica in Irvine, California. The samples were analyzed by Inductively Coupled Plasma spectroscopy in accordance to EPA Method 6010B.

Lead was detected in all of the samples collected. Chromium was detected in six (6) of the materials sampled. Due to safety concerns, the yellow paint striping in the center of the road was assumed to contain lead and chromium. The sample location summary can be found in Appendix A.

4.0 REGULATORY OVERVIEW

Asbestos

As a consequence of the health hazard from inhalation of asbestos fibers, a body of federal and state regulations has been developed. Federal regulations pertaining to asbestos are included in AHERA (US EPA 40 CFR 763); NESHAP (EPA 40 CFR 61); OSHA Asbestos Standards (29 CFR 1910.1001 and 29 CFR 1926.1101), and ASHARA (Asbestos School Hazard Abatement Reauthorization Act). Many states have additional requirements including state-specific licensing and certification. In California, these regulations include, but are not limited to: Cal/OSHA in Title 8, Sections 1529 and 5208 and the South Coast Air Quality Management District (SCAQMD) Rule 1403.

The federal asbestos NESHAP standard (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. NESHAP also requires the identification and classification of asbestos removal in the South Coast Air Quality Management District (SCAQMD). Under NESHAP, ACM are classified as either friable (regulated ACM), Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACM includes packings, gaskets, resilient floor coverings and asphalt roofing products containing more than 1% asbestos. Category II non-friable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, along with Category I and Category II non-friable ACM, which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered regulated ACM (RACM).

Building materials confirmed to be ACM through the collection of bulk sampling and subsequent laboratory analysis, or presumed ACM, must be removed prior to intentional disturbance during planned renovation/demolition activities. Asbestos abatement must be conducted by Cal/OSHA-accredited asbestos abatement contractors. Third-party air monitoring is recommended during the abatement activities.

Cal/OSHA requires that only properly licensed and certified asbestos abatement contractors are allowed to remove ACM. As per NESHAP, all RACM shall be removed from a facility being demolished or renovated before any non-burning demolition or renovation begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal.

The federal OSHA Asbestos standard for construction (29 CFR 1926.1101) and the Cal/OSHA asbestos standard for general industry and the construction industry (CCR Title 8, Sections 5208 and 1529, respectively) regulate workplace exposure to asbestos. Both the federal

OSHA and Cal/OSHA standards require that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers per cubic centimeter of air (0.1 f/cc) as an eight-hour time weighted average. The federal OSHA and Cal/OSHA standards classifies construction and maintenance activities which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work. However, workers who deliberately disturb any amount of asbestos should have pertinent training and wear proper personal protective equipment according to federal and state regulatory requirements (i.e., Cal/OSHA 8 CCR 1529 (g) (1) through (9) for Class I, II and III work).

Asbestos containing construction materials (ACCM) is a term developed by Cal/OSHA out of concern for non-hazardous building materials used inside and outside a building that contain less than 1% asbestos. The definition of ACCM includes any manufactured building material that has more than one-tenth of 1% (>0.1%) asbestos content. The SCAQMD requires point counting of friable samples of ACM at concentrations of less than 10% to determine more accurately the content of asbestos and proper classification of the material for proper abatement and disposal requirements. Alternatively, materials may be presumed as ACMs. If the material is less than one tenth of 1%, the material is not regulated by the EPA however Cal/OSHA worker protection regulations apply if any asbestos is detected.

Lead Paint

Detectable lead quantities may constitute a lead dust hazard during renovation/demolition activities. Personnel performing renovation/demolition activities that may disturb painted components with concentrations of lead above the designated analytical detection limit should comply with all current OSHA regulations to minimize employee exposure. OSHA regulates construction activities that disturb lead-containing material regardless of the concentration. Currently, any proposed renovation/demolition is subject to the OSHA regulations (29 CFR 1926.62 – Lead Exposure in Construction).

In California, the lead standard was adopted by Cal-OSHA as Title 8 CCR, Section 1532.1 (Occupational Lead Poisoning Prevention Program). The California Department of Public Health also regulates accreditations, certifications and work practices for activities involving lead-containing materials under Title 17 CCR. The federal and Cal-OSHA regulations define specific training requirements, engineering controls and working practices for construction personnel subject to this standard. Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA Lead Exposure in Construction standard.

Contractors and employers are required to comply with 29 CFR 1926.62 and Title 8 CCR 1532.1. Construction work covered by federal and Cal-OSHA standards includes any repair or renovation activities or other activities that disturb in-place lead-containing materials.

Employers must assure that no employee will be exposed to lead at concentrations greater than 50 micrograms per cubic meter ($\mu g/m^3$) averaged over an eight-hour period without adequate protection. The Federal and California OSHA Standards also establish an action level of 30 $\mu g/m^3$, which if exceeded, triggers the requirement for medical monitoring.

Proper waste stream categorization is required for the disposal of all lead containing materials and painted construction debris with total lead content that exceeds 50 ppm. The debris should be classified as hazardous waste if lead waste concentrations exceed either the total lead concentration or soluble lead concentration regulatory limits. Total lead concentration is determined by Total Threshold Limit Concentration (TTLC). Soluble or leachable lead is determined by the Soluble Threshold Limit Concentration (STLC, California required test) and/or Toxicity Characteristic Leaching Procedure (TCLP) (Federal EPA required test). Regulatory limits characterize a lead waste as a hazardous waste if lead concentrations exceed 1,000 ppm by TTLC or 5 milligrams per liter by STLC or TCLP.

The above overview is not intended to be inclusive of all potentially pertinent regulatory information. The relevant EPA and OSHA standards should be consulted prior to undertaking activities involving the demolition, renovation, or maintenance of surfaces coated with lead containing paints.

Chromium in Paint

Similar to the use of lead paint, chrome yellow (containing lead chromate) was used as the primary yellow pigment in traffic lane paints and thermoplastic striping. In California, lead chromate traffic striping has been phased out of traffic paint between 1997 and 2000 and was phased out from thermoplastic striping by 2004. The concentrations of lead chromate in the traffic lane paints and thermoplastic striping applied to roadways is considered hazardous waste. During construction activities, chromium is considered to have potential to impact the environment and workers on site, as well as affect disposal methods.

5.0 FINDINGS AND RECOMMENDATIONS

Asbestos

Asbestos was not detected in the samples collected. The lab results and chain of custody for the suspect asbestos samples can be found in Appendix C.

Due to safety concerns, the black mastic located underneath the reflectors in the center of the road were assumed to contain asbestos.

Prior to demolition the assumed ACMs must be sampled to determine asbestos content, or must be removed by an asbestos abatement contractor licensed with the California State Contractor License Board (CSLB) and registered with the Division of Occupational Safety and Health (DOSH). Prior notification of the asbestos removal is required to DOSH. Removal of ACMs must be performed in accordance with Cal/OSHA (Title 8 CCR 1529) and SCAQMD Rule 1403

Appendix A provides information about sampling locations of the suspect ACM. A summary of the assumed ACM can be found in Appendix B. The lab results and chain of custody for the suspect ACMs can be found in Appendix C.

Lead and Chromium Paint

Based on the results of laboratory analysis, all of the sampled materials were found to contain lead in concentrations above the laboratory limit of detection. Based on the findings of this survey, six (6) of the samples meet the definition of lead-based paint (LBP). The other two (2) samples with detectable amounts of lead are considered lead-containing paint (LCP). Construction impacting LBP or LCP is regulated by Cal/OSHA Lead in Construction Standard (8 CCR 1532.1).

Based on the laboratory analysis, six (6) of the sampling materials were found to contain chromium in concentrations above the laboratory limit of detection.

The laboratory results and chain of custody for the suspect lead and chromium paint samples can be found in Appendix C.

6.0 GENERAL COMMENTS

This pre-demolition hazardous materials survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the building. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by CNS Engineers, Inc. for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.

APPENDIX A

HAZARDOUS MATERIALS SURVEY SAMPLE LOCATION SUMMARY

APPENDIX A
Barton Road Bridge
Barton Road and Grand Terrace Road
Colton, California

ASBESTOS SURVEY SAMPLE LOCATION SUMMARY

HA	Sample No.	Description	Sample Location	Result
1	MS5-01	Concrete Abutment	East	None Detected (ND)
	MS5-02	Concrete Abutment	East	ND
	MS5-03	Concrete Abutment	West	ND
2	MS5-04	Concrete Retaining Wall	Northeast	ND
	MS5-05	Concrete Retaining Wall	Southwest	ND
	MS5-06	Concrete Retaining Wall	Southwest	ND
3	MS5-07	Concrete Encase Around Valve & Pipe	East	ND
	MS5-08	Concrete Encase Around Valve & Pipe	East	ND
	MS5-09	Concrete Encase Around Valve & Pipe	East	ND
4	MS5-10	Black Asphalt Road	Northeast	ND
	MS5-11	Black Asphalt Road	Northeast	ND
	MS5-12	Black Asphalt Road	Northwest	ND
	MS5-13	Black Asphalt Road	Southeast	ND
	MS5-14	Black Asphalt Road	Southeast	ND
	MS5-15	Black Asphalt Road	Southwest	ND
	MS5-16	Black Asphalt Road	Northeast	ND
5	MS5-17	Black Creosote	Southeast	ND
	MS5-18	Black Creosote	Southeast	ND
	MS5-19	Black Creosote	East	ND
6	MS5-20	Multicolor Texture Coat on Abutment	East	ND
	MS5-21	Multicolor Texture Coat on Abutment	East	ND
	MS5-22	Multicolor Texture Coat on Abutment	West	ND
7	PI5-23	Black Pipe Wrap on 12" Diameter Pipe	East	ND
	PI5-24	Black Pipe Wrap on 12" Diameter Pipe	East	ND
	PI5-25	Black Pipe Wrap on 12" Diameter Pipe	West	ND

APPENDIX A
Barton Road Bridge
Barton Road and Grand Terrace Road
Colton, California

LEAD AND CHROMIUM SURVEY SAMPLE LOCATION SUMMARY

Sample ID	Description	Sample Location	Condition	Result
Pb-01	Gray Paint	Metal Guard Rail	Good	Lead - 73,000 ppm Chromium - 1,600 ppm
Pb-02	Gray Paint	Lower Guard Rail	Good	Lead - 59,000 ppm Chromium - 590 ppm
Pb-03	White Paint	Concrete w/ Valve Under Bridge	Good	Lead - 81,000 ppm Chromium - 1,400 ppm
Pb-04	Yellow Paint	Gas Pipe Under Bridge	Good	Lead - 420 ppm Chromium - 8 ppm
Pb-05	Gray Paint	Cross Beams (Metal)	Good	Lead - 41,000 ppm Chromium - 780 ppm
Pb-06	White Paint	Metal Bollard on Road Northeast	Good	Lead - 43,000 ppm Chromium - ND
Pb-07	White Paint	Wood Bollard on Road Northeast	Good	Lead - 25,000 ppm Chromium - ND
Pb-08	Red with Blue Paint	Curb Northwest	Good	Lead - 61 ppm Chromium - 12 ppm

APPENDIX B

ASSUMED ASBESTOS CONTAINING MATERIALS

APPENDIX B

Barton Road Bridge
Barton Road and Grand Terrace Road
Colton, California

ASSUMED ASBESTOS-CONTAINING MATERIALS

HA No.	Description	Material Location	Percent/Type Asbestos	NESHAP Classification	Condition	Estimated Quantity*
NA	Black Mastic Under Reflectors on Road	Center of Road	Assumed (Not Sampled)	Cat. II	Good	5 SF

***Quantities listed are approximate for the total square footage of the building. Total quantities of materials to be abated is to be determined by the contractor. CH=Chrysotile**
RACM = Regulated Asbestos Containing Material, Cat. I = Category I Non-friable asbestos containing material, Cat. II – Category II Non-friable asbestos containing material, NA = Not Applicable

APPENDIX C

ANALYTICAL LABORATORY DATA

EMLab P&K
A TestAmerica Company

Report for:

Danish Mansoor
Terracon Consultants, Inc. - Tustin, CA
1421 Edinger Ave
suite C
Tustin, CA 92780

Regarding: Project: CB175228; Barton Road Bridge, Barton Rd/Grand Terrace Rd, Colton, CA
EML ID: 2222860

Approved by:

Approved Signatory
Danny Li

Dates of Analysis:
Asbestos PLM: 08-13-2019

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K
17461 Derian Ave, Suite 100, Irvine, CA 92614
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Danish Mansoor
Re: CB175228; Barton Road Bridge, Barton Rd/ Grand Terrace Rd, Colton, CA

Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Total Samples Submitted:	25
Total Samples Analyzed:	25
Total Samples with Layer Asbestos Content > 1%:	0

Location: 01-MS5-01, Concrete abatement, East Lab ID-Version‡: 10565637-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 01-MS5-02, Concrete abatement, East Lab ID-Version‡: 10565638-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 01-MS5-03, Concrete abatement, West Lab ID-Version‡: 10565639-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 02-MS5-04, Concrete retaining wall, N/E Lab ID-Version‡: 10565640-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

EMLab P&K
17461 Derian Ave, Suite 100, Irvine, CA 92614
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Danish Mansoor
Re: CB175228; Barton Road Bridge, Barton Rd/ Grand Terrace Rd, Colton, CA

Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Location: 02-MS5-05, Concrete retaining wall, S/W

Lab ID-Version‡: 10565641-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Location: 02-MS5-06, Concrete retaining wall, S/W Lab ID-Version‡: 10565642-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 03-MS5-07, Concrete encase around valve and pipe, East Lab ID-Version‡: 10565643-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 03-MS5-08, Concrete encase around valve and pipe, East Lab ID-Version‡: 10565644-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 03-MS5-09, Concrete encase around valve and pipe, East Lab ID-Version‡: 10565645-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Danish Mansoor
Re: CB175228; Barton Road Bridge, Barton Rd/ Grand Terrace Rd, Colton, CA

Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Location: 04-MS5-10, Black asphalt road, N/E Lab ID-Version‡: 10565646-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Location: 04-MS5-11, Black asphalt road, N/E Lab ID-Version‡: 10565647-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Location: 04-MS5-12, Black asphalt road, N/W Lab ID-Version‡: 10565648-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Location: 04-MS5-13, Black asphalt road, S/E Lab ID-Version‡: 10565649-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
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Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Danish Mansoor
Re: CB175228; Barton Road Bridge, Barton Rd/ Grand Terrace Rd, Colton, CA

Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Location: 04-MS5-14, Black asphalt road, S/E Lab ID-Version‡: 10565650-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Location: 04-MS5-15, Black asphalt road, S/W Lab ID-Version‡: 10565651-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Location: 04-MS5-16, Black asphalt road, S/W Lab ID-Version‡: 10565652-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity:	Moderate

Location: 05-MS5-17, Black cresote, S/E Lab ID-Version‡: 10565653-1

Sample Layers	Asbestos Content
Black Tar	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Danish Mansoor
Re: CB175228; Barton Road Bridge, Barton Rd/ Grand Terrace Rd, Colton, CA

Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Location: 05-MS5-18, Black cresote, S/E Lab ID-Version‡: 10565654-1

Sample Layers	Asbestos Content
Black Tar	ND
Sample Composite Homogeneity:	Good

Location: 05-MS5-19, Black cresote, East Lab ID-Version‡: 10565655-1

Sample Layers	Asbestos Content
Black Tar	ND
Sample Composite Homogeneity:	Good

Location: 06-MS5-20, Multi color texture coat on abatement, East Lab ID-Version‡: 10565656-1

Sample Layers	Asbestos Content
Gray Coating with Multicolored Paint	ND
Sample Composite Homogeneity:	Good

Location: 06-MS5-21, Multi color texture coat on abatement, East Lab ID-Version‡: 10565657-1

Sample Layers	Asbestos Content
Gray Coating with Multicolored Paint	ND
Sample Composite Homogeneity:	Good

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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Client: Terracon Consultants, Inc. - Tustin, CA
C/O: Danish Mansoor
Re: CB175228; Barton Road Bridge, Barton Rd/ Grand Terrace Rd, Colton, CA

Date of Sampling: 08-06-2019
Date of Receipt: 08-06-2019
Date of Report: 08-13-2019

ASBESTOS PLM REPORT

Location: 06-MS5-22, Multi color texture coat on abatement, West Lab ID-Version‡: 10565658-1

Sample Layers	Asbestos Content
Gray Coating with Multicolored Paint	ND
Sample Composite Homogeneity:	Good

Location: 07-MS5-23, Black pipe wrap on 12" diameter pipe, East Lab ID-Version‡: 10565659-1

Sample Layers	Asbestos Content
Black Tar	ND
Black Felt	ND
Composite Non-Asbestos Content:	15% Cellulose 5% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 07-MS5-24, Black pipe wrap on 12" diameter pipe, East Lab ID-Version‡: 10565660-1

Sample Layers	Asbestos Content
Black Tar	ND
Black Felt	ND
Composite Non-Asbestos Content:	15% Cellulose 5% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 07-MS5-25, Black pipe wrap on 12" diameter pipe, West Lab ID-Version‡: 10565661-1

Sample Layers	Asbestos Content
Black Tar	ND
Black Felt	ND
Composite Non-Asbestos Content:	15% Cellulose 5% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

ASBESTOS CHAIN OF CUSTODY

PLM EPA 600/R-93/116

Terracon

1421 Edinger Avenue, Suite C
Tustin, CA 92780
Phone: 949.261.0051

002222860

Inspector: MIKE JAMESON

Client/Project Name: BARTON ROAD BRIDGE

Project Number: CA175228

Address: BARTON Rd / GRAND TERRACE Rd COLTON CA

Laboratory: EMLAB

DATE: 08-06-19

EMAIL RESULTS TO: X Danish.Mansoor@terracon.com,Charles.Yoon@terracon.com
Mike.Benefield@terracon.com, Denise.Wallen@terracon.com
Other:

TURN-AROUND TIME: ____ 3 Hours ____ 6 Hours ____ 24 Hours ____ 48 Hours ____ 72 Hours X 1 Week

H.A.	SAMPLE NUMBER	MATERIAL DESCRIPTION	SAMPLE LOCATION	SQUARE FEET	CONDITION (G / D / SD)
01	MS5 01	CONCRETE ABUTEMENT	EAST	1800SF	G
↓	↓ 02	↓	↓	↓	↓
↓	↓ 03	↓	WEST	↓	↓
02	MS5 04	CONCRETE RETAINING WALL	N/E	500 SF	G
↓	↓ 05	↓	S/W	↓	↓
↓	↓ 06	↓	S/W	↓	↓
03	MS5 07	CONCRETE ENCASE AROUND VALVE & PIPE	EAST	10SF	G
↓	↓ 08	↓	↓	↓	↓
↓	↓ 09	↓	↓	↓	↓
04	MS5 10	BLACK ASPHALT ROAD	N/E	21000SF	G
↓	↓ 11	↓	↓	↓	↓
↓	↓ 12	↓	N/W	↓	↓
↓	↓ 13	↓	S/E	↓	↓
↓	↓ 14	↓	↓	↓	↓
↓	↓ 15	↓	S/W	↓	↓

Relinquished By: MIKE JAMESON Signature: Date / Time: 08-06-19

Received By: Signature: Date / Time: 8/6/19 14:02

LAB ID NO:

Terracon

ASBESTOS CHAIN OF CUSTODY

PLM EPA 600/R-93/116

Inspector: MIKE JARBOE

Project Number: CB1755226

FLA	SAMPLE NUMBER	MATERIAL DESCRIPTION	SAMPLE LOCATION	SQUARE FEET	CONDITION (G/D/SD)
04	MS5 16	BLACK ASPHALT ROAD	S/W	21000 SF	G
05	MS5 17	BLACK CREOSOTE	S/E	30 SF	D
↓	↓ 18	↓	↓	↓	↓
↓	↓ 19	↓	EAST	↓	↓
06	MS5-20	MULTI COLOR TEXTURE COAT ON	EAST	800 SF	D
↓	↓ 21	ABUTEMENT	↓	↓	↓
↓	↓ 22	↓	WEST	↓	↓
07	P15 23	BLACK PIPE WRAP ON 12" DIAMETER	EAST	250 LF	SD
↓	↓ 24	PIPE	↓	↓	↓
↓	↓ 25	↓	WEST	↓	↓
ASSUMED -		BLACK MASTIC UNDER REFLECTORS ON	CENTER OF ROAD	5 SF	G
		ROAD - (ASSUMED NOT SAMPLED)			

LAB ID NO: _____

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-247455-1
Client Project/Site: 2222861

For:
EMLab P&K
Bascom Airport Executive Suites
17461 Derian Ave - Suite 100
Irvine, California 92614

Attn: Angela Hetherington

Authorized for release by:
8/12/2019 10:02:03 AM

Janice Hsu, Project Manager I
(949)260-3263
janice.hsu@testamericainc.com

Table of Contents

Sample Summary

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-247455-1	Pb-01	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-2	Pb-02	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-3	Pb-03	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-4	Pb-04	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-5	Pb-05	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-6	Pb-06	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-7	Pb-07	Solid	08/06/19 00:01	08/07/19 12:45	
440-247455-8	Pb-08	Solid	08/06/19 00:01	08/07/19 12:45	

Job ID: 440-247455-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative
440-247455-1

Comments
No additional comments.

Receipt
The samples were received on 8/7/2019 12:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 23.2º C.

Metals
Method(s) 3050B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for 440-247453-A-1,2 and 440-247455-A-1,2,3,4,7,8 preparation/analysis: Pb-01 (440-247455-1), Pb-02 (440-247455-2), Pb-03 (440-247455-3), Pb-04 (440-247455-4), Pb-07 (440-247455-7) and Pb-08 (440-247455-8).

Method(s) 6010B: The continuing calibration blank (CCB) for 440-562346 contained Lead above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method(s) 6010B: The following samples were diluted due to the nature of the sample matrix: Pb-06 (440-247455-6) and Pb-07 (440-247455-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Client Sample ID: Pb-01

Lab Sample ID: 440-247455-1

Date Collected: 08/06/19 00:01
Matrix: Solid
Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	73000	^	56		mg/Kg		08/07/19 16:55	08/09/19 16:47	50
Chromium	1600		28		mg/Kg		08/07/19 16:55	08/09/19 16:47	50

Client Sample ID: Pb-02

Lab Sample ID: 440-247455-2

Date Collected: 08/06/19 00:01
Matrix: Solid
Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	59000	^	75		mg/Kg		08/07/19 16:55	08/09/19 16:49	100
Chromium	590		38		mg/Kg		08/07/19 16:55	08/09/19 16:49	100

Client Sample ID: Pb-03

Lab Sample ID: 440-247455-3

Date Collected: 08/06/19 00:01
Matrix: Solid
Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	81000	^	91		mg/Kg		08/07/19 16:55	08/09/19 16:51	50
Chromium	1400		45		mg/Kg		08/07/19 16:55	08/09/19 16:51	50

Client Sample ID: Pb-04

Lab Sample ID: 440-247455-4

Date Collected: 08/06/19 00:01
Matrix: Solid
Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	420		8.0		mg/Kg		08/07/19 16:55	08/09/19 17:26	5
Chromium	8.0		4.0		mg/Kg		08/07/19 16:55	08/09/19 17:26	5

Client Sample ID: Pb-05

Lab Sample ID: 440-247455-5

Date Collected: 08/06/19 00:01
Matrix: Solid
Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	41000	^	40		mg/Kg		08/07/19 16:55	08/09/19 16:56	100
Chromium	780		20		mg/Kg		08/07/19 16:55	08/09/19 16:56	100

Client Sample ID: Pb-06

Lab Sample ID: 440-247455-6

Date Collected: 08/06/19 00:01
Matrix: Solid
Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	43000	^	40		mg/Kg		08/07/19 16:55	08/09/19 16:59	100
Chromium	ND		20		mg/Kg		08/07/19 16:55	08/09/19 16:59	100

Client Sample Results

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Client Sample ID: Pb-07

Lab Sample ID: 440-247455-7

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	**25000**	**^**	20		mg/Kg		08/07/19 16:55	08/09/19 17:01	50
Chromium	ND		9.9		mg/Kg		08/07/19 16:55	08/09/19 17:01	50

Client Sample ID: Pb-08

Lab Sample ID: 440-247455-8

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	**61**	**^**	2.0		mg/Kg		08/07/19 16:55	08/09/19 17:08	5
Chromium	**12**		0.98		mg/Kg		08/07/19 16:55	08/09/19 17:08	5

Method Summary

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Client Sample ID: Pb-01

Lab Sample ID: 440-247455-1

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			0.36 g	25 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		50			562346	08/09/19 16:47	P1R	TAL IRV

Client Sample ID: Pb-02

Lab Sample ID: 440-247455-2

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			0.53 g	25 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		100			562346	08/09/19 16:49	P1R	TAL IRV

Client Sample ID: Pb-03

Lab Sample ID: 440-247455-3

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			0.22 g	25 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		50			562346	08/09/19 16:51	P1R	TAL IRV

Client Sample ID: Pb-04

Lab Sample ID: 440-247455-4

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			0.25 g	25 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		5			562346	08/09/19 17:26	P1R	TAL IRV

Client Sample ID: Pb-05

Lab Sample ID: 440-247455-5

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		100			562346	08/09/19 16:56	P1R	TAL IRV

Client Sample ID: Pb-06

Lab Sample ID: 440-247455-6

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		100			562346	08/09/19 16:59	P1R	TAL IRV

Lab Chronicle

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Client Sample ID: Pb-07

Lab Sample ID: 440-247455-7

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	25 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		50			562346	08/09/19 17:01	P1R	TAL IRV

Client Sample ID: Pb-08

Lab Sample ID: 440-247455-8

Date Collected: 08/06/19 00:01

Matrix: Solid

Date Received: 08/07/19 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.02 g	25 mL	561874	08/07/19 16:55	DT	TAL IRV
Total/NA	Analysis	6010B		5			562346	08/09/19 17:08	P1R	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Association Summary

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Metals

Prep Batch: 561874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247455-1	Pb-01	Total/NA	Solid	3050B	
440-247455-2	Pb-02	Total/NA	Solid	3050B	
440-247455-3	Pb-03	Total/NA	Solid	3050B	
440-247455-4	Pb-04	Total/NA	Solid	3050B	
440-247455-5	Pb-05	Total/NA	Solid	3050B	
440-247455-6	Pb-06	Total/NA	Solid	3050B	
440-247455-7	Pb-07	Total/NA	Solid	3050B	
440-247455-8	Pb-08	Total/NA	Solid	3050B	

Analysis Batch: 562346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247455-1	Pb-01	Total/NA	Solid	6010B	561874
440-247455-2	Pb-02	Total/NA	Solid	6010B	561874
440-247455-3	Pb-03	Total/NA	Solid	6010B	561874
440-247455-4	Pb-04	Total/NA	Solid	6010B	561874
440-247455-5	Pb-05	Total/NA	Solid	6010B	561874
440-247455-6	Pb-06	Total/NA	Solid	6010B	561874
440-247455-7	Pb-07	Total/NA	Solid	6010B	561874
440-247455-8	Pb-08	Total/NA	Solid	6010B	561874

Definitions/Glossary

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: EMLab P&K
Project/Site: 2222861

Job ID: 440-247455-1

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Chain of Custody Record

323761

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	**Project Manager:** Janice Hsu	**Site Contact:** Angela Hetherington	**Date:**	**COC No:**
Company Name: EMLab P&K Irvine	**Tel/Fax:**	**Lab Contact:**	**Carrier:**	____ of ____ COCs
Address: 17461 Derian Ave	**Analysis Turnaround Time**			Sampler:
City/State/Zip: Irvine CA 92614	☐ CALENDAR DAYS ☒ WORKING DAYS			**For Lab Use Only:**
Phone:	TAT if different from Below 3 days			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: 2222861	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Lead/Chromium (Lead by ICP)	Sample Specific Notes:
Pb-01	8/6/19							X	Lead + Chromium, Lead
Pb-02	↓							X	Paint Chips by ICP
Pb-03								X	
Pb-04								X	
Pb-05								X	
Pb-06								X	
Pb-07								X	
Pb-08	↓							X	

440-247455 Chain of Custody

8/7/19

AK

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 23 Corr'd: 23.2 Therm ID No.: 88

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	EMLab Irvine	8/7/19 8:30			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA IRV	Date/Time: 8/7/19 1245

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8/12/2019

Terracon
1421 Edinger Avenue, Suite C
Edinger, California 92780

Lead (Pb)
Chain of Custody

002222861

Project Name/Address: BARTON ROAD / GRAND TERRACE (BRIDGE)

Project #: CB1755228 Sampled By: MIKE JARBOE Sampling Date: 08-06-19

Laboratory: ☐ EMSL/LA Testing ● EM Lab ☐ Other: _____ **Email Report to:** ☐ Danish.Mansoor@Terracon.com & Charles.Yoon@Terracon.com ☐ Mike.Benefield@Terracon.com & Denise.Wallen@Terracon.com

Turnaround Time: ☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ● 1 Week Other: _____

Analysis: ☐ Paint Chips (% by weight and ppm) SW846-7000B/7420 ☐ Air Sample NIOSH 7082 FAA ☐ Air Sample NIOSH 7303 ICP FOR LEAD & CHROMIUM

☐ Wipes SW846-1311/7000B/7420 FAA ☐ Wipes SW846-6010B/C ICP ☐ TCLP ☐ TTLC ☐ STLC ■ Other Paint Chips by ICP

Sample I.D. #	Sample Location	Volume/Area	Condition (Good/Fair/Poor)
Pb-01	GRAY PAINT ON METAL GUARD RAIL (600 SF) 3' TALL	2" x 2"	POOR
Pb-02	GRAY PAINT ON LOWER GUARD RAIL (200 SF)		POOR
Pb-03	WHITE PAINT ON CONCRETE W/ VALVE UNDER BRIDGE (15 SF)		GOOD
Pb-04	YELLOW PAINT ON GAS PIPE UNDER BRIDGE (250 LF)		FAIR
Pb-05	GRAY PAINT ON CROSS BEAMS (METAL) (5000 SF)		FAIR
Pb-06	WHITE PAINT ON METAL BALLARD ON ROAD N/E (30 SF)		POOR
Pb-07	WHITE PAINT ON WOOD BALLARD ON ROAD N/E (20 SF)		POOR
Pb-08	RED & BLUE CURB N/W (300 LF)		POOR

Relinquished: Name: MIKE JARBOE Signature: _____ Date: 08-06-19

Received: Name: _____ Signature: _____ Date: 8/6/19 14:02

Page 1 of 1

8/12/2019

Login Sample Receipt Checklist

Client: EMLab P&K

Job Number: 440-247455-1

Login Number: 247455

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Escalante, Maria I

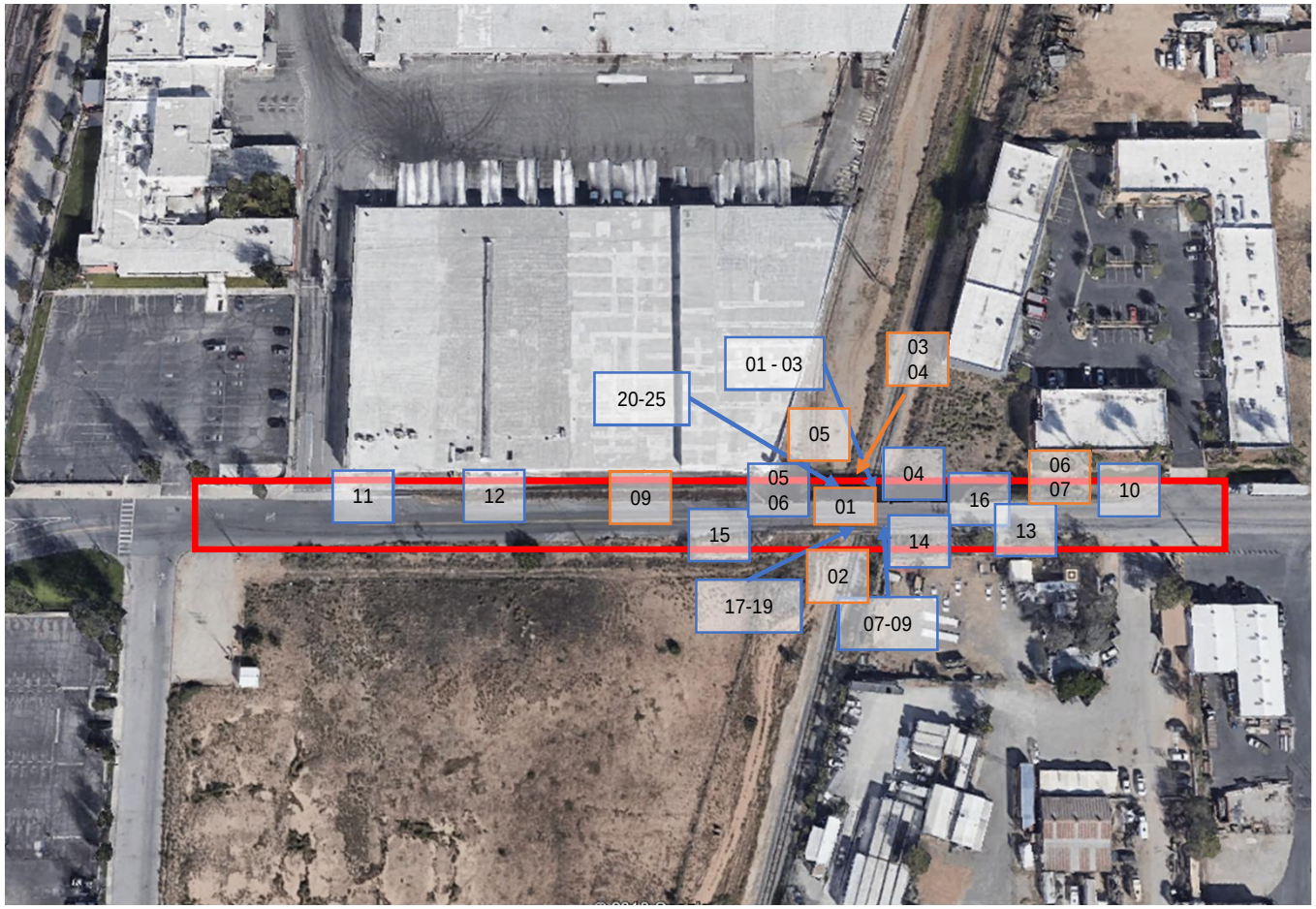
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

SAMPLE LOCATION DIAGRAM

LEGEND

- Asbestos Samples
- Lead and Chromium Samples
- Survey Area



N

Prepared for: CNS Engineers, Inc. Project: Pre Demolition Hazardous Materials Survey Scale: Not to Scale Terracon Project Number: CB175228	Terracon	Sample Location Drawing	Exhibit
		Barton Road Bridge Barton Road and Grand Terrace Road	1

APPENDIX E

CERTIFICATIONS AND LICENSES

State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician

Michael Lee Jarboe
Name

Certification No. 03-3308

Expires on 05/22/20

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Inspector/Assessor	01/25/2020
Project Monitor	01/25/2020

Michael L. Jarboe

ID #: 16081