PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

December 2018

Prepared for:



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Prepared by:



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Geotechnical • Geo-Environmental • Construction Services • Forensics

BCI File No. 3534.X December 4, 2018

Mr. Luke Fuson Wood Rodgers, Inc. 3301 C Street, Bldg. 100-B Sacramento, CA 95841

Subject: PHASE II ENVIRONMENTAL SITE ASSESSMENT **Pole Line Ramp Structure Connection Project** Davis, California

Dear Mr. Fuson,

Blackburn Consulting (BCI) prepared this Phase II Site Assessment for the Pole Line Ramp Structure Connection Project, located in Davis, California. This report presents the findings of our assessment of the project area with regard to potential hazardous material impacts. We completed this work in accordance with our proposal dated September 17, 2018.

Thank you for including BCI on your team for this important project. Please call if you have questions or require additional information.

Sincerely,

BLACKBURN CONSULTING

AL GEOL JASON R. PAUL No. 7557

Jason R. Paul, PG Senior Geologist



aura

Laura Long Senior Environmental Engineer



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1 INTRODUCTION

In accordance with our proposal dated September 17, 2018, Blackburn Consulting (BCI) prepared this Phase II Environmental Site Assessment (Phase II) to assess the potential presence of hazardous materials within the proposed improvement area of the Pole Line Ramp Structure Connection Project (Project). The Project is located along the north side of the Olive Drive off-ramp exiting from westbound Interstate 80 (I-80) located in Davis, California.

The City of Davis (City) requested BCI conduct a Phase II for the Project based on Caltrans review of the Preliminary Environmental Study (PES) and subsequent recommendation to conduct a Phase II. BCI prepared the scope of the Phase II based on our review of the site location and history. The Project is adjacent to an active railroad, interstate highway, and two closed leaking underground storage tank sites.

The intent of the Phase II is to assess whether hazardous materials conditions exist within the project boundaries at levels that can affect project planning, design, and/or construction. BCI conducted the Phase II in accordance with ASTM E1903-11 "Standard Practice for Environmental Site Assessment: Phase II Environmental Site Assessment Process" requirements.

This document includes background information regarding the project area, a summary of methodology used for the Phase II investigation, presents field and laboratory analytical data developed for the investigation, evaluates the findings of the investigation, and provides conclusions and recommendations related to the need for additional investigation and/or remedial action.

2 PROJECT DESCRIPTION

The City received an Active Transportation Program grant in order to improve safety around Montgomery Elementary School and to better connect the Olive Drive neighborhood to the school and other destinations to the east. The Olive Drive/Pole Line Road Bike Connection would design and construct Safe Routes to School infrastructure improvements for Montgomery Elementary School and a bicycle/pedestrian bridge from the Olive Drive neighborhood to the two-way multi-use path on the Pole Line Road overcrossing, reducing route distance to the school from 2.6 to 1.2 miles and improving safety.

The proposed improvements will be constructed entirely within existing City and Caltrans right-of-way; therefore, no additional right-of-way is required. Figure 1 is a Vicinity Map and Figure 2 is a Site Plan.

2.1 Site Location and Description

The Project is located in the City of Davis. The project area is bounded on the north by the Union Pacific Railroad, on the south by the Olive Drive off-ramp exit from westbound I-80, on the west by existing roadway and bicycle/pedestrian path, and on the east by the overhead Pole Line Road overcrossing bridge. The land is developed with the existing bicycle/pedestrian path, and natural vegetation.



2.2 Proposed Development

The Project proposes to construct a pedestrian/bicycle bridge that would connect the Olive Drive neighborhood to the two-way multi-use path on the Pole Line Road overcrossing. For the linear ramp bridge, a new cast-in-place reinforced concrete box girder bridge would be constructed. The ramp bridge is anticipated to be approximately 14 feet wide and 408 feet long with a longitudinal slope of 8 percent. Pole Line Road overcrossing would be modified where the ramp bridge connects to the overcrossing. Structure work would include removal of a portion of the existing concrete barrier on the overcrossing and construction of a new connection and joint between the ramp bridge and the overcrossing. Modification to the existing at-grade Class I Olive Drive bicycle path would include realignments at the connection to the proposed linear ramp bridge, tree and vegetation removal, planting of replacement trees, and reconstruction of existing bicycle path pavement due to the current pavement condition.

2.3 Geology

The site lies within the Great Valley Geomorphic Province of California, which is a large, elongate, northwest-trending structural trough. The Province is subdivided into two major divisions designated the Sacramento and San Joaquin Valleys. These valleys have been filled to their present elevation with thick sequences of sediment, ranging in age from Jurassic to present day, creating a nearly flat-lying alluvial plain that extends from the Tehachapi Mountains in the south to the Klamath Mountains in the north. The western and eastern boundaries of this province are formed by the California Coast Ranges and the Sierra Nevada, respectively. The Project area is located at the southern end of the Sacramento Valley and lies within sight of the Coast Range which is visible to the west of the City. Soils locally are generally clayey with varying amounts of silt.

2.4 Hydrogeology

The Yolo sub-basin of the Sacramento Valley groundwater basin underlies the majority of Yolo County including Davis. BCI reviewed general groundwater level data made available at the DWR website www.water.ca.gov/waterdatalibrary, and depth to groundwater beneath the site fluctuates from approximately 40 to 75 feet below ground surface (bgs). The surface water in Yolo County generally drains from the west to east, eventually being received by the Yolo Bypass.

2.5 Project Background and Issues

Caltrans recommended a Phase II assessment for the Project based on their review of the Preliminary Environmental Study (PES). BCI reviewed the site history and available documentation and determined there are four conditions that constitute a Recognized Environmental Condition (REC)¹ associated with

¹ BCI uses the term Recognized Environmental Condition (REC) in general but not strict compliance with ASTM E1527-13, which defines the meaning as *"the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of the appropriate regulatory agencies. Conditions determined to be de minimus are not recognized environmental conditions." BCI includes this definition to clarify conditions addressed in this ESA.*



the project area. The four RECs are the basis of this Phase II assessment and include an active railroad, interstate highway, and two closed leaking underground storage tank sites.

3 PHASE II APPROACH

Based on the location of the site, there is a potential for hazardous materials to be encountered during construction activities. The objective of this Phase II assessment is to screen for the presence of contaminants of concern using data collected from eight hand-auger soil borings. Figure 2 shows the approximate boring locations.

Data generated during this Phase II is used to evaluate and document current site conditions. The following published screening levels are used as site action levels for this project to aid in making decisions related to the need for additional assessment of the parcels:

- Regional Screening Levels (RSLs): "Regional Screening Levels for Chemical Contaminants at Superfund Sites", Environmental Protection Agency (EPA) Region IX, November 2017.
- California Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO), Human Health Risk Assessment Note Number 3; modified screening levels (DTSC-SLs), June 2016
- User's Guide: Derivation and Application of Environmental Screening Levels (ESLs), Interim Final, California Regional Water Quality Control Board (RWQCB), February 2016

BCI reviewed the results of our sample analyses with respect to relevant action levels.

4 SAMPLING METHODOLOGY

4.1 **Pre-Field Activities**

BCI contacted Underground Service Alert to identify and mark underground utilities within the investigation area before work began. A site-specific health and safety plan (HASP) was prepared for the project to inform on-site personnel about chemical and physical hazards and outline specific emergency procedures to be employed in the event of an accident or changes in field conditions. On-site personnel involved in the investigation were required to acknowledge the HASP following daily tailgate meetings. Field work was completed without incident.

4.2 Soil Sampling

BCI advanced eight (8) hand auger soil borings on November 5-6, 2018. The hand-auger borings were advanced to the desired sample depth and a slide hammer was used to drive a stainless-steel sampler equipped with a single stainless-steel liner into the soil for sample collection. The samples were retrieved from the sampler and transferred to a jar, capped, labelled, and temporarily stored in an ice chest pending delivery to the laboratory. Specifically, BCI:

- Performed six hand auger borings to an approximate depth of three (3') feet below ground surface (bgs).
- Collected soil samples at interval "A", zero to four (0-4"), Interval "B", twelve to eighteen (12-18") and Interval "C", twenty-four to thirty-six (24-36") inches bgs. One deviation from the



sampling plan occurred, Interval "C" from boring B1 was not collected due to auger refusal at 19" bgs.

- Performed two hand auger borings to an approximate depth of six (6) feet below ground surface (bgs). Collect soil samples at two to three (2-3') and five to six (5-6') feet bgs.
- Transferred samples into glass jars, label with the sample time, date, location, depth, and the sampler's initials.
- Samples were placed in a cooled ice chest and delivered to a California certified analytical laboratory under continuous chain-of-custody documentation.
- Cleaned sampling equipment with an Alconox wash solution and a distilled water rinse between each sample location.

We observed samples for general soil conditions and field indicators of contamination (odors, discoloration) during sample retrieval. No visual or olfactory indications of contamination were noted in retrieved soil samples.

Soil samples collected during this investigation were submitted to SunStar Laboratory, a certified California ELAP analytical laboratory for testing.

Boring were backfilled with cuttings and rinse water discharged to the ground. Photographs of on-site activities are in Appendix E.

4.3 Sample Analysis

BCI submitted soil samples to SunStar Laboratory, a certified ELAP analytical laboratory under continuous chain-of-custody documentation. Soil samples were analyzed for the following constituents:

- Four (4) samples from two (2) locations adjacent to the former LUST Cleanup Site were analyzed for the following:
 - Total Petroleum Hydrocarbons (TPH) as gasoline chain (GRO), TPH diesel chain (DRO) and TPH motor oil chain (MORO) by EPA Method 8015
 - Benzene, Toluene, Ethylbenzene, Xylene (BTEX)/Oxygenates by EPA Method 8260
 - o CAM17 Metals by EPA Method 6010B
 - o pH by EPA Method 9045 (one random sample)
- Seventeen (17) samples from six (6) locations adjacent to the railroad and I-80 off-ramp were analyzed for the following:
 - Semi volatile Organic Compounds (SVOCs) by EPA Method 8270
 - DRO and MORO by EPA Method 8015
 - Total Lead and Total Arsenic by EPA Method 6010B
 - Eight (8) samples with Total Lead results exceeding 50 mg/kg, were further tested for soluble lead using the Waste Extraction Test (WET) test method
 - pH by EPA Method 9045 (one random sample)

SunStar performed Quality Assurance/Quality Control (QA/QC) procedures for each method of analysis. Laboratory QA/QC procedures include method blanks, spiked, and duplicate spiked samples.



INVESTIGATION RESULTS 5

BCI discusses the results of the field and laboratory investigations in the following sections.

Subsurface Conditions 5.1

The general soil profile consists primarily of poorly-graded sand, underlain by silty sand, sandy silts, and silts, underlain by lean clays. Groundwater was not encountered. Soil boring logs are included in Appendix A.

5.2 **Sample Analytical Test Results**

Analytical results for detected compounds are summarized in Table 1 below. Applicable screening levels from the US EPA (RSLs), the California Regional Water Quality Control Board (ESLs), and DTSC-SLs, are included in the tables for comparison. Reported detections and range of reported concentrations are discussed below. Tables including complete analytical results are included in Appendix B. Laboratory analytical reports and chain-of-custody are included in Appendix C.

							Table	1							
				Summary	of Analytica	al Result	s - Pole Lin	e Ramp Stru	ucture Con	nection Proj	ect				
							Tit	le 22 Metal	s (mg/kg)					TPH (Ex Petro Hydrocarbo	tractable bleum ons) (mg/kg)
Location	Sample ID:	Sample Depth (ft):					EPA N	/lethod 601	0B				EPA Method 7470/747	EPA Met	hod 8015C
			Arsenic	Barium	Chromium	Cobalt	Copper	WET Lead mg/l	Lead	Nickel	Vanadium	Zinc	Mercury	C13-C28 (DRO)	C29-C40 (MORO)
	DB1-A	2.0	6.7	190	92	23	48	ND	39	180	81	83	0.15	ND	ND
	DB1-B	6.0	ND	200	92	24	49	ND	ND	200	89	84	ND	ND	ND
	DB2-A	2.0	ND	190	98	26	49	ND	ND	210	88	83	0.14	ND	ND
	DB2-B	6.0	8.2	210	93	24	52	ND	28	190	91	96	ND	ND	ND
	B1-A	0.5	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	ND
	B1-B	2.0	ND	NA	NA	NA	NA	6	99.0	NA	NA	NA	NA	ND	ND
	B2-A	0.5	ND	NA	NA	NA	NA	2.9	69	NA	NA	NA	NA	10	140
	B2-B	2.0	ND	NA	NA	NA	NA	1.9	70	NA	NA	NA	NA	ND	31
	B2-C	3.0	ND	NA	NA	NA	NA	1.1	60	NA	NA	NA	NA	ND	80
Adjacent to Bike	B3-A	0.5	ND	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	13	140
Path	B3-B	2.0	ND	NA	NA	NA	NA	ND	64	NA	NA	NA	NA	17	130
	B3-C	3.0	ND	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	ND	86
	B4-A	0.5	ND	NA	NA	NA	NA	15	450	NA	NA	NA	NA	170	2600
	B4-B	2.0	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	ND
	B4-C	3.0	ND	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	ND	37
	B5-A	0.5	ND	NA	NA	NA	NA	3	84	NA	NA	NA	NA	15	310
	B5-B	2.0	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	ND
	B5-C	3.0	ND	NA	NA	NA	NA	NA	31	NA	NA	NA	NA	ND	ND
	B6-A	0.5	ND	NA	NA	NA	NA	2.9	96	NA	NA	NA	NA	15	180
	B6-B	2.0	ND	NA	NA	NA	NA	NA	37	NA	NA	NA	NA	ND	ND
	B6-C	3.0	ND	NA	NA	NA	NA	NA "	24	NA	NA	NA	NA	ND	22
Repo	rting Limit**		5.00	1.00	2.00	2.00	1.00	0.1 mg/l	3.00	2.00	5.00	1.00	5.00	10.0	10.0
EPA Region 9 RSLs	Indus	trial	3.0	220,000	1,800,000*	350	47,000	5,800	800	22,000*	5,800	350,000	5,800	420+	420+
DTSC-SLs^	Comme	ercial	0.36		170,000*				320	3,100	1,000				
	Commercial	/Industrial	0.31	220,000	1,800,000	350	47,000		320	11,000	5,800	350,000	5,800	1,100	140,000
RWQCB ESLs	Constructio Expos	n Worker sure	0.98	3,000	530,000	28	14,000		160	86	470	110,000	1,800	880	32,000

Notes - B1-A = Boring Location, first sample collected from boring

- B1-A = Boring Location, Inst sample collected from boring - mg/kg = milligrams per kilogram - ug/kg = micrograms per kilogram - EPA Region 9 RSLs: US Environmental Protection Agency, Region 9, Regional Screening Levels - ND: not Analyzed - ND: not detected at or above reporting limit - DTC 6 Elsc Ciffereix Descretates of Truis Schebarg Costeol Scapenias Levels

DTSC-SLs: California Department of Toxic Substance Control Screening Levels

RWQCB ESLs: California Regional Water Quality Control Board, Environmental Screening Levels Values are for salts

* Reporting Limit may vary depending upon analytical results, see full analytical results report + RSL is dependent on aromatic/aliphatic component concentrations and ranges from 420 mg/kg (aromatic low) to 3,500,000 mg/kg (aliphatic-high) ^ Value indicated is the lower of the cancer and non-cancer endpoints



Analytical results are discussed in the following subsections by boring.

5.2.1 Borings B1-B6

The determination of the type of analytical testing for Borings B1-B6 was based on potential contaminants from the adjacent UPPR railroad and I-80 highway. I-80 is located adjacent to the south border of the project alignment. Roadways that were high use prior to the 1980's have the potential for elevated levels of Aerially Deposited Lead (ADL) due to emissions from engines powered by leaded gasoline. UPRR railroad tracks are located adjacent to the north edge of the project alignment. Soil adjacent to and beneath existing and former railroad beds have the potential for elevated levels of contaminants commonly associated with railroad activities, including petroleum hydrocarbons, lead, arsenic, and creosote.

Metals

- Arsenic was not detected above laboratory reporting limits in the seventeen (17) samples.
- Lead was reported in fourteen (14) samples ranging in concentration from 16.0 mg/kg in sample B3-A, to 450 mg/kg in sample B4-A.

Petroleum Hydrocarbons

- TPH-DRO was reported in seven (7) samples ranging in concentration from 10 mg/kg in sample B2-A, to 170 mg/kg in sample B4-A.
- TPH-MORO was reported in seven (7) samples ranging in concentration from 22 mg/kg in sample B6-C, to 2600 mg/kg in sample B4-A.

SVOCs were not detected above laboratory reporting limits for the seventeen samples analyzed. The tested **pH** was 7.9 at boring B3-B, close to neutral.

5.2.2 Borings DB1-DB2

The determination of the type of analytical testing for borings DB1 and BD2 was based on the location of two former Leaking Underground Storage Tank (LUST) sites nearby to the project area. Two sample intervals A (2-3') and B (5-6') feet bgs were assessed.

Metals

- Arsenic was reported in two (2) samples analyzed at concentrations of 6.7 mg/kg in sample DB1-A and 8.2 mg/kg in sample DB2-B.
- Barium was reported in all four (4) samples analyzed ranging in concentration from 190 mg/kg in sample DB1-A, to 210 mg/kg in sample DB2-B.
- Chromium was reported in all four (4) samples analyzed ranging in concentration from 92 mg/kg in samples DB1-A and DB1-B, to 98 mg/kg in sample DB2-A.
- Cobalt was reported in all four (4) samples analyzed ranging in concentration from 23 mg/kg in sample DB1-A, to 26 mg/kg in samples DB2-A.
- Copper was reported in all four (4) samples analyzed ranging in concentration from 48 mg/kg in sample DB1-A, to 52 mg/kg in sample DB2-B.
- Lead was reported in two (2) samples analyzed at concentrations of 28 mg/kg in sample DB2-B and 39 mg/kg in sample DB1-A.



- Nickel was reported in all four (4) samples analyzed ranging in concentration from 180 mg/kg in sample DB1-A, to 210 mg/kg in sample DB2-A.
- Vanadium was reported in all four (4) samples analyzed ranging in concentration from 81 mg/kg in sample DB1-A, to 91mg/kg in sample DB2-B.
- Zinc was reported in all four (4) samples analyzed ranging in concentration from 83 mg/kg in samples DB1-A and DB2-A, to 96 mg/kg in sample DB2-B.
- Mercury was reported in three (3) samples analyzed at concentrations of 0.14 mg/kg in sample DB2-A and 0.15 mg/kg in sample DB1-A.

BTEX and **TPHs** as **DRO** and **MORO** were not detected above laboratory reporting limits for the four samples analyzed. Tested **pH** value was 7.2 at boring DB2-B.

6 SUMMARY AND EVALUATION

Twenty-one (21) soil samples were collected from eight (8) hand-augured soil borings within the proposed project limits.

6.1 Analytical Results Discussion

Reported arsenic soil concentrations (6.7 mg/kg in sample DB1-A and 8.2 mg/kg in sample DB2-B) exceeded listed screening levels. However, the reported concentrations are within the range of accepted background concentrations in northern California. The Regional Water Quality Control Board (RWQCB) website includes a Master's Thesis prepared by Dylan Jacques Duvergé titled "Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region" (Duvergé 2011). The Duvergé thesis proposes an upper estimate for background arsenic of 11.00 mg/kg based on analysis of GeoTracker data from nine counties within the San Francisco Bay Area. The RWQCB notes in their ESL guidance that the 11.0 mg/kg level can be used as a background concentration in consultation with the overseeing regulatory agency.

Reported concentrations of barium, chromium, cobalt, copper, vanadium, zinc and mercury are below listed screening levels and are consistent with published natural background levels.². Reported concentrations of nickel for all four samples range from 180 to 210 mg/kg. These reported concentrations exceed the RWQCB ESL Construction Worker Exposure limit of 86 mg/kg for nickel, however, tested levels do not exceed the current RWQCB ESL Industrial/Commercial Exposure limit (11,000 mg/kg) for nickel in soil, or the DTSC-SL (3,100 mg/kg) for a commercial/industrial exposure scenario. The occurrence of limited exceedances for nickel in a construction worker exposure scenario do not indicate a widespread impact or pose a significant risk to workers as long as site controls to minimize construction worker exposure are implemented.

Reported concentrations of lead are discussed in Section 6.2.

²Background levels for metals are based on a California soil study (Kearney Foundation Special Report – Background Concentrations of Trace and Major Elements in California Soils, March 1996).



Reported concentrations of TPH-DORO and TPH-MORO compounds are below listed screening levels except for sample B4-A which has a TPH-MORO reported concentration of 2600 mg/kg. This reported concentration exceeds the Industrial Exposure EPA RSL of 440 mg/kg, however, is below the Construction Worker Exposure RWQCB ESL of 32,000 mg/kg. The occurrence of a limited exceedance does not indicate a widespread impact or pose a significant risk to workers.

Site soil pH is averages 7.55 (close to neutral), conditions that do not enhance metal leaching potential. The pH conditions do not impose any special soil management requirements.

6.2 Aerially Deposited Lead Summary

BCI assessed the presence of ADL in surface and shallow subsurface soil within the project improvement area. This assessment evaluates whether impacts due to ADL will require mitigation recommendations for construction.

6.3 Sample Summary

BCI obtained samples from six (6) hand auger boring locations (B1-B6) within the project limits adjacent to I80 and the UPRR railroad. Boring locations were within areas anticipated to be disturbed by the planned construction activities. In addition to the ADL sample locations, data from two deeper hand auger locations (DB1 and DB2) were included in the ADL assessment data. Sampling approach and methodology are discussed in Section 4.0.

6.4 ADL Analytical Results

Analytical results are summarized in Table 1. Test results indicate the following:

- Total lead concentrations range from below the reporting limit of 3.0 mg/kg to 450 mg/kg.
- No reported sample concentrations exceed the Total Threshold Limit Concentration (TTLC) of 1,000 mg/kg.
- Eight (8) samples exhibited total lead in excess of 50 mg/kg (i.e. ten times higher than the Soluble Threshold Limit Concentration (STLC)³ of 5.0 mg/l) and were further tested for soluble lead by the WET method. Soluble lead concentrations were found in seven (7) samples ranging from 1.1 mg/l to 15.0 mg/l. Two (2) samples exceed the STLC of 5.0 mg/l.
- Results of pH tests average 7.55.

6.5 Statistical Analysis

BCI performed statistical analysis of the ADL sample data using ProUCL 5.0 software to calculate the sample mean (average) as well as the 95% Upper Confidence Limit (UCL) on the mean. Much of the ADL data is skewed to lower concentrations and does not fit a standard distribution pattern; therefore, BCI calculated 95% UCLs using normal, gamma and non-parametric techniques that do not require data to have a specific distribution. ProUCL 5.0 software determines data calculation techniques based on data size, distribution and skewness. Appendix D presents statistical analysis calculations performed by ProUCL 5.0.

³ STLC and TTLC are regulatory limits defining hazardous waste in California



We analyzed groups of data based on sample depth. Table 2 summarizes the total lead results for each sample depth interval, as well as the combined interval (0-30"). The combined interval (0-30") provides information on the sample population as a whole. Sample B4-A (total lead concentration of 450 mg/kg) was identified as a statistical outlier (as determined by the ProUCL software) and removed from the data set to provide a more representative statistical analysis.

BCI conducted statistical analyses for all sample locations within the project limits. Table 2 presents the ranges of lead concentrations, average lead concentrations, and 95% Upper Confidence Limits (UCLs) for each depth interval.

	T/ Total Lead Statistical S All Sam	ABLE 2: Summary by Depth Interv ple Locations	val
Soil Depth Interval (inches bgs)	Total Lead (mg/kg)	Total Lead Mean (mg/kg)	Total Lead 95% UCL (mg/kg) (Calculation Technique)
0-6"	ND* to 96**	53.6	93.29 (non-parametric)
12 – 18"	ND to 99	45	71.02 (non-parametric)
24 – 30"	24 to 60	34	44.73 (non-parametric)
0-30"	ND to 99**	39.7	51.99 (non-parametric)

* ND = Not detected at a reporting limit of 3.0 mg/kg

** Outlier B4-A was removed from data set.

Based on the mean and 95% UCL values shown in Table 2, the highest concentration of lead is in the upper six inches. Total lead concentrations and the 95% UCL for all groups are well below the 1,000 mg/kg TTLC for lead.

6.6 Soluble Lead

Soluble lead testing was performed on nine samples by the WET method. Statistical modeling was utilized to analyze the WET data. Since lead solubility (WET) testing was limited to the eight samples with total lead concentrations that exceeded 50 mg/kg, an upward bias in solubility results is introduced. We therefore performed a linear regression analysis to predict the 95% UCL for WET solubility and reduce the effect of the biased sample populations. For the regression analysis, we consider eight data points and define the intercept to occur at the origin. The calculated multiple "r" correlation coefficient is 0.92 which indicates that the correlation between the total and soluble lead data sets is acceptable.



The WET data regression equation is calculated to be:

y = 0.034 (x) for all sample locations

Where:

y = soluble lead concentrations in mg/l

x = total lead concentrations in mg/kg

We used the 95% UCL values for total lead in the regression formulas to calculate the predicted WET solubility for the various soil depth intervals shown in Table 3.

		TABLE 3 Predicted Lead	3: Solubility	
Soil Depth Interval (inches bgs)	Total Lead Mean (mg/kg)	WET-Soluble Lead Mean (mg/l)	95% UCL Total Lead All Locations (mg/kg)	95% UCL WET-Soluble Lead All Locations (mg/l)
0-6"	53.6	1.82	93.29	3.17
12-18"	45	1.53	71.02	2.41
24-30"	34	1.16	44.73	1.57
0-30"	39.7	1.35	51.99	1.77

The predicted 95% UCL for the samples tested using the WET test are below the STLC of 5.0 mg/l, for all sample locations at each depth interval and combined depth intervals. The 95% UCLs for WET-Soluble Lead were below the STLC of 5.0 mg/l, therefore, none of the samples were further tested for TCLP solubility.

6.7 Conclusions

As of July 1, 2016, management of lead-impacted soil on projects within Caltrans Right of Way (ROW) is governed by the Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils (Agreement) pursuant to Health and Safety Code Section 25187 (b)(5), entered into by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), and the California Department of Transportation.

"ADL Contaminated Soil" is defined in the Agreement as excavated soil whose only constituent of concern that poses an unacceptable risk to human health or the environment is lead, in concentrations greater than considered appropriate for unrestricted use by DTSC, which is currently 80 mg/kg total lead based on a 95% upper confidence limit (UCL) and/or 5 mg/l extractable lead based on a 95% UCL, as determined by the California Waste Extraction Test (WET).



- Tested total lead concentrations based on a 95% UCL for the combined soil depth interval is below the 80 mg/kg threshold for ADL Contaminated Soil.
- Tested soluble lead concentrations determined by the WET method and based on a 95% UCL for all soil depth intervals are below the 5 mg/l threshold for ADL Contaminated Soil.
- Tested soil pH averages 7.55 (close to neutral) and does not enhance lead leaching potential.

Comparison of the test results with the soil classifications in the Agreement indicates that for the project area, excavated soil will be characterized as "Clean Soil". Handling and disposition of "Clean Soil" will not be subject to management under the conditions of the Agreement but will require contractor notification and preparation of a Lead Compliance Plan (LCP) for worker safety.

7 RECOMMENDATIONS

The results of this investigation do not indicate significant impacts to soil within the project limits. Based on soil sample analysis results, and the scope of anticipated construction work, BCI does not recommend additional soil assessment or special soil management. However, a site Health and Safety Plan (HASP) and LCP should be prepared for the project that include measures to control worker exposure to elevated levels of nickel and lead in soil. At a minimum, BCI recommends the LCP should include the following work practices:

- Keep airborne dust on site to a minimum using water.
- Prevent soil ingestion by not eating, smoking, drinking near work operations.
- Avoid runoff of dust suppression water.
- Wash hands and face before eating, drinking, smoking, or using bathroom.
- Store food and water so it will not be in contact with site soil.
- Read, review and sign the HASP.

If conditions are identified during construction that differ from the conditions identified during this investigation, BCI should be contacted to perform additional assessment as necessary.

8 LIMITATIONS

BCI performed these services in accordance with generally accepted environmental engineering principles and practices currently used in Northern California. We do not warranty our services. Our scope does not include evaluation of hazardous materials or a determination of their potential presence on site, other than as specified herein. This report is not a comprehensive site characterization and shall not be so construed. We base the findings presented in this report on limited soil sampling and laboratory analyses. This report has been prepared for Wood Rodgers. Others who use the data presented, or rely on the findings, conclusions and recommendations presented herein do so at their own risk and should determine the adequacy of the information for their own purposes. BCI makes no claim of the appropriateness for such use and is not responsible for the results of such uses.

PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

FIGURES

Vicinity Map Soil Boring Locations





2/3/2018 3534x Fig1 Pole Line Ramp Structure Connection.





2491 Boatman Avenue West Sacramento, CA 95691 Phone: (916) 375-8706 Fax: (916) 375-8709 www.blackburnconsulting.com **SITE PLAN** Pole Line Ramp Structure Connection Davis, California

LEGEND

B1 Approximate Boring Location

Source: Preliminary Layout, 1"=40' by Wood Rodgers, dated April 2018.

File No. 3534.x

December 2018

Figure 2

PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

APPENDIX A

Soil Boring Logs



BORING LOG

Boring No: DB1

		2/10/	1 Roati	man Δι	/A			Project No.: 3534.x		Sheet of
		249 Wes	t Sacr	amento		5601		Project Name:	Pole Line	e Ramp Structure Connection
blac	kburn	(916	375-	8706	, on a	5031		Project Location:	Davis, C	A
cons	sulfing	(010)) 010 (0100				Logged By:	LDM	Date: 11/6/2018
								Drilling Contractor:		Lic. No.
								Driller:		Helper:
								Drill Rig:		Method: Hand Auger
								Ground Elevation:		Depth:
								Hammer Type:	G	round Water Flowation Data
Sampler		1		Pocket		Sample			Date	
Type	Blow	%	#	Pen	Depth	Interval	Soil	Description	Time	
, ype	Counts	Rec.	" Tubes	(tsf)	in (ft)	& No	Class	Decemption	Depth	No Groundwater
				. ,	0.5			Lean CLAY with GF	RAVEL: (CL): med stiff: gravish brown:
					1			slightly moist: fine to	a med co	arse GRAVEI
					1 5			Doot		
					1.5					
					2					
		 			2.5			SILT; (ML); med sti	ff; grayisł	n brown; moist; slightly cemented
					3					
					3.5					
					4			Moderately cement	ed	
					4.5					
					5					
					5.5					
					6			FOB @ 5.5 ft bas		
					65					
					0.0			-		
					7 5					
					7.5			-		
					8			-		
		<u> </u>	ļ		8.5			4		
		 			9			4		
					9.5			4		
					10					
					10.5					
					11					
		Ī	l		11.5			1		
					12			1		
					12 5			1		
		<u> </u>			12.0			1		
	ļ	<u> </u>			13			4		
		 			13.5			4		
		 			14			4		
		ļ	ļ		14.5			4		
					15					

BORING LOG

Boring No: DB2

black const	kburn ulting	2491 Wes (916)	Boatr t Sacra) 375-8	nan Av amento 3709	e , CA 9	5691		Project No.: 3534.x Sheet of Project Name: Pole Line Ramp Structure Connection Project Location: Davis, CA Logged By: LDM Date: 11/6/2018
								Drilling Contractor: Lic. No.
								Driller: Helper:
								Drill Rig: Method:
								Ground Elevation: Depth:
								Hammer Type:
				1		I		Ground Water Elevation Data
Sampler Type	Blow	% Rec	# Tubes	Pocket Pen (tsf)	Depth	Sample Interval & No	Soil Class	Date Description Time No groundwater
	oounto	1100.	10000	(101)	0.5	0.110	Clabo	
					0.5			Lean CLAY with GRAVEL; (CL); med stiff; grayish brown; slightly moist; tine to med coarse GRAVEL
					1.5			SILT with GRAVEL; (ML); med stiff; grayish brown;moist;fine to med coarse GRAVEL
					2			
					2.5			SILT; (ML); med stiff; grayish brown; moist; slightly cemented
					3			
					3.5			Moderately cemented
					4			
					4.5			
					5			
					5.5			
					6			EOB @ 5.5 ft bgs
					6.5			
					7			
					7.5			
					8			
					8.5			
					9			
					9.5			
					10]
					10.5]
					11			1
					11.5]
					12			
					12.5]
					13			
					13.5			
					14			
					14.5			
					15			
					15.5			

PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

APPENDIX B

Complete Analytical Tables



							Pole Line R	amp Structur	e Connec	tion Project	Analytical	Results							
							TAI	BULATED SOIL	SAMPLE	ANALYTICA	L RESULTS								
											Title 22 Me	etals (mg/kg)							
Sample Location	Sample ID:	Sample Depth (ft):								EPA I	Method 60	10B							EPA Method 7470/7471
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	WET Lead mg/l	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
	DB1-A	2.0	ND	6.7	190	ND	ND	92	23	48	39	ND	180	ND	ND	ND	81	83	0.15
	DB1-B	6.0	ND	ND	200	ND	ND	92	24	49	ND	ND	200	ND	ND	ND	89	84	ND
	DB2-A	2.0	ND	ND	190	ND	ND	98	26	49	ND	ND	210	ND	ND	ND	88	83	0.14
	DB2-B	6.0	ND	8.2	210	ND	ND	93	24	52	28	ND	190	ND	ND	ND	91	96	ND
	B1-A	0.5	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
	B1-B	2.0	NA	ND	NA	NA	NA	NA	NA	NA	99.0	6	NA	NA	NA	NA	NA	NA	NA
	B2-A	0.5	NA	ND	NA	NA	NA	NA	NA	NA	69	2.9	NA	NA	NA	NA	NA	NA	NA
Adjacent to Bike Path B	B2-B	2.0	NA	ND	NA	NA	NA	NA	NA	NA	70	1.9	NA	NA	NA	NA	NA	NA	NA
	B2-C	3.0	NA	ND	NA	NA	NA	NA	NA	NA	60	1.1	NA	NA	NA	NA	NA	NA	NA
	B3-A	0.5	NA	ND	NA	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA
	B3-B	2.0	NA	ND	NA	NA	NA	NA	NA	NA	64	ND	NA	NA	NA	NA	NA	NA	NA
	B3-C	3.0	NA	ND	NA	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA	NA	NA
	B4-A	0.5	NA	ND	NA	NA	NA	NA	NA	NA	450	15	NA	NA	NA	NA	NA	NA	NA
	B4-B	2.0	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
	B4-C	3.0	NA	ND	NA	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA
	B5-A	0.5	NA	ND	NA	NA	NA	NA	NA	NA	84	3	NA	NA	NA		NA	NA	NA
	B5-B	2.0	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA		NA	NA	NA
	BS-C	3.0	NA	ND	NA	NA	NA	NA	NA	NA	31	NA 20	NA	NA	NA	NA	NA	NA	NA
	DO-A	0.5									90 27	2.9							
	BC C	2.0									<u> </u>								
Reno	bo-C	5.0	3 00	5.00	1.00	1.00	2.00	2 00	2.00	1.00	3.00		2.00	5.00	2.00	2.00	5.00	1.00	0.100
пере			5.00	5.00	1.00	1.00	2.00	2.00	2.00	1.00	5.00	0.1 mg/1	2.00	5.00	2.00	2.00	5.00	1.00	0.100
EPA Region 9 RSLs	Indust	rial	470	3.0	220,000	2,300	980	1,800,000*	350	47,000	800	5,800	22,000*	5,800	5,800	12*	5,800	350,000	46
DTSC-SLs [^]	Comme	ercial		0.36		210	7.3	170,000*			320		3,100		1,500		1,000		4.4
	Commercial/	Industrial	470	0.31	220,000	2,200	580	1,800,000	350	47,000	320	5,800	11,000	5,800	5,800	12	5,800	350,000	190
RWQCB ESLs	Construction Expos	n Worker ure	140	0.98	3,000	42	43	530,000	28	14,000	160	1,800	86	1,700	1,800	3.5	470	110,000	44

Notes

- B1-A = Boring Location, first sample collected from boring

- mg/kg = milligrams per kilogram

- ug/kg = micrograms per kilogram

- EPA Region 9 RSLs: US Environmental Protection Agency, Region 9, Regional Screening Levels

- NA: Not Analyzed

- ND: not detected at or above reporting limit

- DTSC-SLs: California Department of Toxic Substance Control Screening Levels

- RWQCB ESLs: California Regional Water Quality Control Board, Environmental Screening Levels

* Values are for salts

** Reporting Limit may vary depending upon analytical results, see full analytical results report

^ Value indicated is the lower of the cancer and non-cancer endpoints

Po	ole Line Ramp Sti	rucure Conne	ction Proje	ect	
ТАВ	ULATED SOIL SA	MPLE ANALY	TICAL RESU	JLTS	
		Sample	TPH (Exi Hydro	tractable ocarbons)	Petroleum (mg/kg)
Location	Sample ID:	Depth (ft):	EPA	Method	8015C
			C6-C12 (GRO)	C13- C28 (DRO)	C29-C40 (MORO)
	DB1-A	2.0	ND	ND	ND
	DB1-B	6.0	ND	ND	ND
	DB2-A	2.0	ND	ND	ND
	DB2-B	6.0	ND	ND	ND
	B1-A	0.5	ND	ND	ND
	B1-B	2.0	ND	ND	ND
	B2-A	0.5	ND	10	140
	B2-B	2.0	ND	ND	31
	B2-C	3.0	ND	ND	80
Adjacent to Bike	B3-A	0.5	ND	13	140
Path	B3-B	2.0	ND	17	130
Fatii	B3-C	3.0	ND	ND	86
	B4-A	0.5	ND	170	2600
	B4-B	2.0	ND	ND	ND
	B4-C	3.0	ND	ND	37
	B5-A	0.5	ND	15	310
	B5-B	2.0	ND	ND	ND
	B5-C	3.0	ND	ND	ND
	B6-A	0.5	ND	15	180
	B6-B	2.0	ND	ND	ND
	B6-C	3.0	ND	ND	22
Repo	rting Limit**		10.0	10.0	10.0
EPA Region 9 RSLs	Indust	rial	420	420	420
DTSC-SLs^	Comme	ercial			
	Commercial/	'Industrial	3,900	1,100	140,000
RWQCB ESLs	Construction Expos	n Worker ure	2,800	880	32,000

Notes

- B1-A = Boring Location, first sample collected from boring

- mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

- EPA Region 9 RSLs: US Environmental Protection Agency, Region 9, Regional Screening Levels

- NA: Not Analyzed

- ND: not detected at or above reporting limit

- DTSC-SLs: California Department of Toxic Substance Control Screening Levels

- RWQCB ESLs: California Regional Water Quality Control Board, Environmental Screening Levels

* Values are for salts

** Reporting Limit may vary depending upon analytical results, see full analytical results report

+ RSL is dependent on aromatic/aliphatic component concentrations and ranges from 420 mg/kg (aromatic low) to 3,500,000 ^ Value indicated is the lower of the cancer and non-cancer endpoints

											Pole Lin	e Ramp Structu	re Connection P	Project												
											TABOLAT	S	Semi-Volatile Or	rganic Compo	ounds (SVO	Cs) (µg/kg)										
Location	Sample ID:	Sample Depth (ft):											I	EPA Method	8270C											
			Carbazole	Aniline	Phenol	2,4- Dinitroto uene	Pentachlorop henol	Pyrene	Acenapht hylene	Anthracene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	2- Chlorophe nol	Benzo (g,h,i) perylene	Benzo (a) pyrene	Benzyl alcohol	Bis(2- chloroethoxy)me thane	Bis(2- chloroethyl)et her	Bis(2- chloroisoprop yl)ether	Bis(2- ethylhexyl)ph thalate	4-Bromophenyl phenyl ether	Butyl benzyl phthalate	4- Chloroa niline	1,4- Dichlorobe nzene	2- Chloronap hthalene
	DB1-A	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB1-B	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB2-A	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B1-A	6.0			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND			ND				ND
	B1-B 2.0 ND														ND											
	B1-B C.0 ND																									
	B2-A 0.5 ND																									
	B2-B 2.0 ND																									
Adjacent to Bike	B2-C 3.0 ND																									
Path	bit of the set of the															ND										
	B3-A 0.5 ND																									
	B3-B 2.0 ND														ND											
	Path A.C. A.C. <th< td=""></th<>																									
	B5-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B5-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B5-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ren	BB-C	3.0	3000.0	3000 0	10000 0	3000.0	10000 0	3000.0	3000 0	ND 3000.0	3000.0	ND 3000.0	ND 3000.0	10000.0	ND	3000.0	ND 3000.0	ND 3000.0	ND 3000.0	3000 0	3000.0	ND 3000.0	3000.0	3000.0	2000.0	3000.0
EPA Region 9 RSLs	Indus	trial		400,000	25,000,000,000	7,400	4,000	23,000,000		230,000,000	21,000	21,000	210,000	5,800,000		2,100			1,000		160,000		1,200,000	11,000	11,000	
DTSC-SLs^	Comm	ercial																								
RWQCB ESLs	Commercial	/Industrial			350,000	11.0	4.0	23,000		230,000	2.9	2.9	29.0	5,800		0.29			0.53	16.0	160				13.0	
Notes - B1-A = Boring Locatio - mg/kg = milligrams pe - ug/kg = micrograms p - EPA Region 9 RSLs: US - NA: Not Analyzed - ND: not detected at o - DTSC-SLs: California - RWQCB ESLs: California * Values are for salts ** Reporting Limit may ^ Value indicated is the	n, first sample coll er kilogram er kilogram 5 Environmental Pr r above reporting vepartment of Tox ia Regional Water r vary depending u e lower of the canc	ected from bori otection Agence limit ic Substance Con Quality Control pon analytical re er and non-can	ng y, Region 9, Re ntrol Screenin, Board, Enviro esults, see full cer endpoints	egional Scre g Levels nmental Sc analytical i	eening Levels creening Levels results report																					

											Pole Lin	e Ramp Struct	ure Connectio	on Project												
											TABULAT	ED SOIL SAMP	LE ANALYTIC	AL RESULTS												
													Semi-Volatile	e Organic Cor	npounds (SVOCs)	(µg/kg)										
Location	Sample ID:	Sample Depth (ft):												EPA Meth	od 8270C											
			4-Chloropheny phenyl ether	Chrysene	Dibenz (a,h) anthracene	Dibenzofur an	Di-n-butyl phthalate	1,2- Dichlorobe nzene	1,3- Dichlorob enzene	N-Nitrosodi-n- propylamine	2,4- Dichloroph enol	Diethyl phthalate	2,4- Dimethylph enol	Dimethyl phthalate	4,6-Dinitro-2- methylphenol	2,4- Dinitrophe nol	2,6- Dinitroto uene	1,2,4- I Trichlorob enzene	Di-n-octyl phthalate	Fluoranthen e	Fluorene	Hexachlorob enzene	Hexachlorob utadiene	Hexachlorocy clopentadien e	Hexachloroe thane	Indeno (1,2,3-cd) pyrene
	DB1-A	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB1-B	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB2-A	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB2-B	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B1-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
	B1-B B2-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B2-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B2-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Adjacent to Bike	B3-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Path	B3-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1 441	B3-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B4-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B4-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND	ND
	B4-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
	B5-A B5-B	2.0	ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
	B5-D B5-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Rep	orting Limit**		3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	10000.0	3000.0	10000.0	3000.0	10000.0	10000.0	10000.0	3000.0	3000.0	3000.0	3000.0	15000.0	3000.0	10000.0	3000.0	3000.0
EPA Region 9 RSLs	Indus	strial		2,100,000	2,100	1,000,000		9,300,000		330	2,500,000	660,000,000	16,000,000			1,600,000	1,500	110,000	8,200,000	30,000,000	30,000,000	960	5,300	7,500	8,000	21,000
DTSC-SLs^	Comm	ercial																								
RWQCB ESLs	Commercial	/Industrial		260	0.29			11,000			3,500	660,000	23,000			2,300		110		30,000	30,000	1.5	42.0		57.0	2.9
 B1-A = Boring Locatio mg/kg = milligrams programs program	n, first sample coll er kilogram Fr kilogram 5 Environmental Pr er above reporting bepartment of Toxi ia Regional Water v vary depending u e lower of the canc	ected from bor rotection Agend limit ic Substance Co Quality Contro upon analytical cer and non-can	ing cy, Region 9, Regior Introl Screening Lev I Board, Environme results, see full ana iccer endpoints	nal Screening L vels ental Screening Ilytical results r	evels ; Levels report																					

									Pole	Line Ram	p Structu	re Conne	ction Project												
									TABUL	ATED SO		E ANALY		S											
											Sen	ni-Volatile	e Organic Con	npounds (S	SVOCs) (μg/	kg)									
Location	Sample ID:	Sample Depth (ft):			_					_		_	EPA Meth	od 8270C	_	_	_	_	_		_				
			Isophorone	4-Chloro-3- methylphenol	2- Methylphenol	4- Methylp henol	Naphthalene	2- Nitroaniline	3- Nitroa niline	4- Nitroan iline	Nitrobe nzene	2- Nitroph enol	N- Nitrosodime thylamine	1- Methyln aphthale	2- Methylna phthalene	N- Nitrosodip henylamin	2,3,5,6- Tetrachlor ophenol	2,3,4,6- Tetrachlor ophenol	Phenant hrene	Azobenz ene	2,4,5- Trichlorop henol	Pyridine	2,4,6- Trichlorop henol	4- Nitrophe nol	Acenaphth ene
	DB1-A	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB1-B	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB2-A	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DB2-B	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B1-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B1-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B2-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B2-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B2-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B3-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Adjacent to Bike Path	B3-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B3-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B4-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B4-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B4-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B5-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B5-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B5-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-A	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-B	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	B6-C	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Report	ng Limit**		3000.0	10000.0	10000.0	10000.0	3000.0	3000.0	3000.0	3000.0	10000.0	10000.0	3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	10000.0	3000.0	10000.0	10000.0	3000.0
EPA Region 9 RSLs	Indust	rial	2,400,000				17,000	8,000,000		110,000	22,000		34.0	73,000	3,000,000	470,000		25,000,000		26,000	82,000,000		1,200,000		45,000,000
DTSC-SLs^	Comme	ercial																					21,000		
RWQCB ESLs	Commercial/	'Industrial					14.0								3,000						120,000		47.0		45,000

Notes

B1-A = Boring Location, first sample collected from boring
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
EPA Region 9 RSLs: US Environmental Protection Agency, Region 9, Regional Screening Levels

- NA: Not Analyzed

- ND: not detected at or above reporting limit

DTSC-SLs: California Department of Toxic Substance Control Screening Levels
 RWQCB ESLs: California Regional Water Quality Control Board, Environmental Screening Levels

* Values are for salts

** Reporting Limit may vary depending upon analytical results, see full analytical results report

^ Value indicated is the lower of the cancer and non-cancer endpoints

							Table	4							
				Summa	ary of Analyti	cal Resul	ts - Pole Lin	e Ramp Struc	ture Conne	ection Project					
		Commun					Ti	tle 22 Metal	s (mg/kg)					TPH (Ex Petroleum H (mg	tractable ydrocarbons) ;/kg)
Location	Sample ID:	Depth (ft):					EPA I	Viethod 6010)B				EPA Method 7470/747	EPA Metl	nod 8015C
			Arsenic	Barium	Chromium	Cobalt	Copper	WET Lead mg/l	Lead	Nickel	Vanadium	Zinc	Mercury	C13-C28 (DRO)	C29-C40 (MORO)
	DB1-A	2.0	6.7	190	92	23	48	ND	39	180	81	83	0.15	ND	ND
	DB1-B	6.0	ND	200	92	24	49	ND	ND	200	89	84	ND	ND	ND
	DB2-A	2.0	ND	190	98	26	49	ND	ND	210	88	83	0.14	ND	ND
	DB2-B	6.0	8.2	210	93	24	52	ND	28	190	91	96	ND	ND	ND
	B1-A	0.5	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	ND
	B1-B	2.0	ND	NA	NA	NA	NA	6	99.0	NA	NA	NA	NA	ND	ND
	B2-A	0.5	ND	NA	NA	NA	NA	2.9	69	NA	NA	NA	NA	10	140
	B2-B	2.0	ND	NA	NA	NA	NA	1.9	70	NA	NA	NA	NA	ND	31
	B2-C	3.0	ND	NA	NA	NA	NA	1.1	60	NA	NA	NA	NA	ND	80
Adiacent to Bike	B3-A	0.5	ND	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	13	140
Path	ВЗ-В	2.0	ND	NA	NA	NA	NA	ND	64	NA	NA	NA	NA	17	130
	B3-C	3.0	ND	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	ND	86
	B4-A	0.5	ND	NA	NA	NA	NA	15	450	NA	NA	NA	NA	170	2600
	B4-B	2.0	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	ND
	B4-C	3.0	ND	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	ND	37
	B5-A	0.5	ND	NA	NA	NA	NA	3	84	NA	NA	NA	NA	15	310
	B5-B	2.0	ND	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	ND
	B5-C	3.0	ND	NA	NA	NA	NA	NA	31	NA	NA	NA	NA	ND	ND
	B6-A	0.5	ND	NA	NA	NA	NA	2.9	96	NA	NA	NA	NA	15	180
	B6-B	2.0		NA	NA	NA	NA	NA	3/	NA	NA	NA	NA NA	ND	
Dama	B6-C	3.0	ND	NA 1.00	NA 2.00	NA 2.00	NA 1.00		24	NA 2.00	NA F 00	NA 1.00	NA F. 00	ND 10.0	22
керо	rting Limit**		5.00	1.00	2.00	2.00	1.00	0.1 mg/1	3.00	2.00	5.00	1.00	5.00	10.0	10.0
EPA Region 9 RSLs	Indust	rial	3.0	220,000	1,800,000*	350	47,000	5,800	800	22,000*	5,800	350,000	5,800	420+	420+
DTSC-SLs^	Comme	ercial	0.36		170,000*				320	3,100	1,000				
	Commercial/	/Industrial	0.31	220,000	1,800,000	350	47,000		320	11,000	5,800	350,000	5,800	1,100	140,000
RWQCB ESLs	Construction Expos	n Worker ure	0.98	3,000	530,000	28	14,000		160	86	470	110,000	1,800	880	32,000

Notes

- B1-A = Boring Location, first sample collected from boring

- mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

- EPA Region 9 RSLs: US Environmental Protection Agency, Region 9, Regional Screening Levels

- NA: Not Analyzed

- ND: not detected at or above reporting limit

- DTSC-SLs: California Department of Toxic Substance Control Screening Levels

- RWQCB ESLs: California Regional Water Quality Control Board, Environmental Screening Levels

* Values are for salts

** Reporting Limit may vary depending upon analytical results, see full analytical results report

+ RSL is dependent on aromatic/aliphatic component concentrations and ranges from 420 mg/kg (aromatic low) to 3,500,000 mg/kg (aliphatic-high)

^ Value indicated is the lower of the cancer and non-cancer endpoints

PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

APPENDIX C

Laboratory Analytical Reports



SunStar – Laboratories, Inc.

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

14 November 2018

Laura Long Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento, CA -RE: Pole Line Ramp

Enclosed are the results of analyses for samples received by the laboratory on 11/07/18 09:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Krin Kubita

Kris Kubota Project Manager Assistant



25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-A	T183338-01	Soil	11/05/18 10:25	11/07/18 09:45
B1-B	T183338-02	Soil	11/05/18 11:05	11/07/18 09:45
B2-A	T183338-03	Soil	11/05/18 11:40	11/07/18 09:45
В2-В	T183338-04	Soil	11/05/18 11:50	11/07/18 09:45
B2-C	T183338-05	Soil	11/05/18 12:00	11/07/18 09:45
B3-A	T183338-06	Soil	11/05/18 12:30	11/07/18 09:45
В3-В	T183338-07	Soil	11/05/18 12:35	11/07/18 09:45
B3-C	T183338-08	Soil	11/05/18 13:00	11/07/18 09:45
B4-A	T183338-09	Soil	11/05/18 13:10	11/07/18 09:45
B4-B	T183338-10	Soil	11/05/18 13:20	11/07/18 09:45
B4-C	T183338-11	Soil	11/05/18 13:35	11/07/18 09:45
B5-A	T183338-12	Soil	11/05/18 13:50	11/07/18 09:45
В5-В	T183338-13	Soil	11/05/18 14:05	11/07/18 09:45
B5-C	T183338-14	Soil	11/05/18 14:20	11/07/18 09:45
B6-A	T183338-15	Soil	11/06/18 07:10	11/07/18 09:45
В6-В	T183338-16	Soil	11/06/18 07:15	11/07/18 09:45
В6-С	T183338-17	Soil	11/06/18 07:25	11/07/18 09:45
DB1-A	T183338-18	Soil	11/06/18 07:45	11/07/18 09:45
DB1-B	T183338-19	Soil	11/06/18 08:10	11/07/18 09:45
DB2-A	T183338-20	Soil	11/06/18 09:05	11/07/18 09:45
DB2-B	T183338-21	Soil	11/06/18 09:20	11/07/18 09:45

SunStar Laboratories, Inc.

Kris Kubite

Kris Kubota, Project Manager Assistant



SunStar Laboratories, Inc.

Krin Kubita

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2491 Boatman Ave. West Sacramento CA, -	Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long			Reported: 11/14/18 09:25	
Sample ID: B3-A	Laborat	ory ID:	T183338-06		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
C13-C28 (DRO)	13	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	140	10	mg/kg	EPA 8015B	
Lead	16	3.0	mg/kg	EPA 6010b	
Sample ID: B3-B	Laborat	ory ID:	T183338-07		
		Poporting			
Anglyta	Result	Limit	Unite	Method	Notes
C13-C28 (DRO)	17	10	ma/ka	FPA 8015B	TUTES
C29-C40 (MORO)	130	10	mg/kg	EPA 8015B	
Lead	64	3.0	mg/kg	EPA 6010b	
рН	6.8	0.1	pH Units	EPA 9045B	
Sample ID: B3-C	Laborat	ory ID:	T183338-08		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
C29-C40 (MORO)	86	10	mg/kg	EPA 8015B	
Lead	29	3.0	mg/kg	EPA 6010b	
Sample ID: B4-A	Laborat	ory ID:	T183338-09		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
C13-C28 (DRO)	170	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	2600	10	mg/kg	EPA 8015B	
Lead	250	3.0	mg/kg	EPA 6010b	
Sample ID: B4-B	Laborat	ory ID:	T183338-10		

No Results Detected

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA	Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long				Reported: 11/14/18 09:25
		>			11,1,1,1,0,0,120
Sample ID: B4-C	Laboratory II	D:	T183338-11		
	Repo	rting			
Analyte	Result	Limit	Units	Method	Notes
Lead	32	3.0	mg/kg	EPA 6010b	
Sample ID: B5-A	Laboratory II	D:	T183338-12		
	Repo	rting			
Analyte	Result	Limit	Units	Method	Notes
C13-C28 (DRO)	15	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	310	10	mg/kg	EPA 8015B	
Lead	84	3.0	mg/kg	EPA 6010b	

 Sample ID:
 B5-B
 Laboratory ID:
 T183338-13

No Results Detected

Sample ID: B5-C	Laborator	ry ID:	T183338-14			
	R	Reporting				
Analyte	Result	Limit	Units	Method	Notes	
Lead	31	3.0	mg/kg	EPA 6010b		
Sample ID: B6-A	Laborator	ry ID:	T183338-15			
Reporting						
Analyte	Result	Limit	Units	Method	Notes	
C13-C28 (DRO)	15	10	mg/kg	EPA 8015B		
C29-C40 (MORO)	180	10	mg/kg	EPA 8015B		
Lead	96	3.0	mg/kg	EPA 6010b		
Sample ID: B6-B	Laborator	ry ID:	T183338-16			
	R	Reporting				
Analyte	Result	Limit	Units	Method	Notes	
Lead	37	3.0	mg/kg	EPA 6010b		

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Blackburn Consulting-West Sac.

2491 Boatman Ave. West Sacramento CA, - 25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949 297 5027 Fax

11/14/18 09:25

Services Nationwide	949.297.5020 Filone 949.297.5027 Fax	
Project: Pc	ole Line Ramp	
Project Number: 35	534.x Reported:	

		Reporting			
Analyte	Result	Limit	Units	Method	Note
C29-C40 (MORO)	22	10	mg/kg	EPA 8015B	
Lead	24	3.0	mg/kg	EPA 6010b	

Project Manager: Laura Long

	Bustin	<i></i>	1100000 10		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Arsenic	6.7	5.0	mg/kg	EPA 6010b	
Barium	190	1.0	mg/kg	EPA 6010b	
Chromium	92	2.0	mg/kg	EPA 6010b	
Cobalt	23	2.0	mg/kg	EPA 6010b	
Copper	48	1.0	mg/kg	EPA 6010b	
Lead	39	3.0	mg/kg	EPA 6010b	
Nickel	180	2.0	mg/kg	EPA 6010b	
Vanadium	81	5.0	mg/kg	EPA 6010b	
Zinc	83	1.0	mg/kg	EPA 6010b	
Mercury	0.15	0.10	mg/kg	EPA 7471A Soil	

Sample ID: DB1-B	Laborato	Laboratory ID:			
	H	Reporting			
Analyte	Result	Limit	Units	Method	Notes
Barium	200	1.0	mg/kg	EPA 6010b	
Chromium	92	2.0	mg/kg	EPA 6010b	
Cobalt	24	2.0	mg/kg	EPA 6010b	
Copper	49	1.0	mg/kg	EPA 6010b	
Nickel	200	2.0	mg/kg	EPA 6010b	
Vanadium	89	5.0	mg/kg	EPA 6010b	
Zinc	84	1.0	mg/kg	EPA 6010b	

Sample ID:	DB2-A	Laboratory ID:		T183338-20		
Reporting						
Analyte		Result	Limit	Units	Method	Notes
Barium		190	1.0	mg/kg	EPA 6010b	
Chromium		98	2.0	mg/kg	EPA 6010b	
Cobalt		26	2.0	mg/kg	EPA 6010b	

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Sample ID:	ole ID: DB2-A Labora		ory ID:	T183338-20		
]	Reporting			
Analyte		Result	Limit	Units	Method	Notes
Copper		49	1.0	mg/kg	EPA 6010b	
Nickel		210	2.0	mg/kg	EPA 6010b	
Vanadium		88	5.0	mg/kg	EPA 6010b	
Zinc		83	1.0	mg/kg	EPA 6010b	
Mercury		0.14	0.10	mg/kg	EPA 7471A Soil	

Sample ID:	DB2-B	Lab	Laboratory ID:			
Reporting						
Analyte		Result	Limit	Units	Method	Notes
Arsenic		8.2	5.0	mg/kg	EPA 6010b	
Barium		210	1.0	mg/kg	EPA 6010b	
Chromium		93	2.0	mg/kg	EPA 6010b	
Cobalt		24	2.0	mg/kg	EPA 6010b	
Copper		52	1.0	mg/kg	EPA 6010b	
Lead		28	3.0	mg/kg	EPA 6010b	
Nickel		190	2.0	mg/kg	EPA 6010b	
Vanadium		91	5.0	mg/kg	EPA 6010b	
Zinc		96	1.0	mg/kg	EPA 6010b	
pH		7.2	0.1	pH Units	EPA 9045B	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp Long				Reported: 11/14/18 09:25	
		T183	B1-A 38-01 (Sc	sil)					
		11050	50-01 (50	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	es, Inc.					
Extractable Petroleum Hydrocarbons	by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		100 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	ND	3.0	"	"	"	"	"	"	
Semivolatile Organic Compounds by E	EPA Method 8270C								
Carbazole	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	300	"	"	"	"	"	"	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp c Long				Reported 11/14/18 09	: 1:25
		T1833	B1-A 338-01 (Se	oil)					
		Reporting)					
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by	EPA Method 8270C								
Bis(2-chloroethoxy)methane	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"		"	"	"	
Hexachloroethane	ND	300	"	"		"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"		"	"	"	
Isophorone	ND	300	"	"		"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Krin Kubita

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
		T1833	B1-A 38-01 (So	oil)					
Analyte	Result	Reporting	Units	Dilution	Batch	Prenared	Analyzed	Method	Notes
		SunStar L	aboratori	ies. Inc.					
Samiyalatila Organia Compounds by	EDA Mothod 9270C	Sunstar E	abor ator						
4-Methylphenol	ND	1000	11g/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Nanhthalene	ND	300	ug/kg "	"	"	"	"	" "	
2-Nitroaniline	ND	300	"	"		"			
3-Nitroaniline	ND	300	"	"		"	"	"	
4-Nitroaniline	ND	300	"	"		"	"	"	
Nitrobenzene	ND	1000	"	"		"		"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
Azobenzene	ND	300	"	"	"	"	"	"	
Pyridine	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		68.5 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		88.5 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		66.9 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		77.2 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		90.4 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		114 %	29.1	-130	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp C Long				Reported : 11/14/18 09	: :25
		T1833	B1-B 338-02 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons by 8	8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"		"		"	
C29-C40 (MORO)	ND	10	"	"		"	"	"	
Surrogate: p-Terphenyl		107 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	99	3.0	"	"	"	"		"	
Semivolatile Organic Compounds by EPA	Method 8270C								
Carbazole	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Phenol	ND	1000	"	"		"	"	"	
Aniline	ND	300	"	"		"	"	"	
2-Chlorophenol	ND	1000	"	"		"	"	"	
1,4-Dichlorobenzene	ND	300	"	"		"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"		"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"		"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"		"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"		"	"	"	
2,4-Dinitrotoluene	ND	300	"	"		"	"	"	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"		"		"	
Anthracene	ND	300	"	"		"		"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"		"	"	"	
Benzo (k) fluoranthene	ND	300	"	"		"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"		"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Proje Project Numb Project Manag	ect: Pole L per: 3534.3 ger: Laura			Reported: 11/14/18 09	ed: 09:25		
	T1833	B1-B 38-02 (Se	oil)					
Analyte Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	SunStar L	aborator	ies, Inc.					
Semivolatile Organic Compounds by EPA Method 8270	С							
Bis(2-chloroethoxy)methane ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Bis(2-chloroethyl)ether ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate ND	300	"	"	"	"	"	"	
4-Chloroaniline ND	300	"	"	"	"	"	"	
2-Chloronaphthalene ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether ND	300	"	"	"	"	"	"	
Chrysene ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene ND	300	"	"	"	"	"	"	
Dibenzofuran ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol ND	1000	"	"	"	"	"	"	
Diethyl phthalate ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol ND	1000	"	"	"	"	"	"	
Dimethyl phthalate ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate ND	300	"	"	"	"	"	"	
Fluoranthene ND	300	"	"	"	"	"	"	
Fluorene ND	300	"	"	"	"	"	"	
Hexachlorobenzene ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene ND	1000	"	"	"	"	"	"	
Hexachloroethane ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene ND	300	"	"	"	"	"	"	
Isophorone ND	300	"	"	"	"	"	"	
2-Methylphenol ND	1000	"	"	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave.		Reported:								
West Sacramento CA, -		Project Manag	ger: Laura	Long				11/14/18 09:25		
			B1-B							
		T1833	338-02 (So	oil)						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aboratori	ies, Inc.						
Semivolatile Organic Compounds by H	EPA Method 8270C									
4-Methylphenol	ND	1000	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C		
Naphthalene	ND	300	"	"	"	"	"	"		
2-Nitroaniline	ND	300	"	"	"	"	"	"		
3-Nitroaniline	ND	300	"	"	"	"	"	"		
4-Nitroaniline	ND	300	"	"	"	"	"	"		
Nitrobenzene	ND	1000	"	"	"	"	"	"		
2-Nitrophenol	ND	1000	"	"	"	"	"	"		
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"		
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"		
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"		
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"		
Phenanthrene	ND	300	"	"	"	"	"	"		
Azobenzene	ND	300	"	"	"	"	"	"		
Pyridine	ND	300	"	"	"	"	"	"		
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"		
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"		
Surrogate: 2-Fluorophenol		72.0 %	15-	121	"	"	"	"		
Surrogate: Phenol-d6		81.9 %	24-	113	"	"	"	"		
Surrogate: Nitrobenzene-d5		78.2 %	21.3	-119	"	"	"	"		
Surrogate: 2-Fluorobiphenyl		88.2 %	32.4	-102	"	"	"	"		
Surrogate: 2,4,6-Tribromophenol		91.7 %	18.1	-105	"	"	"	"		
Surrogate: Terphenyl-dl4		94.5 %	29.1	-130	"	"	"	"		

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numl Project Manaş	ect: Pole L per: 3534.x ger: Laura	ine Ramp a Long				Reported: 11/14/18 09:25	
		T1833	B2-A 338-03 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons	s by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	10	10	"	"	"	"		"	
C29-C40 (MORO)	140	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		109 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	69	3.0	"	"	"	"	"	"	
Semivolatile Organic Compounds by	EPA Method 8270C								
Carbazole	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Phenol	ND	10000	"	"	"	"	"	"	R-07
Aniline	ND	3000	"	"	"	"		"	R-07
2-Chlorophenol	ND	10000	"	"	"	"		"	R-07
1,4-Dichlorobenzene	ND	3000	"	"	"	"		"	R-07
N-Nitrosodi-n-propylamine	ND	3000	"	"	"	"		"	R-07
1,2,4-Trichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
4-Chloro-3-methylphenol	ND	10000	"	"	"	"	"	"	R-07
1-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
2-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthene	ND	3000	"	"	"	"	"	"	R-07
4-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrotoluene	ND	3000	"	"	"	"	"	"	R-07
Pentachlorophenol	ND	10000	"	"	"	"	"	"	R-07
Pyrene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthylene	ND	3000	"	"	"	"	"	"	R-07
Anthracene	ND	3000	"	"	"	"		"	R-07
Benzo (a) anthracene	ND	3000	"	"	"	"		"	R-07
Benzo (b) fluoranthene	ND	3000	"	"	"	"		"	R-07
Benzo (k) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (g,h,i) perylene	ND	10000	"	"	"	"	"	"	R-07
Benzo (a) pyrene	ND	3000	"	"	"	"	"	"	R-07
Benzyl alcohol	ND	3000	"	"	"		"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp c Long				Reported : 11/14/18 09	:25
	T1833	B2-A 338-03 (So	oil)					
Analyte Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by EPA Method 8270C								
Bis(2-chloroethoxy)methane ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether ND	3000	"	"		"	"	"	R-07
Bis(2-chloroisopropyl)ether ND	3000	"	"	"	"	"	"	R-07
Bis(2-ethylhexyl)phthalate ND	3000	"	"	"	"	"	"	R-07
4-Bromophenyl phenyl ether ND	3000	"	"	"	"	"	"	R-07
Butyl benzyl phthalate ND	3000	"	"	"	"	"	"	R-07
4-Chloroaniline ND	3000	"	"	"	"	"	"	R-07
2-Chloronaphthalene ND	3000	"	"	"	"	"	"	R-07
4-Chlorophenyl phenyl ether ND	3000	"	"	"	"	"	"	R-07
Chrysene ND	3000	"	"	"	"	"	"	R-07
Dibenz (a,h) anthracene ND	3000	"	"		"	"	"	R-07
Dibenzofuran ND	3000	"	"		"	"	"	R-07
Di-n-butyl phthalate ND	3000	"	"	"	"	"	"	R-07
1,2-Dichlorobenzene ND	3000	"	"	"	"	"	"	R-07
1,3-Dichlorobenzene ND	3000	"	"	"	"	"	"	R-07
2,4-Dichlorophenol ND	10000	"	"	"	"	"	"	R-07
Diethyl phthalate ND	3000	"	"		"	"	"	R-07
2,4-Dimethylphenol ND	10000	"	"	"	"	"	"	R-07
Dimethyl phthalate ND	3000	"	"	"	"	"	"	R-07
4,6-Dinitro-2-methylphenol ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrophenol ND	10000	"	"	"	"	"	"	R-07
2,6-Dinitrotoluene ND	10000	"	"	"	"	"	"	R-07
Di-n-octyl phthalate ND	3000	"	"	"	"	"	"	R-07
Fluoranthene ND	3000	"	"	"		"	"	R-07
Fluorene ND	3000	"	"	"		"	"	R-07
Hexachlorobenzene ND	15000	"	"		"	"	"	R-07
Hexachlorobutadiene ND	3000	"	"	"	"	"	"	R-07
Hexachlorocyclopentadiene ND	10000	"	"	"	"	"	"	R-07
Hexachloroethane ND	3000	"	"		"	"		R-07
Indeno (1,2,3-cd) pyrene ND	3000	"	"		"	"		R-07
Isophorone ND	3000	"	"		"	"		R-07
2-Methylphenol ND	10000	"	"	"	"	"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long B2-A								
		T1833	338-03 (Se	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by E	CPA Method 8270C								
4-Methylphenol	ND	10000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Naphthalene	ND	3000	"	"	"	"	"	"	R-07
2-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
3-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
4-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
Nitrobenzene	ND	10000	"	"	"	"	"	"	R-07
2-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
N-Nitrosodimethylamine	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodiphenylamine	ND	3000	"	"	"	"	"	"	R-07
2,3,5,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
2,3,4,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
Phenanthrene	ND	3000	"	"	"	"	"	"	R-07
Azobenzene	ND	3000	"	"	"	"	"	"	R-07
Pyridine	ND	3000	"	"	"	"	"	"	R-07
2,4,5-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
2,4,6-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
Surrogate: 2-Fluorophenol		73.5 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		85.2 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		78.8 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		95.5 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		86.3 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		106 %	29.1	-130	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp C Long				Reported: 11/14/18 09:	25
		T1833	B2-B 338-04 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons	s by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"		"	
C29-C40 (MORO)	31	10	"	"	"	"		"	
Surrogate: p-Terphenyl		104 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	70	3.0	"	"		"	"	"	
Semivolatile Organic Compounds by	EPA Method 8270C								
Carbazole	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Phenol	ND	10000	"	"	"	"	"	"	R-07
Aniline	ND	3000	"	"	"	"	"	"	R-07
2-Chlorophenol	ND	10000	"	"	"	"		"	R-07
1,4-Dichlorobenzene	ND	3000	"	"	"	"		"	R-07
N-Nitrosodi-n-propylamine	ND	3000	"	"	"	"	"	"	R-07
1,2,4-Trichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
4-Chloro-3-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2-Methylnaphthalene	ND	3000	"	"	"	"		"	R-07
1-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthene	ND	3000	"	"	"	"	"	"	R-07
4-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrotoluene	ND	3000	"	"	"	"	"	"	R-07
Pentachlorophenol	ND	10000	"	"	"	"	"	"	R-07
Pyrene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthylene	ND	3000	"	"	"	"	"	"	R-07
Anthracene	ND	3000	"	"	"	"		"	R-07
Benzo (a) anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (b) fluoranthene	ND	3000	"	"	"	"		"	R-07
Benzo (k) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (g,h,i) perylene	ND	10000	"	"	"	"	"	"	R-07
Benzo (a) pyrene	ND	3000	"	"	"	"	"	"	R-07
Benzyl alcohol	ND	3000	"	"	"	"	"	"	R-07

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Krin Kubita

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp c Long				Reported : 11/14/18 09	:25
		T1833	B2-B 338-04 (Se	oil)					
Analyza	Recult	Reporting	Unite	Dilution	Batch	Prenared	Analyzed	Method	Notes
Analyte	Kesun	Liint	Onits	Dilution	Baten	Trepareu	Anaryzeu	Wiethod	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by EPA Me	ethod 8270C								
Bis(2-chloroethoxy)methane	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether	ND	3000	"	"	"	"	"	"	R-07
Bis(2-chloroisopropyl)ether	ND	3000	"	"	"	"	"	"	R-07
Bis(2-ethylhexyl)phthalate	ND	3000	"	"	"	"	"	"	R-07
4-Bromophenyl phenyl ether	ND	3000	"	"	"	"	"	"	R-07
Butyl benzyl phthalate	ND	3000	"	"	"	"	"	"	R-07
4-Chloroaniline	ND	3000	"	"	"	"	"	"	R-07
2-Chloronaphthalene	ND	3000	"	"	"	"	"	"	R-07
4-Chlorophenyl phenyl ether	ND	3000	"	"	"	"	"	"	R-07
Chrysene	ND	3000	"	"	"	"	"	"	R-07
Dibenz (a,h) anthracene	ND	3000	"	"	"	"	"	"	R-07
Dibenzofuran	ND	3000	"	"	"	"	"	"	R-07
Di-n-butyl phthalate	ND	3000	"	"	"	"	"	"	R-07
1,2-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
1,3-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
2,4-Dichlorophenol	ND	10000	"	"	"	"	"	"	R-07
Diethyl phthalate	ND	3000	"	"	"	"	"	"	R-07
2,4-Dimethylphenol	ND	10000	"	"	"	"	"	"	R-07
Dimethyl phthalate	ND	3000	"	"	"	"	"	"	R-07
4,6-Dinitro-2-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,6-Dinitrotoluene	ND	10000	"	"	"	"	"	"	R-07
Di-n-octyl phthalate	ND	3000	"	"	"	"	"	"	R-07
Fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Fluorene	ND	3000	"	"	"	"	"	"	R-07
Hexachlorobenzene	ND	15000	"	"	"	"	"	"	R-07
Hexachlorobutadiene	ND	3000	"	"	"	"	"	"	R-07
Hexachlorocyclopentadiene	ND	10000	"	"	"	"	"	"	R-07
Hexachloroethane	ND	3000	"	"		"	"	"	R-07
Indeno (1,2,3-cd) pyrene	ND	3000	"	"	"	"	"	"	R-07
Isophorone	ND	3000	"	"	"	"	"	"	R-07
2-Methylphenol	ND	10000	"	"		"	"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
		T1833	B2-B 338-04 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by E	CPA Method 8270C								
4-Methylphenol	ND	10000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Naphthalene	ND	3000	"	"	"	"		"	R-07
2-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
3-Nitroaniline	ND	3000	"	"	"	"		"	R-07
4-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
Nitrobenzene	ND	10000	"	"	"	"		"	R-07
2-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
N-Nitrosodimethylamine	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodiphenylamine	ND	3000	"	"	"	"	"	"	R-07
2,3,5,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
2,3,4,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
Phenanthrene	ND	3000	"	"	"	"	"	"	R-07
Azobenzene	ND	3000	"	"	"	"	"	"	R-07
Pyridine	ND	3000	"	"	"	"	"	"	R-07
2,4,5-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
2,4,6-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
Surrogate: 2-Fluorophenol		81.6 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		89.3 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		76.5 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		96.3 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		82.1 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		91.6 %	29.1	-130	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Consulting-West Sac.Project:Pole Line Rampman Ave.Project Number:3534.xamento CA, -Project Manager:Laura Long								25
		T1833	B2-C 38-05 (S	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
Extractable Petroleum Hydrocarbons by 801	5B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	80	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		108 %	65-	-135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	60	3.0	"	"	"	"	"		

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp C Long				Reported: 11/14/18 09:	:25
		T1833	B3-A 338-06 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons	by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	13	10	"	"	"	"		"	
C29-C40 (MORO)	140	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		65.2 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	16	3.0	"	"	"	"	"	"	
Semivolatile Organic Compounds by	EPA Method 8270C								
Carbazole	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Phenol	ND	10000	"	"	"	"	"	"	R-07
Aniline	ND	3000	"	"	"	"	"	"	R-07
2-Chlorophenol	ND	10000	"	"	"	"	"	"	R-07
1,4-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodi-n-propylamine	ND	3000	"	"	"	"	"	"	R-07
1,2,4-Trichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
4-Chloro-3-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
1-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthene	ND	3000	"	"	"	"	"	"	R-07
4-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrotoluene	ND	3000	"	"	"	"	"	"	R-07
Pentachlorophenol	ND	10000	"	"	"	"	"	"	R-07
Pyrene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthylene	ND	3000	"	"	"	"	"	"	R-07
Anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (a) anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (b) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (k) fluoranthene	ND	3000	"	"		"	"	"	R-07
Benzo (g,h,i) perylene	ND	10000	"	"	"	"	"	"	R-07
Benzo (a) pyrene	ND	3000	"	"	"	"	"	"	R-07
Benzyl alcohol	ND	3000	"	"		"		"	R-07

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	Line Ramp C Long				Reported 11/14/18 09	: 2:25
		T1833	B3-A 338-06 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prenared	Analyzed	Method	Notes
		6 64 I	-1	T		1			
		Sunstar L	aborator	ies, inc.					
Semivolatile Organic Compounds by F	EPA Method 8270C	2000	/1	10	0110715	11/05/10	11/00/10	ED4 00500	
Bis(2-chloroethoxy)methane	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether	ND	3000							R-07
Bis(2-chloroisopropyl)ether	ND	3000						"	R-07
A D l l l l l l l l l	ND	3000							R-07
4-Bromopnenyi pnenyi etter	ND	3000							R-07
A Chlore en iline	ND	3000							R-07
2 Chlarananthalana	ND	3000		"				"	R-07
4 Chlorophonyl phonyl other	ND	3000	"	"				"	R-07
Chrysene	ND	3000	"	"				"	R-07
Dihang (a.h.) anthroacne	ND	3000	"	"					R-07
Dibenz (a,ii) antinacene	ND	3000	"	"					K-07
Dipenzoruran Di a butul abthalata	ND	3000	"	"					K-07
1.2 Dichlorohonzono	ND	3000	"	"					K-07
1.2 Dichlorohenzene	ND	3000	"	"					K-07
2.4 Dichlorenhenel	ND	10000	"	"					K-07
2,4-Dicinorophenor	ND	2000	"	"					K-07
2.4 Dimethylphonol	ND	10000	"	"				"	R-07
2,4-Dimethylphenol	ND	2000	"	"				"	R-07
4.6 Dinitro 2 mothylphonol	ND	10000	"	"				"	R-07
2.4 Dinitrophonol	ND	10000	"	"				"	R-07
2,4-Dimitrophenoi	ND	10000	"	"				"	R-07
Di n catul abthalata	ND	2000	"	"				"	R-07
Eluoranthene	ND	3000	"	"					R-07
Eluorana	ND	3000	"	"					R-07
Havachlorobanzana	ND	15000	"	"				"	R-07
Hexachlorobutadiene	ND	3000	"	"				"	R-07
Hexachlorocyclonentadiene	ND	10000	"	"				"	R-07
Heyachloroethane		2000	"	"					R-07
Indeno (1.2.3.cd) pyrepe		3000	"	"					R-07
Isonhorone		3000	"	"					R-07
2-Methylphenol		10000	"	"					R-07
2-interry ipricitor	ND	10000							K-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
		T1833	B3-A 338-06 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by E	EPA Method 8270C								
4-Methylphenol	ND	10000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Naphthalene	ND	3000	"	"	"	"		"	R-07
2-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
3-Nitroaniline	ND	3000	"	"	"	"		"	R-07
4-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
Nitrobenzene	ND	10000	"	"	"	"	"	"	R-07
2-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
N-Nitrosodimethylamine	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodiphenylamine	ND	3000	"	"	"	"	"	"	R-07
2,3,5,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
2,3,4,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
Phenanthrene	ND	3000	"	"	"	"	"	"	R-07
Azobenzene	ND	3000	"	"	"	"	"	"	R-07
Pyridine	ND	3000	"	"	"	"	"	"	R-07
2,4,5-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
2,4,6-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
Surrogate: 2-Fluorophenol		65.2 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		80.1 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		74.8 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		84.4 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		88.2 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		86.0 %	29.1	-130	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp C Long				Reported: 11/14/18 09:	:25
		T1833	B3-B 338-07 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons	s by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	17	10	"	"		"	"	"	
C29-C40 (MORO)	130	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		127 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	64	3.0	"	"	"	"	"	"	
Semivolatile Organic Compounds by	EPA Method 8270C								
Carbazole	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Phenol	ND	10000	"	"	"	"	"	"	R-07
Aniline	ND	3000	"	"	"	"	"	"	R-07
2-Chlorophenol	ND	10000	"	"	"	"	"	"	R-07
1,4-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodi-n-propylamine	ND	3000	"	"	"	"	"	"	R-07
1,2,4-Trichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
4-Chloro-3-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
1-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthene	ND	3000	"	"	"	"	"	"	R-07
4-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrotoluene	ND	3000	"	"	"	"	"	"	R-07
Pentachlorophenol	ND	10000	"	"	"	"	"	"	R-07
Pyrene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthylene	ND	3000	"	"	"	"	"	"	R-07
Anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (a) anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (b) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (k) fluoranthene	ND	3000	"	"		"	"	"	R-07
Benzo (g,h,i) perylene	ND	10000	"	"		"	"	"	R-07
Benzo (a) pyrene	ND	3000	"	"		"	"	"	R-07
Benzyl alcohol	ND	3000	"	"			"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp c Long				Reported : 11/14/18 09	:25
		T1833	B3-B 338-07 (So	oil)					
	D k	Reporting			D (1				N
Analyte	Kesuit	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by E	EPA Method 8270C								
Bis(2-chloroethoxy)methane	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether	ND	3000	"	"	"	"	"	"	R-07
Bis(2-chloroisopropyl)ether	ND	3000	"	"	"	"	"	"	R-07
Bis(2-ethylhexyl)phthalate	ND	3000	"	"	"	"	"	"	R-07
4-Bromophenyl phenyl ether	ND	3000	"	"		"		"	R-07
Butyl benzyl phthalate	ND	3000	"	"		"		"	R-07
4-Chloroaniline	ND	3000	"	"		"		"	R-07
2-Chloronaphthalene	ND	3000	"	"	"	"	"	"	R-07
4-Chlorophenyl phenyl ether	ND	3000	"	"	"	"	"	"	R-07
Chrysene	ND	3000	"	"	"	"	"	"	R-07
Dibenz (a,h) anthracene	ND	3000	"	"	"	"	"	"	R-07
Dibenzofuran	ND	3000	"	"	"	"	"	"	R-07
Di-n-butyl phthalate	ND	3000	"	"	"	"	"	"	R-07
1,2-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
1,3-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
2,4-Dichlorophenol	ND	10000	"	"	"	"	"	"	R-07
Diethyl phthalate	ND	3000	"	"	"	"	"	"	R-07
2,4-Dimethylphenol	ND	10000	"	"	"	"	"	"	R-07
Dimethyl phthalate	ND	3000	"	"	"	"	"	"	R-07
4,6-Dinitro-2-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,6-Dinitrotoluene	ND	10000	"	"	"	"	"	"	R-07
Di-n-octyl phthalate	ND	3000	"	"	"	"	"	"	R-07
Fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Fluorene	ND	3000	"	"	"	"	"	"	R-07
Hexachlorobenzene	ND	15000	"	"	"	"	"	"	R-07
Hexachlorobutadiene	ND	3000	"	"	"	"	"	"	R-07
Hexachlorocyclopentadiene	ND	10000	"	"	"	"	"	"	R-07
Hexachloroethane	ND	3000	"	"	"	"	"	"	R-07
Indeno (1,2,3-cd) pyrene	ND	3000	"	"	"	"	"	"	R-07
Isophorone	ND	3000	"	"	"	"	"	"	R-07
2-Methylphenol	ND	10000	"	"	"	"	"	"	R-07

SunStar Laboratories, Inc.

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Blackburn Consulting-West Sac.											
2491 Boatman Ave.		Project Number: 3534.x									
West Sacramento CA, -		Project Manager: Laura Long									
			B3-B								
		T183	338-07 (So	oil)							
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes		
		SunStar L	aboratori	es, Inc.		a.					
Semivolatile Organic Compounds by E	CPA Method 8270C			,							
4-Methylphenol	ND	10000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07		
Naphthalene	ND	3000	"	"	"	"	"	"	R-07		
2-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07		
3-Nitroaniline	ND	3000	"	"	"	"		"	R-07		
4-Nitroaniline	ND	3000	"	"	"	"		"	R-07		
Nitrobenzene	ND	10000	"	"	"	"		"	R-07		
2-Nitrophenol	ND	10000	"	"	"	"		"	R-07		
N-Nitrosodimethylamine	ND	3000	"	"	"	"		"	R-07		
N-Nitrosodiphenylamine	ND	3000	"	"	"	"		"	R-07		
2,3,5,6-Tetrachlorophenol	ND	3000	"	"	"	"		"	R-07		
2,3,4,6-Tetrachlorophenol	ND	3000	"	"	"	"		"	R-07		
Phenanthrene	ND	3000	"	"	"	"		"	R-07		
Azobenzene	ND	3000	"	"	"	"		"	R-07		
Pyridine	ND	3000	"	"	"	"		"	R-07		
2,4,5-Trichlorophenol	ND	10000	"	"	"	"		"	R-07		
2,4,6-Trichlorophenol	ND	10000	"	"	"	"		"	R-07		
Surrogate: 2-Fluorophenol		76.2 %	15-	121	"	"	"	"			
Surrogate: Phenol-d6		86.8 %	24-	113	"	"	"	"			
Surrogate: Nitrobenzene-d5		74.7 %	21.3	-119	"	"	"	"			
Surrogate: 2-Fluorobiphenyl		89.2 %	32.4	-102	"	"	"	"			
Surrogate: 2,4,6-Tribromophenol		86.7 %	18.1	-105	"	"	"	"			
Surrogate: Terphenyl-dl4		95.6 %	29.1	-130	"	"	"	"			
Conventional Chemistry Parameters b	y APHA/EPA/ASTM	[Methods									
рН	6.8	0.1	pH Units	1	8110714	11/07/18	11/07/18	EPA 9045B			

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long								
		T1833	B3-C 338-08 (S	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
Extractable Petroleum Hydrocarbons by 801	5B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	86	10		"	"	"	"	"	
Surrogate: p-Terphenyl		114 %	65-	-135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	29	3.0		"	"	"	"	"	

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B4-A T183338-09 (Soil) Analyte Reparting Limit Limit Dilution Batch Prepared Analyzed Method Notes SunStar Laboratories, Inc. Extractable Petroleum Hydrocarbons by 80158 C6-C12 (GRO) ND 10 mg/kg 1 8110721 11/07/18 11/09/18 EPA 80158 C6-C12 (GRO) 70 10 "	Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp Long				Reported: 11/14/18 09	:25
Analyte Result Reporting Limit Dilution Batch Prepared Analyzed Method Notes SunStar Laboratories, Inc. Extractable Petroleum Hydrocarbons by 8015B CS-C12 (GRO) ND 10 mg/kg 1 81/0721 11/0718 11/0918 EPA 8015B CS-C12 (GRO) 170 10 " <td< th=""><th></th><th></th><th>T1833</th><th>B4-A 338-09 (So</th><th>oil)</th><th></th><th></th><th></th><th></th><th></th></td<>			T1833	B4-A 338-09 (So	oil)					
Native Result Linit Data on Batte Prepried Analyzes Nethod Notes SunStar Laboratories, Inc. Extractable Petroleum Hydrocarbons by 80158 CC-212 (GRO) ND 10 ng/kg 1 8110721 11/09/18 11/09/18 EPA 80158 CC3-C28 (DRO) 170 10 "		D li	Reporting			D (1				N. (
Summa best all best and the series of the series	Analyte	Kesun	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hvdrocarbons bv 80158 CSC-12 (GRO) ND ND ng/kg 1 8110721 11/07/18 11/09/18 FEX80158 C13-C28 (DRO) 100 10 " </td <td></td> <td></td> <td>SunStar L</td> <td>aboratori</td> <td>es, Inc.</td> <td></td> <td></td> <td></td> <td></td> <td></td>			SunStar L	aboratori	es, Inc.					
C6-C12 (GRO) ND 10 mg/kg 1 8110721 11.07718 11.09718 EPA 8015B C13-C28 (ORO) 70 10 " - - - - Surrogate: p-Terphory1 110 % 65-135 " - - - Arsenic ND 5.0 mg/kg 1 8110803 11.08/18 EPA 6010b Lead 250 3.0 mg/kg 1 8110803 11.08/18 EPA 6010b Lead 250 3.0 mg/kg 1 8110803 11.08/18 EPA 6010b Lead 250 3.0 mg/kg 50 8110715 11.08/18 EPA 820C R47 Aniline ND 15000 " " " " " R47 Aniline ND 15000 " " " " R47 1,4-Dichlorobenzene ND 15000 " " " " R47 1,4	Extractable Petroleum Hydrocarbons	by 8015B								
C13-C28 (DRO)17010""" <td>C6-C12 (GRO)</td> <td>ND</td> <td>10</td> <td>mg/kg</td> <td>1</td> <td>8110721</td> <td>11/07/18</td> <td>11/09/18</td> <td>EPA 8015B</td> <td></td>	C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C29-C40 (MORO)260010""" </td <td>C13-C28 (DRO)</td> <td>170</td> <td>10</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	C13-C28 (DRO)	170	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl III 0% 65-135 " <	C29-C40 (MORO)	2600	10	"	"	"	"	"	"	
Match by EPA 6010B ND 5.0 mg/kg 1 8110803 11.08/18 11.08/18 EPA 6010b Lead 250 3.0 "	Surrogate: p-Terphenyl		110 %	65-	135	"	"	"	"	
Arsenic ND 5.0 mg/kg 1 8110803 11/08/18	Metals by EPA 6010B									
Lead 250 3.0 a a a a a a Semivolatile Organic Compounds by EPA Method 8270C Carbazole ND 15000 ug/kg 50 8110715 11/07/18 11/08/18 EPA 8270C R-07 Aniline ND 15000 " " " " " R-07 Aniline ND 50000 " " " " " R-07 2-Chlorophenol ND 50000 " " " " R-07 1.4-Dichlorobenzene ND 15000 " " " " R-07 1.2-4-Tichlorobenzene ND 15000 " "	Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Semiolatile Organic Compounds by EPA Method 8270C Carbazole ND 15000 " <td>Lead</td> <td>250</td> <td>3.0</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	Lead	250	3.0	"	"	"	"	"	"	
Carbonance Organization of Literations of L	Semivolatile Organic Compounds by F	CPA Method 8270C								
ND 1500 " " " " " " " R.07 Phenol ND 5000 " " " " " R.07 2-Chlorophenol ND 5000 " " " " " R.07 1,4-Dichlorobenzene ND 15000 " " " " " R.07 N-Nitrosodi-n-propulamine ND 15000 " " " " R.07 N-Nitrosodi-n-propulamine ND 15000 " " " " R.07 1,2,4-Trichlorobenzene ND 15000 " " " " R.07 1,2,4-Trichlorobenzene ND 15000 " " " " R.07 1,2,4-Trichlorobenzene ND 15000 " " " R.07 1,4-Dithylphalene ND 15000 " " " R.07 2,4-Dirintroslue	Carbazole	ND	15000	119/kg	50	8110715	11/07/18	11/08/18	EPA 8270C	R-07
ND ND<	Aniline	ND	15000	"	"	"	"	"	"	R-07
Achieve ND 5000 " <th< td=""><td>Phenol</td><td>ND</td><td>50000</td><td>"</td><td>"</td><td></td><td></td><td></td><td>"</td><td>R-07</td></th<>	Phenol	ND	50000	"	"				"	R-07
1.4-Dicklorobenzene ND 15000 " " " " " R-07 N-Nitrosodi-n-propylamine ND 15000 " " " " " R-07 1,2,4-Trichlorobenzene ND 15000 " " " " " R-07 4-Chloro-3-methylphenol ND 50000 " " " " " R-07 1-Methylnaphthalene ND 15000 " " " " " R-07 2-Methylnaphthalene ND 15000 " " " " R-07 Acenaphthene ND 15000 " " " " " R-07 4-Nitrophenol ND 50000 " " " " " R-07 2,4-Dinitrotoluene ND 50000 " " " " " R-07 Pyrene ND 15000 " " " " R-07 Acenaphthylene ND 15000 " <	2-Chlorophenol	ND	50000	"	"	"	"	"	"	R-07
NNitrosofin-propylamine ND 1500 "<	1.4-Dichlorobenzene	ND	15000	"	"	"	"	"	"	R-07
1,2,4-Tichforobenzene ND 15000 "	N-Nitrosodi-n-propylamine	ND	15000	"	"	"	"	"	"	R-07
A.Chloro-3-methylphenol ND 50000 " <td< td=""><td>1.2.4-Trichlorobenzene</td><td>ND</td><td>15000</td><td>"</td><td>"</td><td></td><td>"</td><td>"</td><td>"</td><td>R-07</td></td<>	1.2.4-Trichlorobenzene	ND	15000	"	"		"	"	"	R-07
1-Methylnaphthalene ND 15000 " </td <td>4-Chloro-3-methylphenol</td> <td>ND</td> <td>50000</td> <td>"</td> <td>"</td> <td></td> <td>"</td> <td>"</td> <td>"</td> <td>R-07</td>	4-Chloro-3-methylphenol	ND	50000	"	"		"	"	"	R-07
2-Methylnaphthalene ND 15000 " " " " " " " " " R-07 Acenaphthene ND 50000 " " " " " " R-07 4-Nitrophenol ND 50000 " " " " " R-07 2,4-Dinitrotoluene ND 15000 " " " " " R-07 Pentachlorophenol ND 50000 " " " " " R-07 Pentachlorophenol ND 50000 " " " " " R-07 Pyrene ND 15000 " " " " R-07 Acenaphthylene ND 15000 " " " " R-07 Anthracene ND 15000 " " " " R-07 Benzo (a) anthracene ND 15000 " " " " R-07 Benzo (b) fluoranthene ND 15000<	1-Methylnaphthalene	ND	15000	"	"				"	R-07
Acenaphthene ND 15000 " " " " " " " R-07 4-Nitrophenol ND 50000 " " " " " " R-07 2,4-Dinitrotoluene ND 15000 " " " " " R-07 2,4-Dinitrotoluene ND 15000 " " " " " R-07 Pentachlorophenol ND 50000 " " " " " R-07 Pentachlorophenol ND 50000 " " " " " R-07 Pyrene ND 15000 " " " " R-07 Acenaphthylene ND 15000 " " " " R-07 Anthracene ND 15000 " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " "	2-Methylnaphthalene	ND	15000	"	"		"		"	R-07
ND 50000 " " " " " " " " R-07 2,4-Dinitrotoluene ND 15000 " " " " " R-07 Pentachlorophenol ND 50000 " " " " " R-07 Pentachlorophenol ND 50000 " " " " " R-07 Pyrene ND 15000 " " " " " R-07 Acenaphthylene ND 15000 " " " " " R-07 Anthracene ND 15000 " " " " R-07 Benzo (a) anthracene ND 15000 " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " " R-07 Benzo (g,h,i) perylene ND 15000 " " " " " R-07 Benzo (a) pyrene ND 50000 "	Acenaphthene	ND	15000	"	"			"	"	R-07
2,4-Dinitrotoluene ND 15000 " " " " " " R-07 Pentachlorophenol ND 50000 " " " " " " R-07 Pyrene ND 15000 " " " " " R-07 Acenaphthylene ND 15000 " " " " " R-07 Anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " " R-07 Benzo (a) pyrene ND 15000 " " " " " R-07 Benzo (a) pyrene ND 15000 <td>4-Nitrophenol</td> <td>ND</td> <td>50000</td> <td>"</td> <td>"</td> <td></td> <td></td> <td>"</td> <td>"</td> <td>R-07</td>	4-Nitrophenol	ND	50000	"	"			"	"	R-07
Pentachlorophenol ND 50000 " " " " " " R-07 Pyrene ND 15000 " " " " " " R-07 Acenaphthylene ND 15000 " " " " " R-07 Acenaphthylene ND 15000 " " " " " R-07 Anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " "	2.4-Dinitrotoluene	ND	15000	"	"			"	"	R-07
Pyrene ND 15000 " " " " " " " R-07 Acenaphthylene ND 15000 " " " " " " R-07 Acenaphthylene ND 15000 " " " " " " R-07 Anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " "	Pentachlorophenol	ND	50000	"	"				"	R-07
Acenaphthylene ND 15000 " " " " " R-07 Anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07	Pyrene	ND	15000	"	"		"	"	"	R-07
Anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " " R-07 Benzo (a) anthracene ND 15000 " " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzy (a) pyrene ND 15000 " " " " R-07 Benzy (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07 Kenzy (a) pyrene ND 15000 " " " " R-07 <tr< td=""><td>Acenaphthylene</td><td>ND</td><td>15000</td><td>"</td><td>"</td><td>"</td><td>"</td><td>"</td><td>"</td><td>R-07</td></tr<>	Acenaphthylene	ND	15000	"	"	"	"	"	"	R-07
Benzo (a) anthracene ND 15000 " " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " " R-07 Benzo (b) fluoranthene ND 15000 " " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07	Anthracene	ND	15000	"	"				"	R-07
Benzo (b) fluoranthene ND 15000 " " " " " " R-07 Benzo (k) fluoranthene ND 15000 " " " " " R-07 Benzo (k) fluoranthene ND 50000 " " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07	Benzo (a) anthracene	ND	15000	"	"	"	"	"	"	R-07
Benzo (k) fluoranthene ND 15000 " " " " " R-07 Benzo (g,h,i) perylene ND 50000 " " " " " R-07 Benzo (a) pyrene ND 15000 " " " " " R-07 Benzy (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07	Benzo (b) fluoranthene	ND	15000	"	"		"	"	"	R-07
Benzo (g,h,i) perylene ND 50000 " " " " " R-07 Benzo (a) pyrene ND 15000 " " " " R-07 Benzy (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07	Benzo (k) fluoranthene	ND	15000	"	"		"	"	"	R-07
Benzo (a) pyrene ND 15000 " " " " R-07 Benzyl alcohol ND 15000 " " " " R-07	Benzo (g,h,i) perylene	ND	50000	"	"		"	"	"	R-07
Benzyl alcohol ND 15000 " " " " R-07	Benzo (a) pyrene	ND	15000	"	"		"	"	"	R-07
	Benzyl alcohol	ND	15000	"	"			"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp C Long				Reported : 11/14/18 09	:25
	T1833	B4-A 38-09 (Se	oil)					
Analyte Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by EPA Method 8270C								
Bis(2-chloroethoxy)methane ND	15000	ug/kg	50	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether ND	15000	"	"		"	"	"	R-07
Bis(2-chloroisopropyl)ether ND	15000	"	"	"	"	"	"	R-07
Bis(2-ethylhexyl)phthalate ND	15000	"	"	"	"	"	"	R-07
4-Bromophenyl phenyl ether ND	15000	"	"	"	"	"	"	R-07
Butyl benzyl phthalate ND	15000	"	"	"	"	"	"	R-07
4-Chloroaniline ND	15000	"	"	"	"	"	"	R-07
2-Chloronaphthalene ND	15000	"	"	"	"	"	"	R-07
4-Chlorophenyl phenyl ether ND	15000	"	"	"	"	"	"	R-07
Chrysene ND	15000	"	"	"	"	"	"	R-07
Dibenz (a,h) anthracene ND	15000	"	"		"	"	"	R-07
Dibenzofuran ND	15000	"	"	"	"	"	"	R-07
Di-n-butyl phthalate ND	15000	"	"	"	"	"	"	R-07
1,2-Dichlorobenzene ND	15000	"	"	"	"	"	"	R-07
1,3-Dichlorobenzene ND	15000	"	"	"	"	"	"	R-07
2,4-Dichlorophenol ND	50000	"	"	"	"	"	"	R-07
Diethyl phthalate ND	15000	"	"		"	"	"	R-07
2,4-Dimethylphenol ND	50000	"	"	"	"	"	"	R-07
Dimethyl phthalate ND	15000	"	"	"	"	"	"	R-07
4,6-Dinitro-2-methylphenol ND	50000	"	"	"	"	"	"	R-07
2,4-Dinitrophenol ND	50000	"	"	"	"	"	"	R-07
2,6-Dinitrotoluene ND	50000	"	"	"	"	"	"	R-07
Di-n-octyl phthalate ND	15000	"	"	"	"	"	"	R-07
Fluoranthene ND	15000	"	"	"		"	"	R-07
Fluorene ND	15000	"	"	"	"	"	"	R-07
Hexachlorobenzene ND	75000	"	"	"	"	"	"	R-07
Hexachlorobutadiene ND	15000	"	"		"	"	"	R-07
Hexachlorocyclopentadiene ND	50000	"	"	"	"	"	"	R-07
Hexachloroethane ND	15000	"	"		"	"	"	R-07
Indeno (1,2,3-cd) pyrene ND	15000	"	"		"	"	"	R-07
Isophorone ND	15000	"	"		"	"	"	R-07
2-Methylphenol ND	50000	"	"	"	"	"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
		T1833	B4-A 338-09 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by E	EPA Method 8270C								
4-Methylphenol	ND	50000	ug/kg	50	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Naphthalene	ND	15000	"	"	"	"	"	"	R-07
2-Nitroaniline	ND	15000	"	"	"	"	"	"	R-07
3-Nitroaniline	ND	15000	"	"	"	"	"	"	R-07
4-Nitroaniline	ND	15000	"	"	"	"	"	"	R-07
Nitrobenzene	ND	50000	"	"	"	"	"	"	R-07
2-Nitrophenol	ND	50000	"	"	"	"	"	"	R-07
N-Nitrosodimethylamine	ND	15000	"	"	"	"	"	"	R-07
N-Nitrosodiphenylamine	ND	15000	"	"	"	"	"	"	R-07
2,3,5,6-Tetrachlorophenol	ND	15000	"	"	"	"	"	"	R-07
2,3,4,6-Tetrachlorophenol	ND	15000	"	"	"	"	"	"	R-07
Phenanthrene	ND	15000	"	"	"	"	"	"	R-07
Azobenzene	ND	15000	"	"	"	"	"	"	R-07
2,4,5-Trichlorophenol	ND	50000	"	"	"	"	"	"	R-07
Pyridine	ND	15000	"	"	"	"	"	"	R-07
2,4,6-Trichlorophenol	ND	50000	"	"	"	"	"	"	R-07
Surrogate: 2-Fluorophenol		85.0 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		85.5 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		78.5 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		89.5 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		84.5 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		88.5 %	29.1	-130	"	"	"	"	

SunStar Laboratories, Inc.

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numl Project Manaş	Project: Pole Line Ramp ject Number: 3534.x Repo ect Manager: Laura Long 11/14/1						
		T183.	B4-B 338-10 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons by	8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"		"	
Surrogate: p-Terphenyl		97.9 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	ND	3.0	"	"	"	"		"	
Semivolatile Organic Compounds by EPA	Method 8270C	2							
Carbazole	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"		"	
1,4-Dichlorobenzene	ND	300	"	"	"	"		"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"		"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"		"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"		"	
2-Methylnaphthalene	ND	300	"	"	"	"		"	
1-Methylnaphthalene	ND	300	"	"	"	"		"	
Acenaphthene	ND	300	"	"	"	"		"	
4-Nitrophenol	ND	1000	"	"	"	"		"	
2,4-Dinitrotoluene	ND	300	"	"	"	"		"	
Pentachlorophenol	ND	1000	"	"	"	"		"	
Pyrene	ND	300	"	"	"	"		"	
Acenaphthylene	ND	300	"	"	"	"		"	
Anthracene	ND	300	"	"	"	"		"	
Benzo (a) anthracene	ND	300	"	"	"	"		"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp C Long				Reported 11/14/18 09	: ::25
		T1833	B4-B	, jI)					
		11055	50-10 (50	,iii)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by I	EPA Method 8270C								
Bis(2-chloroethoxy)methane	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"		"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"		"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"		
Butyl benzyl phthalate	ND	300	"	"	"	"	"		
4-Chloroaniline	ND	300	"	"	"	"	"		
2-Chloronaphthalene	ND	300	"	"	"	"	"		
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"		
Chrysene	ND	300	"	"	"	"	"		
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"		"	"	"	
Hexachlorobutadiene	ND	300	"	"		"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"		"	"	"	
Hexachloroethane	ND	300	"	"		"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"		"	"	"	
Isophorone	ND	300	"	"		"	"	"	
2-Methylphenol	ND	1000	"	"		"	"	"	

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Blackburn Consulting-West Sac. Project: Pole Line Ramp 2491 Boatman Ave. Project Number: 3534.x West Sacramento CA, - Project Manager: Laura Long B4-B T183338-10 (Soil)										
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aboratori	es, Inc.						
Semivolatile Organic Compounds by H	EPA Method 8270C									
4-Methylphenol	ND	1000	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C		
Naphthalene	ND	300	"	"	"	"	"	"		
2-Nitroaniline	ND	300	"	"	"	"	"	"		
3-Nitroaniline	ND	300	"	"	"	"	"	"		
4-Nitroaniline	ND	300	"	"	"	"	"	"		
Nitrobenzene	ND	1000	"	"	"	"	"	"		
2-Nitrophenol	ND	1000	"	"	"	"	"	"		
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"		
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"		
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"		
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"		
Phenanthrene	ND	300	"	"	"	"	"	"		
Azobenzene	ND	300	"	"	"	"	"	"		
Pyridine	ND	300	"	"	"	"	"	"		
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"		
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"		
Surrogate: 2-Fluorophenol		49.1 %	15-	121	"	"	"	"		
Surrogate: Phenol-d6		57.9 %	24-	113	"	"	"	"		
Surrogate: Nitrobenzene-d5		49.2 %	21.3	-119	"	"	"	"		
Surrogate: 2-Fluorobiphenyl		63.9 %	32.4	-102	"	"	"	"		
Surrogate: 2,4,6-Tribromophenol		87.4 %	18.1	-105	"	"	"	"		
Surrogate: Terphenyl-dl4		91.0 %	29.1	-130	"	"	"	"		

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp K Long				Reported: 11/14/18 09:	25
		T1833	B4-C 338-11 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons by 8	015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"		"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		116 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	32	3.0	"	"	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numl Project Manaş	ect: Pole L ber: 3534.x ger: Laura	ine Ramp C Long				Reported : 11/14/18 09	:25
		T183	B5-A 338-12 (Se	,il)					
		1105.	556-12 (50	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons	by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	15	10	"	"	"	"		"	
C29-C40 (MORO)	310	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		118 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	84	3.0	"	"	"	"	"	"	
Semivolatile Organic Compounds by	EPA Method 8270C								
Carbazole	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Phenol	ND	10000	"	"	"	"		"	R-07
Aniline	ND	3000	"	"	"	"		"	R-07
2-Chlorophenol	ND	10000	"	"	"	"	"	"	R-07
1,4-Dichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodi-n-propylamine	ND	3000	"	"	"	"	"	"	R-07
1,2,4-Trichlorobenzene	ND	3000	"	"	"	"	"	"	R-07
4-Chloro-3-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
1-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthene	ND	3000	"	"	"	"	"	"	R-07
4-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrotoluene	ND	3000	"	"	"	"	"	"	R-07
Pentachlorophenol	ND	10000	"	"	"	"	"	"	R-07
Pyrene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthylene	ND	3000	"	"	"	"	"	"	R-07
Anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (a) anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (b) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (k) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (g,h,i) perylene	ND	10000	"	"	"	"	"	"	R-07
Benzo (a) pyrene	ND	3000	"	"	"	"	"	"	R-07
Benzyl alcohol	ND	3000	"	"		"	"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp C Long				Reported : 11/14/18 09	:25
	T1833	B5-A 338-12 (So	oil)					
Analyte Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	SunStar L	aborator	ies. Inc.					
Semivolatile Organic Compounds by EPA Method 8270C								
Bis(2-chloroethoxy)methane ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether ND	3000	"	"	"	"	"	"	R-07
Bis(2-chloroisopropyl)ether ND	3000	"	"				"	R-07
Bis(2-ethylpertyl)phthalate ND	3000	"	"				"	R-07
4-Bromophenyl phenyl ether ND	3000	"	"		"	"	"	R-07
Butyl benzyl phthalate ND	3000	"	"				"	R-07
4-Chloroaniline ND	3000	"	"		"		"	R-07
2-Chloronaphthalene ND	3000	"	"			"	"	R-07
4-Chlorophenyl phenyl ether ND	3000	"	"		"	"	"	R-07
Chrysene ND	3000	"	"		"	"	"	R-07
Dibenz (a,h) anthracene ND	3000	"	"			"	"	R-07
Dibenzofuran ND	3000	"	"			"	"	R-07
Di-n-butyl phthalate ND	3000	"	"	"	"	"	"	R-07
1,2-Dichlorobenzene ND	3000	"	"	"	"	"	"	R-07
1,3-Dichlorobenzene ND	3000	"	"	"	"	"	"	R-07
2,4-Dichlorophenol ND	10000	"	"	"	"	"	"	R-07
Diethyl phthalate ND	3000	"	"	"	"	"	"	R-07
2,4-Dimethylphenol ND	10000	"	"	"	"	"	"	R-07
Dimethyl phthalate ND	3000	"	"	"	"	"	"	R-07
4,6-Dinitro-2-methylphenol ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrophenol ND	10000	"	"	"	"	"	"	R-07
2,6-Dinitrotoluene ND	10000	"	"	"	"	"	"	R-07
Di-n-octyl phthalate ND	3000	"	"	"	"	"	"	R-07
Fluoranthene ND	3000	"	"	"		"	"	R-07
Fluorene ND	3000	"	"		"	"	"	R-07
Hexachlorobenzene ND	15000	"	"	"		"	"	R-07
Hexachlorobutadiene ND	3000	"	"		"	"	"	R-07
Hexachlorocyclopentadiene ND	10000	"	"		"	"	"	R-07
Hexachloroethane ND	3000	"	"		"	"	"	R-07
Indeno (1,2,3-cd) pyrene ND	3000	"	"		"	"	"	R-07
Isophorone ND	3000	"	"		"	"	"	R-07
2-Methylphenol ND	10000	"	"	"	"	"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
		T1833	B5-A 338-12 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	es, Inc.					
Semivolatile Organic Compounds by E	CPA Method 8270C								
4-Methylphenol	ND	10000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Naphthalene	ND	3000	"	"	"	"	"	"	R-07
2-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
3-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
4-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07
Nitrobenzene	ND	10000	"	"	"	"	"	"	R-07
2-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
N-Nitrosodimethylamine	ND	3000	"	"	"	"	"	"	R-07
N-Nitrosodiphenylamine	ND	3000	"	"	"	"	"	"	R-07
2,3,5,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
2,3,4,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07
Phenanthrene	ND	3000	"	"	"	"	"	"	R-07
Azobenzene	ND	3000	"	"	"	"	"	"	R-07
Pyridine	ND	3000	"	"	"	"	"	"	R-07
2,4,5-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
2,4,6-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07
Surrogate: 2-Fluorophenol		64.0 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		67.7 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		65.3 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		75.2 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		70.1 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		66.6 %	29.1	-130	"	"	"	"	

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IBS-B TI83338-L3 (Soil) Analyce Result Reporting Linnit Dilation Batch Prepared Analyzed Method Notes Sur-Bart-Bart-Bart-Bart-Bart-Bart-Bart-Bar	Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numl Project Manaş	ect: Pole L per: 3534.x ger: Laura	ine Ramp « Long			Reported: 11/14/18 09:25		
Analyse Reporting Linit Dilution Batch Prepared Analyzed Method Notes SunStar Laboratories, Inc. Extractable Petroleum Hvdrocarhons by 8015B 5 "			T1833	B5-B 338-13 (So	oil)					
SunStar Laboratories, Inc. Extractable Petroleum Hydrocarbons by 8015B C6-C12 (GRO) ND 10 mgkg i still 11.07/18 11.09/18 EPA 8015B C12-C2 (GRO) ND 10 " " " " " C20-C4 (MORO) ND 10 " " " " " " Surget: p-Terphenyi 113 % 65-135 " </th <th>Analyte</th> <th>Result</th> <th>Reporting Limit</th> <th>Units</th> <th>Dilution</th> <th>Batch</th> <th>Prepared</th> <th>Analyzed</th> <th>Method</th> <th>Notes</th>	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B ND 10 mgkg 1 8110721 11.07/18 11.09/18 EPA 8015B C13-C230 (DRO) ND 10 "			SunStar L	aboratori	ies, Inc.					
CC-C12 (GRO) ND 10 mg/kg 1 \$110711 11.07/18 EPA \$015B C13-C22 (GRO) ND 10 "	Extractable Petroleum Hydrocarbon	s by 8015B								
ND 10 "	C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C29-C40 (MORO)ND10""" <td>C13-C28 (DRO)</td> <td>ND</td> <td>10</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
Numerate: p-Terphenyl 113 % 65-135 " <th< td=""><td>C29-C40 (MORO)</td><td>ND</td><td>10</td><td>"</td><td>"</td><td>"</td><td>"</td><td>"</td><td></td><td></td></th<>	C29-C40 (MORO)	ND	10	"	"	"	"	"		
Match by EPA 6010B ND 5.0 mg/kg 1 8110803 11/08/18 11/08/18 EPA 6010b Lead ND 3.0 "	Surrogate: p-Terphenyl		113 %	65-	135	"	"	"	"	
ND 5.0 mg/kg 1 8110803 11/08/18 11/08/18 EPA 6010b Lead ND 3.0 "	Metals by EPA 6010B									
Lad ND 3.0 " <td>Arsenic</td> <td>ND</td> <td>5.0</td> <td>mg/kg</td> <td>1</td> <td>8110803</td> <td>11/08/18</td> <td>11/08/18</td> <td>EPA 6010b</td> <td></td>	Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Semiolatile Organic Compounds by EPA Method 8270C Carbazole ND 300 ug/kg 1 8110715 11/07/18 11/08/18 EPA 8270C Phenol ND 1000 " " " " " " Aniline ND 300 " " " " " " 2-Chlorophenol ND 1000 " <	Lead	ND	3.0	"	"	"	"		"	
Carbazole ND 300 ug/kg 1 8110715 11/07/18 11/08/18 EPA 8270C Phenol ND 1000 "	Semivolatile Organic Compounds by	FPA Method 8270C	1							
Phenol ND 1000 " <th"< td=""><td>Carbazole</td><td>ND</td><td>300</td><td>ug/kg</td><td>1</td><td>8110715</td><td>11/07/18</td><td>11/08/18</td><td>EPA 8270C</td><td></td></th"<>	Carbazole	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Antine ND ND ND "	Phenol	ND	1000	"	"	"	"	"	"	
2-Chlorophenol ND 100 "	Aniline	ND	300		"	"	"	"		
A-Dicklorobenzene ND 300 "	2-Chlorophenol	ND	1000		"	"	"	"		
N.N. Nitrosodi -n-propylamine ND 300 "	1.4-Dichlorobenzene	ND	300	"	"	"	"	"		
1,2,4-Trichlorobergene ND 300 "<	N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"		
ND 1000 " <td>1,2,4-Trichlorobenzene</td> <td>ND</td> <td>300</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td> <td></td>	1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"		
I-Methylnaphthalene ND 300 " <td>4-Chloro-3-methylphenol</td> <td>ND</td> <td>1000</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td> <td></td>	4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"		
ND 300 "	1-Methylnaphthalene	ND	300		"	"	"	"	"	
Acenaphthene ND 300 "	2-Methylnaphthalene	ND	300		"	"	"	"	"	
A-A ND 1000 "	Acenaphthene	ND	300		"	"	"	"	"	
2,4-Dinitrotoluene ND 300 "	4-Nitrophenol	ND	1000		"	"	"	"	"	
Pentachlorophenol ND 1000 "	2,4-Dinitrotoluene	ND	300		"	"	"	"	"	
Pyrene ND 300 "	Pentachlorophenol	ND	1000		"	"	"	"	"	
Acenaphthylene ND 300 "	Pyrene	ND	300	"	"	"	"	"	"	
ND 300 "	Acenaphthylene	ND	300	"	"	"	"	"	"	
Benzo (a) anthraceneND300"""""""Benzo (b) fluorantheneND300""""""""Benzo (k) fluorantheneND300"""""""""Benzo (g,h,i) peryleneND1000"""""""""Benzo (a) pyreneND300""""""""	Anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene ND 300 "<	Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene ND 300 " <td>Benzo (b) fluoranthene</td> <td>ND</td> <td>300</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene ND 1000 " </td <td>Benzo (k) fluoranthene</td> <td>ND</td> <td>300</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Senzo (a) pyrene ND 300 " " " " " "	Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
	Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol ND 300 " " " " " "	Benzyl alcohol	ND	300	"	"	"	"	"	"	

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp C Long				Reported 11/14/18 09	: ::25
		T1833	B5-B	sil)					
				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by	EPA Method 8270C								
Bis(2-chloroethoxy)methane	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"		"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"		"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"		"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
		T192	B5-B	•1\					
		11833	538-13 (80)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by I	EPA Method 8270C								
4-Methylphenol	ND	1000	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
Azobenzene	ND	300	"	"	"	"	"	"	
Pyridine	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		56.1 %	15-	121	"	"	"	"	
Surrogate: Phenol-d6		67.3 %	24-	113	"	"	"	"	
Surrogate: Nitrobenzene-d5		59.4 %	21.3	-119	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		77.6 %	32.4	-102	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		86.3 %	18.1	-105	"	"	"	"	
Surrogate: Terphenyl-dl4		88.1 %	29.1	-130	"	"	"	"	

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Blackburn Consulting-West Sac.Project: Pole Line Ramp2491 Boatman Ave.Project Number: 3534.xWest Sacramento CA, -Project Manager: Laura Long									Reported: 11/14/18 09:25		
		T1833	B5-C 338-14 (Se	oil)							
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes		
		SunStar L	aborator	ies, Inc.							
Extractable Petroleum Hydrocarbons by 801	5B										
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B			
C13-C28 (DRO)	ND	10	"	"		"	"	"			
C29-C40 (MORO)	ND	10	"	"		"	"	"			
Surrogate: p-Terphenyl		107 %	65-	135	"	"	"	"			
Metals by EPA 6010B											
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b			
Lead	31	3.0	"	"	"	"	"	"			

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp c Long				Reported: 11/14/18 09	:25
		T1833	B6-A 338-15 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons by	v 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	15	10	"	"	"	"	"	"	
C29-C40 (MORO)	180	10	"	"		"		"	
Surrogate: p-Terphenyl		116 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	96	3.0	"	"	"	"	"	"	
Semivolatile Organic Compounds by EP	A Method 8270C								
Carbazole	ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Phenol	ND	10000	"	"		"		"	R-07
Aniline	ND	3000	"	"	"	"		"	R-07
2-Chlorophenol	ND	10000	"	"	"	"		"	R-07
1,4-Dichlorobenzene	ND	3000	"	"		"		"	R-07
N-Nitrosodi-n-propylamine	ND	3000	"	"		"		"	R-07
1,2,4-Trichlorobenzene	ND	3000	"	"		"		"	R-07
4-Chloro-3-methylphenol	ND	10000	"	"	"	"	"	"	R-07
2-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
1-Methylnaphthalene	ND	3000	"	"	"	"	"	"	R-07
Acenaphthene	ND	3000	"	"	"	"	"	"	R-07
4-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrotoluene	ND	3000	"	"	"	"	"	"	R-07
Pentachlorophenol	ND	10000	"	"	"	"	"	"	R-07
Pyrene	ND	3000	"	"	"	"		"	R-07
Acenaphthylene	ND	3000	"	"	"	"		"	R-07
Anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (a) anthracene	ND	3000	"	"	"	"	"	"	R-07
Benzo (b) fluoranthene	ND	3000	"	"	"	"	"	"	R-07
Benzo (k) fluoranthene	ND	3000	"	"		"	"	"	R-07
Benzo (g,h,i) perylene	ND	10000	"	"		"	"	"	R-07
Benzo (a) pyrene	ND	3000	"	"		"	"	"	R-07
Benzyl alcohol	ND	3000	"	"	"	"	"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	ine Ramp C Long				Reported 11/14/18 09	:25
	T1833	B6-A 38-15 (So	oil)					
Analuta Posult	Reporting	Unita	Dilution	Patah	Propagad	Analyzad	Mathad	Notos
Analyce Result	Emin	Onits	Dilution	Daten	Tiepareu	7 mary 200	Wethou	Notes
	SunStar L	aborator	ies, Inc.					
Semivolatile Organic Compounds by EPA Method 82700	2							
Bis(2-chloroethoxy)methane ND	3000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07
Bis(2-chloroethyl)ether ND	3000	"	"	"	"	"	"	R-07
Bis(2-chloroisopropyl)ether ND	3000	"	"	"	"	"	"	R-07
Bis(2-ethylhexyl)phthalate ND	3000	"	"	"	"	"	"	R-07
4-Bromophenyl phenyl ether ND	3000	"	"	"	"	"	"	R-07
Butyl benzyl phthalate ND	3000	"	"	"	"	"	"	R-07
4-Chloroaniline ND	3000	"	"	"	"	"	"	R-07
2-Chloronaphthalene ND	3000	"	"	"	"	"	"	R-07
4-Chlorophenyl phenyl ether ND	3000	"	"	"	"	"	"	R-07
Chrysene ND	3000	"	"	"	"	"	"	R-07
Dibenz (a,h) anthracene ND	3000	"	"	"	"	"	"	R-07
Dibenzofuran ND	3000	"	"	"	"	"	"	R-07
Di-n-butyl phthalate ND	3000	"	"	"	"	"	"	R-07
1,2-Dichlorobenzene ND	3000	"	"	"	"	"	"	R-07
1,3-Dichlorobenzene ND	3000	"	"	"	"	"	"	R-07
2,4-Dichlorophenol ND	10000	"	"	"	"	"	"	R-07
Diethyl phthalate ND	3000	"	"	"	"	"	"	R-07
2,4-Dimethylphenol ND	10000	"	"	"	"	"	"	R-07
Dimethyl phthalate ND	3000	"	"	"	"	"	"	R-07
4,6-Dinitro-2-methylphenol ND	10000	"	"	"	"	"	"	R-07
2,4-Dinitrophenol ND	10000	"	"	"	"	"	"	R-07
2,6-Dinitrotoluene ND	10000	"	"	"	"	"	"	R-07
Di-n-octyl phthalate ND	3000	"	"	"	"	"	"	R-07
Fluoranthene ND	3000	"	"	"	"	"	"	R-07
Fluorene ND	3000	"	"	"	"	"	"	R-07
Hexachlorobenzene ND	15000	"	"	"	"	"	"	R-07
Hexachlorobutadiene ND	3000	"	"	"	"	"	"	R-07
Hexachlorocyclopentadiene ND	10000	"	"	"	"	"	"	R-07
Hexachloroethane ND	3000	"	"	"	"	"	"	R-07
Indeno (1,2,3-cd) pyrene ND	3000	"	"	"	"	"	"	R-07
Isophorone ND	3000	"	"	"	"	"	"	R-07
2-Methylphenol ND	10000	"		"		"	"	R-07

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Durn Consulting-West Sac.Project:Pole Line RampBoatman Ave.Project Number:3534.xacramento CA, -Project Manager:Laura Long										
		T1833	B6-A 338-15 (So	oil)							
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes		
		SunStar L	aboratori	es, Inc.							
Semivolatile Organic Compounds by E	CPA Method 8270C										
4-Methylphenol	ND	10000	ug/kg	10	8110715	11/07/18	11/08/18	EPA 8270C	R-07		
Naphthalene	ND	3000	"	"	"	"	"	"	R-07		
2-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07		
3-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07		
4-Nitroaniline	ND	3000	"	"	"	"	"	"	R-07		
Nitrobenzene	ND	10000	"	"	"	"	"	"	R-07		
2-Nitrophenol	ND	10000	"	"	"	"	"	"	R-07		
N-Nitrosodimethylamine	ND	3000	"	"	"	"	"	"	R-07		
N-Nitrosodiphenylamine	ND	3000	"	"	"	"	"	"	R-07		
2,3,5,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07		
2,3,4,6-Tetrachlorophenol	ND	3000	"	"	"	"	"	"	R-07		
Phenanthrene	ND	3000	"	"	"	"	"	"	R-07		
Azobenzene	ND	3000	"	"	"	"	"	"	R-07		
Pyridine	ND	3000	"	"	"	"	"	"	R-07		
2,4,5-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07		
2,4,6-Trichlorophenol	ND	10000	"	"	"	"	"	"	R-07		
Surrogate: 2-Fluorophenol		56.1 %	15-	121	"	"	"	"			
Surrogate: Phenol-d6		67.0 %	24-	113	"	"	"	"			
Surrogate: Nitrobenzene-d5		58.8 %	21.3	-119	"	"	"	"			
Surrogate: 2-Fluorobiphenyl		78.7 %	32.4	-102	"	"	"	"			
Surrogate: 2,4,6-Tribromophenol		75.3 %	18.1	-105	"	"	"	"			
Surrogate: Terphenyl-dl4		75.4 %	29.1	-130	"	"	"	"			

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L per: 3534.x ger: Laura	Reported: r: 3534.x Reported: r: Laura Long 11/14/18 09:25						
		T1833	B6-B 338-16 (So	oil)						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aboratori	ies. Inc.						
Fytractable Petroleum Hydrocarbon	s by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B		
$C_{13}C_{28}(DRO)$	ND	10	"	"	"	"	"	"		
C29-C40 (MORO)	ND	10	"	"		"		"		
Surrogate: p-Terphenyl	n.b	93.2 %	65-	135	"	"	"	"		
Matale by FPA 6010R										
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b		
Lead	37	3.0	"	"	"	"	"	"		
	EDA M-4L - 1 9270C	5.0								
Semivolatile Organic Compounds by	EPA Method 82/0C	200			0110716	11/07/10	11/00/10	ED4 0270C		
Dhamal	ND	300	ug/kg "	1	8110/15	11/0//18	11/08/18	EPA 8270C		
Anilina	ND	1000								
Anime 2 Chlorophonol	ND	300								
2-Chiorophenoi	ND	1000								
N. Nitrosodi n propulamina	ND	300								
1.2.4 Trichlorohonzono	ND	300	"	"				"		
4 Chlore 2 methylphanol	ND	1000	"	"				"		
1 Methylpaphthalene	ND	300	"	"				"		
2 Mathylnaphthalana	ND	300	"	"				"		
	ND	300	"	"		"	"	"		
4 Nitrophonol	ND	1000	"	"		"	"	"		
2.4 Dinitrateluane	ND	300	"	"		"	"	"		
Pantaghlorophonol	ND	1000	"	"				"		
Purane	ND	300	"	"				"		
Accompatibly long	ND	300	"	"				"		
Archaphthylene	ND	300	"	"				"		
Ponzo (a) anthracana	ND	300	"	"				"		
Benzo (b) fluoranthana	ND	300	"	"				"		
Benzo (k) fluoranthene		300	"	"						
Benzo (g h i) pervlene		1000	"	"						
Benzo (a) pyrane		200	"					"		
Benzul alcohol		200	"					"		
Denzyl alconol	IND	500								

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	ine Ramp c Long				Reported 11/14/18 09	: 1:25
		T1833	B6-B	sil)					
		11055	.50-10 (50	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Semivolatile Organic Compounds by	EPA Method 8270C								
Bis(2-chloroethoxy)methane	ND	300	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C	
Bis(2-chloroethyl)ether	ND	300	"	"		"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"		"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"		"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"		"	"	"	
Di-n-butyl phthalate	ND	300	"	"		"	"	"	
1,2-Dichlorobenzene	ND	300	"	"		"	"	"	
1,3-Dichlorobenzene	ND	300	"	"		"	"	"	
2,4-Dichlorophenol	ND	1000	"	"		"	"	"	
Diethyl phthalate	ND	300	"	"		"	"	"	
2,4-Dimethylphenol	ND	1000	"	"		"	"	"	
Dimethyl phthalate	ND	300	"	"		"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"		"	"	"	
2,4-Dinitrophenol	ND	1000	"	"		"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"		"	"	"	
Di-n-octyl phthalate	ND	300	"	"		"	"	"	
Fluoranthene	ND	300	"	"		"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"		"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long									
		T1833	B6-B 338-16 (So	oil)						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aboratori	es, Inc.						
Semivolatile Organic Compounds by I	EPA Method 8270C									
4-Methylphenol	ND	1000	ug/kg	1	8110715	11/07/18	11/08/18	EPA 8270C		
Naphthalene	ND	300	"	"	"	"	"	"		
2-Nitroaniline	ND	300	"	"	"	"	"	"		
3-Nitroaniline	ND	300	"	"	"	"	"	"		
4-Nitroaniline	ND	300	"	"	"	"	"	"		
Nitrobenzene	ND	1000	"	"	"	"	"	"		
2-Nitrophenol	ND	1000	"	"	"	"	"	"		
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"		
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"		
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"		
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"		
Phenanthrene	ND	300	"	"	"	"	"	"		
Azobenzene	ND	300	"	"	"	"	"	"		
Pyridine	ND	300	"	"	"	"	"	"		
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"		
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"		
Surrogate: 2-Fluorophenol		58.8 %	15-	121	"	"	"	"		
Surrogate: Phenol-d6		69.7 %	24-	113	"	"	"	"		
Surrogate: Nitrobenzene-d5		58.7%	21.3	-119	"	"	"	"		
Surrogate: 2-Fluorobiphenyl		71.2 %	32.4	-102	"	"	"	"		
Surrogate: 2,4,6-Tribromophenol		81.0 %	18.1	-105	"	"	"	"		
Surrogate: Terphenyl-dl4		92.8 %	29.1	-130	"	"	"	"		

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Proje Project Numb Project Manag	ect: Pole L ber: 3534.x ger: Laura	Line Ramp C Long			Reported: 11/14/18 09:	25	
		T1833	B6-C 38-17 (So	pil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons by 801	5B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	22	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		115 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	8110803	11/08/18	11/08/18	EPA 6010b	
Lead	24	3.0	"	"	"	"	"		

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	-West Sac. Project: Pole Line Ramp Project Number: 3534.x ,- Project Manager: Laura Long								
		l T1833	DB1-A 338-18 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Extractable Petroleum Hydrocarbons	by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"		"	
C29-C40 (MORO)	ND	10	"	"	"	"		"	
Surrogate: p-Terphenyl		104 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	8110821	11/08/18	11/09/18	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	6.7	5.0	"	"	"	"	"	"	
Barium	190	1.0	"	"	"	"		"	
Beryllium	ND	1.0	"	"	"	"		"	
Cadmium	ND	2.0	"	"	"	"		"	
Chromium	92	2.0	"	"	"	"		"	
Cobalt	23	2.0	"	"	"	"	"	"	
Copper	48	1.0	"	"	"	"	"	"	
Lead	39	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	180	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"		"	
Vanadium	81	5.0	"	"	"	"	"	"	
Zinc	83	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	0.15	0.10	mg/kg	1	8110719	11/07/18	11/08/18	EPA 7471A Soil	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported 11/14/18 09	: D:25						
		I T1833	DB1-A 38-18 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	es, Inc.					
Volatile Organic Compounds by EPA	Method 8260B								M-02
Benzene	ND	4.9	ug/kg	1	8110722	11/07/18	11/08/18	EPA 8260B	
Toluene	ND	4.9	"	"	"	"	"		
Ethylbenzene	ND	4.9	"	"	"	"	"		
m,p-Xylene	ND	9.9	"	"	"	"	"	"	
o-Xylene	ND	4.9	"	"	"	"	"		
Tert-amyl methyl ether	ND	20	"	"	"	"	"	"	
Tert-butyl alcohol	ND	49	"	"	"	"	"		
Di-isopropyl ether	ND	20	"	"	"	"	"		
Ethyl tert-butyl ether	ND	20	"	"	"	"	"		
Methyl tert-butyl ether	ND	20	"	"	"	"	"	"	
Surrogate: Toluene-d8		96.4 %	83.2	-113	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.8 %	82.9	-116	"	"	"	"	
Surrogate: Dibromofluoromethane		120 %	80.4	-132	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	g-West Sac. Project: Pole Line Ramp Project Number: 3534.x ,- Project Manager: Laura Long									
] T1833	DB1-B 338-19 (Sa	oil)						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aboratori	ies, Inc.						
Extractable Petroleum Hydrocarbons l	oy 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B		
C13-C28 (DRO)	ND	10	"	"	"	"	"	"		
C29-C40 (MORO)	ND	10	"	"	"	"	"	"		
Surrogate: p-Terphenyl		112 %	65-	135	"	"	"	"		
Metals by EPA 6010B										
Antimony	ND	3.0	mg/kg	1	8110821	11/08/18	11/09/18	EPA 6010b		
Silver	ND	2.0	"	"	"	"		"		
Arsenic	ND	5.0	"	"	"	"		"		
Barium	200	1.0	"	"	"	"		"		
Beryllium	ND	1.0	"	"	"	"	"	"		
Cadmium	ND	2.0	"	"	"	"		"		
Chromium	92	2.0	"	"	"	"		"		
Cobalt	24	2.0	"	"	"	"	"	"		
Copper	49	1.0	"	"	"	"	"	"		
Lead	ND	3.0	"	"	"	"	"	"		
Molybdenum	ND	5.0	"	"	"	"	"	"		
Nickel	200	2.0	"	"	"	"	"	"		
Selenium	ND	5.0	"	"	"	"	"	"		
Thallium	ND	2.0	"	"	"	"	"	"		
Vanadium	89	5.0	"	"	"	"	"	"		
Zinc	84	1.0	"	"	"	"	"	"		
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.10	mg/kg	1	8110719	11/07/18	11/08/18	EPA 7471A Soil		

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported 11/14/18 09	: :25						
		I T1833)B1-B 38-19 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Volatile Organic Compounds by EPA	Method 8260B								M-02
Benzene	ND	5.0	ug/kg	1	8110722	11/07/18	11/12/18	EPA 8260B	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	20	"	"	"	"	"	"	
Tert-butyl alcohol	ND	50	"	"	"	"	"	"	
Di-isopropyl ether	ND	20	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	20	"	"	"	"	"	"	
Surrogate: Toluene-d8		91.0 %	83.2	-113	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %	82.9	-116	"	"	"	"	
Surrogate: Dibromofluoromethane		114 %	80.4	-132	"	"	"	"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported: 11/14/18 09:25							
] T1833	DB2-A 338-20 (So	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	es, Inc.					
Extractable Petroleum Hydrocarbon	s by 8015B								
C6-C12 (GRO)	ND	10	mg/kg	1	8110721	11/07/18	11/09/18	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"		"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		110 %	65-	135	"	"	"	"	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	8110821	11/08/18	11/09/18	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	190	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	98	2.0	"	"	"	"	"	"	
Cobalt	26	2.0	"	"	"	"	"	"	
Copper	49	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	210	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	88	5.0	"	"	"	"	"	"	
Zinc	83	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/747	/1								
Mercury	0.14	0.10	mg/kg	1	8110719	11/07/18	11/08/18	EPA 7471A Soil	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Reported 11/14/18 09	: :25						
		I T1833	DB2-A 338-20 (Se	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratori	ies, Inc.					
Volatile Organic Compounds by EPA	Method 8260B								M-02
Benzene	ND	5.0	ug/kg	1	8110722	11/07/18	11/12/18	EPA 8260B	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	20	"	"	"	"	"	"	
Tert-butyl alcohol	ND	50	"	"	"	"	"	"	
Di-isopropyl ether	ND	20	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	20	"	"	"	"	"	"	
Surrogate: Toluene-d8		88.4 %	83.2	-113	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.4 %	82.9	-116	"	"	"	"	
Surrogate: Dibromofluoromethane		126 % 80.4-132 " " "						"	

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -	ng-West Sac. Project: Pole Line Ramp Project Number: 3534.x A, - Project Manager: Laura Long									
] T1833	DB2-B 338-21 (So	oil)						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aboratori	ies, Inc.						
Extractable Petroleum Hydrocarbons b	y 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	8110723	11/07/18	11/08/18	EPA 8015B		
C13-C28 (DRO)	ND	10	"	"	"	"		"		
C29-C40 (MORO)	ND	10	"	"	"	"		"		
Surrogate: p-Terphenyl		103 %	65-	135	"	"	"	"		
Metals by EPA 6010B										
Antimony	ND	3.0	mg/kg	1	8110821	11/08/18	11/09/18	EPA 6010b		
Silver	ND	2.0	"	"	"	"		"		
Arsenic	8.2	5.0	"	"	"	"		"		
Barium	210	1.0	"	"	"	"		"		
Beryllium	ND	1.0	"	"	"	"	"	"		
Cadmium	ND	2.0	"	"	"	"	"	"		
Chromium	93	2.0	"	"	"	"		"		
Cobalt	24	2.0	"	"	"	"	"	"		
Copper	52	1.0	"	"	"	"	"	"		
Lead	28	3.0	"	"	"	"	"	"		
Molybdenum	ND	5.0	"	"	"	"	"	"		
Nickel	190	2.0	"	"	"	"	"	"		
Selenium	ND	5.0	"	"	"	"	"	"		
Thallium	ND	2.0	"	"	"	"	"	"		
Vanadium	91	5.0	"	"	"	"	"	"		
Zinc	96	1.0	"	"	"	"	"	"		
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.10	mg/kg	1	8110719	11/07/18	11/08/18	EPA 7471A Soil		

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Blackburn Consulting-West Sac.		Proj	ect: Pole L	ine Ramp						
2491 Boatman Ave.		Project Num	ber: 3534.x	-				Reported:		
West Sacramento CA, -		11/14/18 09	:25							
]	DB2-B							
		T183.	338-21 (So	oil)						
A nalvte	Result	Reporting	Units	Dilution	Batch	Prenared	Analyzed	Method	Notes	
7 mary c	Result	Liint	Onits	Dilution	Daten	Tieparea	7 mary 20a	Wethod	Roles	
		SunStar L	aboratori	es, Inc.						
Volatile Organic Compounds by EPA	Method 8260B								M-02	
Benzene	ND	5.0	ug/kg	1	8110722	11/07/18	11/13/18	EPA 8260B		
Toluene	ND	5.0		"	"	"	"	"		
Ethylbenzene	ND	5.0	"	"	"	"	"	"		
m,p-Xylene	ND	10	"	"	"	"	"	"		
o-Xylene	ND	5.0	"	"	"	"	"	"		
Tert-amyl methyl ether	ND	20	"	"	"	"	"	"		
Tert-butyl alcohol	ND	50	"	"	"	"	"	"		
Di-isopropyl ether	ND	20	"	"	"	"	"	"		
Ethyl tert-butyl ether	ND	20	"	"	"	"	"	"		
Methyl tert-butyl ether	ND	20	"	"	"	"	"	"		
Surrogate: Toluene-d8		89.6 %	83.2	-113	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		87.8 %	82.9	-116	"	"	"	"		
Surrogate: Dibromofluoromethane		116 %	80.4	-132	"	"	"	"		
Conventional Chemistry Parameters b	y APHA/EPA/ASTN	1 Methods								
рН	7.2	0.1	pH Units	1	8110714	11/07/18	11/07/18	EPA 9045B		

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Notes

Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Extractable Petroleum Hydrocarbons by 8015B - Quality Control SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD			
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit			
Batch 8110721 - EPA 3550B GC												
Blank (8110721-BLK1)				Prepared:	Prepared: 11/07/18 Analyzed: 11/09/18							
C6-C12 (GRO)	ND	10	mg/kg									
C13-C28 (DRO)	ND	10	"									
C29-C40 (MORO)	ND	10	"									
Surrogate: p-Terphenyl	116		"	101		115	65-135					
LCS (8110721-BS1)	F			Prepared:	11/07/18 A	nalyzed: 11	/09/18					
C13-C28 (DRO)	530	10	mg/kg	505		104	75-125					
Surrogate: p-Terphenyl	114		"	101		113	65-135					
Matrix Spike (8110721-MS1)	Sou	ırce: T183338-	01	Prepared:	11/07/18 A	nalyzed: 11	/09/18					
C13-C28 (DRO)	480	10	mg/kg	495	ND	97.7	75-125					
Surrogate: p-Terphenyl	102		"	99.0		103	65-135					
Matrix Spike Dup (8110721-MSD1)	Sou	ırce: T183338-	01	Prepared: 11/07/18 Analyzed: 11/09/18								
C13-C28 (DRO)	490	10	mg/kg	505	ND	96.9	75-125	1.17	20			
Surrogate: p-Terphenyl	104		"	101		103	65-135					
Batch 8110723 - EPA 3550B GC												
Blank (8110723-BLK1)				Prepared &	k Analyzed:	11/07/18						
C6-C12 (GRO)	ND	10	mg/kg									
C13-C28 (DRO)	ND	10	"									
C29-C40 (MORO)	ND	10	"									
Surrogate: p-Terphenyl	109		"	98.0		111	65-135					
LCS (8110723-BS1)				Prepared &	& Analyzed:	11/07/18						

10

mg/kg

490

98.0

490

108

SunStar Laboratories, Inc.

C13-C28 (DRO)

Surrogate: p-Terphenyl

Krein Kubeta

100

110

75-125

65-135

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Notes

Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Extractable Petroleum Hydrocarbons by 8015B - Quality Control

	SunStar Laboratories, Inc.											
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit			
Batch 8110723 - EPA 3550B GC												
LCS Dup (8110723-BSD1)				Prepared &	k Analyzed:	11/07/18						
C13-C28 (DRO)	500	10	mg/kg	490		101	75-125	1.06	20			
Surrogate: p-Terphenyl	112		"	98.0		115	65-135					

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Project: Pole Line Ramp	
Project Number: 3534.x	Reported:
Project Manager: Laura Long	11/14/18 09:25
	Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8110803 - EPA 3050B										
Blank (8110803-BLK1)	Prepared & Analyzed: 11/08/18									
Arsenic	ND	5.0	mg/kg							
Lead	ND	3.0	"							
LCS (8110803-BS1)				Prepared &	Analyzed:	11/08/18				
Arsenic	108	5.0	mg/kg	100		108	75-125			
Lead	100	3.0	"	100		100	75-125			
Matrix Spike (8110803-MS1)	Sour	ce: T183336-	01	Prepared & Analyzed: 11/08/18						
Arsenic	127	5.0	mg/kg	100	6.44	120	75-125			
Lead	110	3.0	"	100	6.73	103	75-125			
Matrix Spike Dup (8110803-MSD1)	Sour	ce: T183336-	01	Prepared &	Analyzed:	11/08/18				
Arsenic	126	5.0	mg/kg	100	6.44	120	75-125	0.526	20	
Lead	100	3.0	"	100	6.73	93.6	75-125	9.07	20	

Batch 8110821 - EPA 3050B

Blank (8110821-BLK1)				Prepared: 11/08/18 Analyzed: 11/09/18
Antimony	ND	3.0	mg/kg	
Silver	ND	2.0	"	
Arsenic	ND	5.0	"	
Barium	ND	1.0	"	
Beryllium	ND	1.0	"	
Cadmium	ND	2.0	"	
Chromium	ND	2.0	"	
Cobalt	ND	2.0	"	
Copper	ND	1.0	"	
Lead	ND	3.0	"	
Molybdenum	ND	5.0	"	
Nickel	ND	2.0	"	
Selenium	ND	5.0	"	
Thallium	ND	2.0	"	
Vanadium	ND	5.0	"	
Zinc	ND	1.0	"	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8110821 - EPA 3050B										

LCS (8110821-BS1)	Prepared: 11/08/18 Analyzed: 11/09/18										
Arsenic	111	5.0	mg/kg	100		111	75-125				
Barium	111	1.0	"	100		111	75-125				
Cadmium	112	2.0	"	100		112	75-125				
Chromium	109	2.0	"	100		109	75-125				
Lead	112	3.0	"	100		112	75-125				
Matrix Spike (8110821-MS1)	Source:	Source: T183338-18 Prepared: 11/08/18 Analyzed: 11/09/18									
Arsenic	116	5.0	mg/kg	99.0	6.71	110	75-125				
Barium	299	1.0	"	99.0	186	114	75-125				
Cadmium	103	2.0	"	99.0	0.290	104	75-125				
Chromium	198	2.0	"	99.0	92.4	107	75-125				
Lead	145	3.0	"	99.0	39.5	106	75-125				
Matrix Spike Dup (8110821-MSD1)	Source:	T183338-	18	Prepared: 1	1/08/18 Ar	alyzed: 11	/09/18				
Arsenic	106	5.0	mg/kg	99.0	6.71	101	75-125	8.61	20		
Barium	263	1.0	"	99.0	186	77.2	75-125	12.9	20		
Cadmium	96.3	2.0	"	99.0	0.290	97.0	75-125	6.87	20		
Chromium	177	2.0	"	99.0	92.4	85.4	75-125	11.2	20		
Lead	123	3.0	"	99.0	39.5	84.9	75-125	15.7	20		

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc. %REC RPD Reporting Spike Source %REC RPD Limit Analyte Result Limit Units Level Result Limits Notes Batch 8110719 - EPA 7471A Soil Prepared: 11/07/18 Analyzed: 11/08/18 Blank (8110719-BLK1) Mercury ND 0.10 mg/kg LCS (8110719-BS1) Prepared: 11/07/18 Analyzed: 11/08/18 Mercury 0.353 0.10 0.397 88.9 80-120 mg/kg Matrix Spike (8110719-MS1) Prepared: 11/07/18 Analyzed: 11/08/18 Source: T183347-08 Mercury 0.352 0.10 mg/kg 0.417 ND 84.4 75-125 Matrix Spike Dup (8110719-MSD1) Source: T183347-08 Prepared: 11/07/18 Analyzed: 11/08/18 Mercury 0.326 0.10 0.385 ND 84.8 75-125 7.47 20 mg/kg

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 8110722 - EPA 5030 GCMS										
Blank (8110722-BLK1)				Prepared:	11/07/18 Ai	nalyzed: 11	/08/18			
Benzene	ND	5.0	ug/kg							
Toluene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Tert-amyl methyl ether	ND	20	"							
Tert-butyl alcohol	ND	50	"							
Di-isopropyl ether	ND	20	"							
Ethyl tert-butyl ether	ND	20	"							
Methyl tert-butyl ether	ND	20	"							
Surrogate: Toluene-d8	39.1		"	40.0		97.8	83.2-113			
Surrogate: 4-Bromofluorobenzene	43.7		"	40.0		109	82.9-116			
Surrogate: Dibromofluoromethane	37.2		"	40.0		93.0	80.4-132			
LCS (8110722-BS1)				Prepared:	11/07/18 Ai	nalyzed: 11	/08/18			
Chlorobenzene	32.3	5.0	ug/kg	40.0		80.8	65.2-124			
1,1-Dichloroethene	30.8	5.0	"	40.0		77.0	60.9-131			
Trichloroethene	31.0	5.0	"	40.0		77.5	62.1-126			
Benzene	29.1	5.0	"	40.0		72.7	65.3-127			
Toluene	29.9	5.0	"	40.0		74.8	64.3-122			
Surrogate: Toluene-d8	38.3		"	40.0		95.6	83.2-113			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		105	82.9-116			
Surrogate: Dibromofluoromethane	40.1		"	40.0		100	80.4-132			
LCS Dup (8110722-BSD1)				Prepared:	11/07/18 Ai	nalyzed: 11	/08/18			
Chlorobenzene	39.5	5.0	ug/kg	39.8		99.1	65.2-124	19.9	20	
1,1-Dichloroethene	34.3	5.0	"	39.8		86.1	60.9-131	10.8	20	
Trichloroethene	37.0	5.0	"	39.8		92.8	62.1-126	17.6	20	
Benzene	34.7	5.0	"	39.8		87.1	65.3-127	17.6	20	
Toluene	35.6	5.0	"	39.8		89.4	64.3-122	17.4	20	
Surrogate: Toluene-d8	38.2		"	39.8		95.9	83.2-113			
Surrogate: 4-Bromofluorobenzene	42.5		"	39.8		107	82.9-116			
Surrogate: Dibromofluoromethane	39.5		"	39.8		99.0	80.4-132			

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 8110715 - EPA 3550 ECD/GCMS

Blank (0110715 DI V1)				Dranarad: 11/07/18 Apalyzad: 11/08/18
Carbarala	ND	200		Prepared. 11/07/18 Anaryzed. 11/08/18
	ND	300	ug/kg	
Aniline	ND	300		
	ND	1000		
2-Chlorophenol	ND	1000		
1,4-Dichlorobenzene	ND	300		
N-Nitrosodi-n-propylamine	ND	300		
1,2,4-Trichlorobenzene	ND	300		
4-Chloro-3-methylphenol	ND	1000		
1-Methylnaphthalene	ND	300		
2-Methylnaphthalene	ND	300	"	
Acenaphthene	ND	300	"	
4-Nitrophenol	ND	1000	"	
2,4-Dinitrotoluene	ND	300	"	
Pentachlorophenol	ND	1000	"	
Pyrene	ND	300	"	
Acenaphthylene	ND	300	"	
Anthracene	ND	300	"	
Benzo (a) anthracene	ND	300	"	
Benzo (b) fluoranthene	ND	300	"	
Benzo (k) fluoranthene	ND	300	"	
Benzo (g,h,i) perylene	ND	1000	"	
Benzo (a) pyrene	ND	300	"	
Benzyl alcohol	ND	300	"	
Bis(2-chloroethoxy)methane	ND	300	"	
Bis(2-chloroethyl)ether	ND	300	"	
Bis(2-chloroisopropyl)ether	ND	300	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	
4-Bromophenyl phenyl ether	ND	300	"	
Butyl benzyl phthalate	ND	300	"	
4-Chloroaniline	ND	300	"	
2-Chloronaphthalene	ND	300	"	
4-Chlorophenyl phenyl ether	ND	300	"	
Chrysene	ND	300	"	
Dibenz (a,h) anthracene	ND	300	"	
Dibenzofuran	ND	300	"	
Di-n-butyl phthalate	ND	300	"	

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 8110715 - EPA 3550 ECD/GCMS

Blank (8110715-BLK1)				Prepared: 11/07/18 Analyzed: 11/08/18
1,2-Dichlorobenzene	ND	300	ug/kg	
1,3-Dichlorobenzene	ND	300		
2,4-Dichlorophenol	ND	1000		
Diethyl phthalate	ND	300	"	
2,4-Dimethylphenol	ND	1000		
Dimethyl phthalate	ND	300	"	
4,6-Dinitro-2-methylphenol	ND	1000		
2,4-Dinitrophenol	ND	1000		
2,6-Dinitrotoluene	ND	1000		
Di-n-octyl phthalate	ND	300		
Fluoranthene	ND	300	"	
Fluorene	ND	300	"	
Hexachlorobenzene	ND	1500	"	
Hexachlorobutadiene	ND	300	"	
Hexachlorocyclopentadiene	ND	1000		
Hexachloroethane	ND	300		
Indeno (1,2,3-cd) pyrene	ND	300		
Isophorone	ND	300		
2-Methylphenol	ND	1000		
4-Methylphenol	ND	1000		
Naphthalene	ND	300		
2-Nitroaniline	ND	300	"	
3-Nitroaniline	ND	300	"	
4-Nitroaniline	ND	300		
Nitrobenzene	ND	1000		
2-Nitrophenol	ND	1000		
N-Nitrosodimethylamine	ND	300		
N-Nitrosodiphenylamine	ND	300		
2,3,5,6-Tetrachlorophenol	ND	300		
2,3,4,6-Tetrachlorophenol	ND	300	"	
Phenanthrene	ND	300	"	
Azobenzene	ND	300		
Pyridine	ND	300		
2,4,5-Trichlorophenol	ND	1000		
2,4,6-Trichlorophenol	ND	1000	"	

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 8110715 - EPA 3550 ECD/GCMS										
Blank (8110715-BLK1)				Prepared: 1	1/07/18 Ar	nalyzed: 11	/08/18			
Surrogate: 2-Fluorophenol	1740		ug/kg	3260		53.3	15-121			
Surrogate: Phenol-d6	2040		"	3260		62.5	24-113			
Surrogate: Nitrobenzene-d5	1780		"	3260		54.8	21.3-119			
Surrogate: 2-Fluorobiphenyl	2000		"	3260		61.5	32.4-102			
Surrogate: 2,4,6-Tribromophenol	2210		"	3260		67.7	18.1-105			
Surrogate: Terphenyl-dl4	3150		"	3260		96.6	29.1-130			
LCS (8110715-BS1)				Prepared: 1	1/07/18 Ar	nalyzed: 11	/08/18			
Phenol	2640	1000	ug/kg	3320		79.5	34-114			
2-Chlorophenol	2490	1000	"	3320		74.9	34-114			
1,4-Dichlorobenzene	2370	300	"	3320		71.4	34-114			
N-Nitrosodi-n-propylamine	3470	300	"	3320		105	30-110			
1,2,4-Trichlorobenzene	2480	300	"	3320		74.5	39-119			
4-Chloro-3-methylphenol	3110	1000	"	3320		93.7	50-130			
Acenaphthene	2810	300	"	3320		84.6	34-114			
Pentachlorophenol	3310	1000	"	3320		99.6	50-130			
Pyrene	3710	300	"	3320		112	33.7-123			
Surrogate: 2-Fluorophenol	2330		"	3320		70.1	15-121			
Surrogate: Phenol-d6	2850		"	3320		85.7	24-113			
Surrogate: Nitrobenzene-d5	2430		"	3320		73.2	21.3-119			
Surrogate: 2-Fluorobiphenyl	2710		"	3320		81.5	32.4-102			
Surrogate: 2,4,6-Tribromophenol	3070		"	3320		92.4	18.1-105			
Surrogate: Terphenyl-dl4	3640		"	3320		109	29.1-130			
LCS Dup (8110715-BSD1)				Prepared: 1	1/07/18 Ar	nalyzed: 11	/08/18			
Phenol	2500	1000	ug/kg	3300		75.9	34-114	5.31	42	
2-Chlorophenol	2400	1000	"	3300		72.7	34-114	3.72	40	
1,4-Dichlorobenzene	2320	300	"	3300		70.3	34-114	2.30	28	
N-Nitrosodi-n-propylamine	3380	300	"	3300		102	30-110	2.85	38	
1,2,4-Trichlorobenzene	2360	300	"	3300		71.6	39-119	4.64	28	
4-Chloro-3-methylphenol	2990	1000	"	3300		90.6	50-130	4.02	42	
Acenaphthene	2700	300	"	3300		81.8	34-114	4.09	31	
Pentachlorophenol	3350	1000	"	3300		102	50-130	1.32	50	
Pyrene	3700	300	"	3300		112	33.7-123	0.305	31	
Surrogate: 2-Fluorophenol	2220		"	3300		67.2	15-121			
Surrogate: Phenol-d6	2710		"	3300		82.1	24-113			

SunStar Laboratories, Inc.

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8110715 - EPA 3550 ECD/GCMS										
LCS Dup (8110715-BSD1)				Prepared: 1	1/07/18 Ar	nalyzed: 11	/08/18			
Surrogate: Nitrobenzene-d5	2280		ug/kg	3300		69.0	21.3-119			
Surrogate: 2-Fluorobiphenyl	2550		"	3300		77.2	32.4-102			
Surrogate: 2,4,6-Tribromophenol	2840		"	3300		86.1	18.1-105			
Surrogate: Terphenyl-dl4	3590		"	3300		109	29.1-130			

SunStar Laboratories, Inc.

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8110714 - General Preparation										
Duplicate (8110714-DUP1)	Sou	rce: T183338-0	07	Prepared &	Analyzed:	11/07/18				
pH	6.81	0.1	pH Units		6.81			0.00	20	

SunStar Laboratories, Inc.

Krin Kubita

Kris Kubota, Project Manager Assistant

SunStar — Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/14/18 09:25

Notes and Definitions

- R-07 Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
- M-02 Multiple analysis yielded poor internal standard and/or surrogate recoveries due to matrix effect. Results reported are from the most complete recovery of internal standards, however, recoveries were not within the acceptable limits of the method.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

SunStar Laboratories, Inc.

Krein Kubeta

Relinquished by: (signature) Date / Time Received by: (signature) Date / Time Turn around time: STD	CSC 11-7-18 0945 Jan 11/7/18 0949 Received good condition/cold 3	Relinquished by: (signature) Date / Time Received by: (signature) Date / Time Seals intact? (//)/NA	Relinquished by: (signature) Date / Time Received by: (signature) Date / Time Total # of containers a N/6/18 11; 42 DO'D cm 11/6 11/2 Chain of Custody seals FIDINA	BS-C VIX XX XX XX XX XX XX	85-8 14:05 X X X X X X	BZ-A X X X X X X X X X X X X X X X X X X X	B4-C I 13:35 I CHOLD X XX H	B4-B 13:20 X X X	A4-A 13:10 X X X					B3-A III A X X 5		81-8 11:05 X X 4 0	81-A 11/5/18 10:25 5011 Jar X X X 6	Sample D Sampled Time Type Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Sampled Sampled Type Sampled Sa	Project Manager: Laura Long Batch #: TIR33358 E	Phone: 916-375-8706 Fax: Collector: LUICE Morry 1) CI	client Blackburn Consulting (BCI) Date: 11/6/10 P	949-297-5020	23/12 COllinercentre Drive, Lave Forest, CA 22000
TPH-g, m 0, 2 and Pb.	Sample's are recitived	The is for sive when	All"C" samples will be held				11	ō	09	80	30	201	04	03	(None)			Comments/Preservative	#	nt Project #: 353 4,X	of a)	

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		5.1	/cold	dition	s intac d con	Seals	ceived	Rec	245	Reme	-/8	Dat	ŕ	1 /4	(signatura	Received by	US me	Date / Ti	Relinquished by: (signature)
	Notes	F	A	conta	l # of ly sea	Tota	1 of C	Chair	0	HC	e/11	bat	=	5	(signature	D. O'D	1: 40	11/6 1	Luce Morrie
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Total # of containers	Comments/Preservative	Laboratory ID #	pH(9045B)	6010 Total Arseniz	6010 Total Leat	6020 ICP-MS Metals	6010/7000 Title 22 Metole	8015M (diesel)	8015M (gasoline)	B021 BTEX	STOL	8260 BTEX, OXY only +5	8260 + OXY	8260	Container	Sample	Time	Date Sampled	Sample ID
		EDF #:			11	38	83	1	L.	ch #	Bate	1	1		1			Long	Project Manager:
	act #: 3 S3 4. X	Client Proje	AM	-	R	Nor	c/	S	r: C	ecto	Coll			1 1	Ì	240,0	Fax:	A UNCHAN	hone: 916-375-870
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	\bigcirc							ď	CO	Re	ły		Cu	of	Chain		es	tar ratori	SunSt Labo



SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #:	T183338					
Client Name:	BLACKBURN		Project:		POLE	LINE RAMP
Delivered by:	Client SunSt	ar Courier	GSO	FedEx	Othe	r
If Courier, Received by:			Date/Time C Received:	Courier		
Lab Received by:	BRIAN		Date/Time L Received:	Lab	11-7-18	0945
Total number of coolers re	eceived: Z					
Temperature: Cooler #1	1.9 °C +/- the CF	(1.2°C) =	= 3.1	°C correct	ed temperatu	ire
Temperature: Cooler #2	3.2 °C +/- the CF	F(1.2°C) =	= 4.4	°C correct	ed temperatu	ire
Temperature: Cooler #3	°C +/- the CF	F(1.2°C) =		°C correct	ed temperatu	ire
Temperature criteria = < (no frozen containers)	≤ 6°C	Within cr	iteria?	Yes	No	
If NO:	Can	a de	dia ma	10.0		
Samples received	on ice?	Yes		□No → Complete	e Non-Cor	nformance Sheet
If on ice, samples collected?	received same day	∐Yes →	Acceptable	□No → Complet	e Non-Coi	nformance Sheet
Custody seals intact on co	oler/sample			Yes	□No*	□N/A
Sample containers intact	Ban GA Pe			Yes	□No*	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Sample labels match Chai	in of Custody IDs			Yes	□No*	
Total number of container	rs received match COC			Yes	□No*	
Proper containers received	d for analyses requested	on COC		Yes	No*	
Proper preservative indica	ated on COC/containers	for analyses	s requested	Yes	No*	XN/A
Complete shipment receiv containers, labels, volume holding times	ved in good condition wi es preservatives and with	th correct te in method s	emperatures, specified	Yes Yes	□No*	
* Complete Non-Conformar	nce Receiving Sheet if chec	cked Co	oler/Sample Re	eview - Initials	and date:	BC 11-7-18
Comments:						

Page 1 of ____

SunStar					Printed: 11/7/2018 3:33:13P
Laborator	ries, Inc.	WO	RK ORDER		
PROVIDING QUALITY ANALYTICAL	Services Nationwide		F183338	7	
			105550		
Client: Blackburn Consulti Project: Pole Line Ramp	ng-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Report To: Blackburn Consulting-West Sa Laura Long 2491 Boatman Ave. West Sacramento, CA -	ac.				
Date Due:11/14/18 17Received By:Brian CharceLogged In By:Brian Charce	:00 (5 day TAT) on on		Date Received: Date Logged In:	11/07/18 09:45 11/07/18 10:27	
Samples Received at: 3.1°C Custody Seals Yes Received 0 Containers Intact Yes COC/Labels Agree Yes Preservation Confiri No	On Ice Yes				
Analysis	Due	TAT	Expires	Comments	
T183338-01 B1-A [Soil] Sa &	mpled 11/05/18 10:25	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 10:25	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 10:25		
8270C	11/14/18 15:00	5	11/19/18 10:25		
T183338-02 B1-B [Soil] Sa &	mpled 11/05/18 11:05	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:05	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:05		
8270C	11/14/18 15:00	5	11/19/18 11:05		
T183338-03 B2-A [Soil] Sa &	mpled 11/05/18 11:40	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:40	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:40		
8270C	11/14/18 15:00	5	11/19/18 11:40		
T183338-04 B2-B [Soil] Sa &	mpled 11/05/18 11:50	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:50	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:50		
8270C	11/14/18 15:00	5	11/19/18 11:50		
T183338-05 B2-C [Soil] Sa	mpled 11/05/18 12:00	(GMT-08:	00) Pacific Time (US	8	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:00	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:00		

SunStar					Printed: 11/7/2018 3:33:13P
	ries, Inc.	WO	RK ORDER		
		7	183338		
Client: Blackburn Consulti Project: Pole Line Ramp	ng-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	ТАТ	Fxnires	Comments	
T192229 06 D2 A [Coll] Co	membed 11/05/19 12.20		Danifia Tima (U		
1185558-00 D5-A [5011] Sa &	impled 11/05/18 12:50	(GM1-08:0	bo) Pacific Time (03	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:30	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:30		
8270C	11/14/18 15:00	5	11/19/18 12:30		
T183338-07 B3-B [Soil] Sa &	mpled 11/05/18 12:35	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:35	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:35		
8270C	11/14/18 15:00	5	11/19/18 12:35		
pH soil 9045	11/14/18 15:00	5	11/19/18 12:35		
T183338-08 B3-C [Soil] Sa &	mpled 11/05/18 13:00	(GMT-08:	00) Pacific Time (U	8	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:00	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:00		
T183338-09 B4-A [Soil] Sa &	mpled 11/05/18 13:10	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:10	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:10		
8270C	11/14/18 15:00	5	11/19/18 13:10		
T183338-10 B4-B [Soil] Sa &	mpled 11/05/18 13:20	(GMT-08:0	00) Pacific Time (U	S	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:20	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:20		
8270C	11/14/18 15:00	5	11/19/18 13:20		
T183338-11 B4-C [Soil] Sa &	mpled 11/05/18 13:35	(GMT-08:0	00) Pacific Time (US	S	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:35	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:35		
T183338-12 B5-A [Soil] Sa &	mpled 11/05/18 13:50	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:50	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:50		
8270C	11/14/18 15:00	5	11/19/18 13:50		

SunStar					Printed: 11/7/2018 3:33:13P
- Laborator	ies, Inc.	WO	RK ORDER		
PROVIDING QUALITY ANALYTICAL SE	ERVICES NATIONWIDE	<u>ייי</u> ר	183338		
		_	Destant Managem		
Project: Pole Line Ramp	ig-west Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	ТАТ	Expires	Comments	
T100000 10 D5 D [0 1] 0	Dut			Comments	
Т183338-13 В5-В [Soil] Sar &	mpled 11/05/18 14:05	(GMT-08:0	00) Pacific Time (US	•	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 14:05	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 14:05		
8270C	11/14/18 15:00	5	11/19/18 14:05		
T183338-14 B5-C [Soil] Sai	mpled 11/05/18 14:20	(GMT-08:	00) Pacific Time (US	5	
&		(0.112 000		-	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 14:20	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 14:20		
T183338-15 B6-A [Soil] Sar &	npled 11/06/18 07:10	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:10	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:10		
8270C	11/14/18 15:00	5	11/20/18 07:10		
T183338-16 B6-B [Soil] Sar &	mpled 11/06/18 07:15	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:15	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:15		
8270C	11/14/18 15:00	5	11/20/18 07:15		
T183338-17 B6-C [Soil] Sar	mpled 11/06/18 07:25	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:25	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:25		
T183338-18 DB1-A [Soil] S	ampled 11/06/18 07:4	5 (GMT-08	8:00) Pacific Time		
(US &	11/14/18 15.00	5	05/05/10 07:45		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:45		
8260 BTFX/OXY	11/14/18 15:00	5	11/20/18 07:45	+5	
T183338-19 DB1-B [Soil] S	ampled 11/06/18 08:10	0 (GMT-08	3:00) Pacific Time		
(US &					
6010 Title 22	11/14/18 15:00	5	05/05/19 08:10		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 08:10	. 5	
8200 BTEX/UXY	11/14/18 15:00	5	11/20/18 08:10	+5	
T183338-20 DB2-A [Soil] Sa (US &	ampled 11/06/18 09:09	5 (GMT-08	8:00) Pacific Time		
6010 Title 22	11/14/18 15:00	5	05/05/19 09:05		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 09:05		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 09:05	+5	

SunStar					Printed: 11/7/2018 3:33:13P
Providing Quality Analytic	OTIES, Inc.	WO T	RK ORDER 183338		
Client: Blackburn Consu Project: Pole Line Ramp	lting-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	TAT	Expires	Comments	
T183338-21 DB2-B [Soil (US &] Sampled 11/06/18 09:2	0 (GMT-08	:00) Pacific Time		
6010 Title 22	11/14/18 15:00	5	05/05/19 09:20		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 09:20		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 09:20	+5	
pH soil 9045	11/14/18 15:00	5	11/20/18 09:20		

6010 Title 22 subgroup 6010B T22 7470/71 Hg	Analysis groups included in t	his work order		
subgroup 6010B T22 7470/71 Hg	6010 Title 22			
Subgroup corrob raz	subgroup 6010B T22	7470/71 Hg		

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

26 November 2018

Laura Long Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento, CA -RE: Pole Line Ramp

Enclosed are the results of analyses for samples received by the laboratory on 11/07/18 09:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi For Kris Kubota Project Manager Assistant



25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/26/18 09:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-B	T183338-02	Soil	11/05/18 11:05	11/07/18 09:45
B2-A	T183338-03	Soil	11/05/18 11:40	11/07/18 09:45
В2-В	T183338-04	Soil	11/05/18 11:50	11/07/18 09:45
B2-C	T183338-05	Soil	11/05/18 12:00	11/07/18 09:45
В3-В	T183338-07	Soil	11/05/18 12:35	11/07/18 09:45
B4-A	T183338-09	Soil	11/05/18 13:10	11/07/18 09:45
B5-A	T183338-12	Soil	11/05/18 13:50	11/07/18 09:45
B6-A	T183338-15	Soil	11/06/18 07:10	11/07/18 09:45

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/26/18 09:01

DETECTIONS SUMMARY

Sample ID:	B1-B	Laboratory ID:		T183338-02		
			Reporting			
Analyte		Result	Limit	Units	Method	Notes
Lead		6.0	0.10	mg/l	STLC Waste Extraction T	
Sample ID:	B2-A	Laboratory ID:		T183338-03		
	Reporting					
Analyte		Result	Limit	Units	Method	Notes
Lead		2.9	0.10	mg/l	STLC Waste Extraction T	
Sample ID:	B2-B	Laboratory ID:		T183338-04		
	Reporting					
Analyte		Result	Limit	Units	Method	Notes
Lead		1.9	0.10	mg/l	STLC Waste Extraction T	
		Laboratory ID:				
Sample ID:	B2-C	Labora	tory ID:	T183338-05		
Sample ID:	B2-C	Labora	ntory ID: Reporting	T183338-05		
Sample ID: Analyte	B2-C	Labora Result	ntory ID: Reporting Limit	T183338-05 Units	Method	Notes
Sample ID: Analyte Lead	B2-C	Labora Result 1.1	Reporting Limit	T183338-05 Units mg/l	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead	B2-C	Labora Result 1.1	Reporting Limit 0.10	T183338-05 Units mg/l	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID:	B2-C B3-B	Labora Result 1.1 Labora	Reporting Limit 0.10	T183338-05 Units mg/l T183338-07	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID:	B2-C B3-B	Labora Result 1.1 Labora	Reporting Limit 0.10	T183338-05 Units mg/l T183338-07	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID:	B2-C B3-B	Labora Result 1.1 Labora	Reporting Limit 0.10	T183338-05 Units mg/l T183338-07	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID: No Results De	B2-C B3-B	Labora Result 1.1 Labora	Reporting Limit 0.10	T183338-05 Units mg/l T183338-07	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID: No Results Do Sample ID:	B2-C B3-B etected B4-A	Labora Result 1.1 Labora Labora	ttory ID: Reporting Limit 0.10 ttory ID:	T183338-05 Units mg/l T183338-07	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID: No Results Do Sample ID:	B2-C B3-B etected B4-A	Labora Result 1.1 Labora Labora	Atory ID: Reporting Limit 0.10 Atory ID: Atory ID: Reporting	T183338-05 Units mg/l T183338-07 T183338-09	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID: No Results D Sample ID: Analyte	B2-C B3-B etected B4-A	Labora Result 1.1 Labora Labora	ntory ID: Reporting Limit 0.10 ntory ID: ntory ID: Reporting Limit	T183338-05 Units mg/l T183338-07 T183338-09 Units	Method STLC Waste Extraction T	Notes
Sample ID: Analyte Lead Sample ID: No Results Do Sample ID: Analyte Lead	B2-C B3-B etected B4-A	Labora Result 1.1 Labora Labora Result 15	ttory ID: Reporting Limit 0.10 ttory ID: ttory ID: Reporting Limit 0.10	T183338-05 Units mg/l T183338-07 T183338-09 Units mg/l	Method STLC Waste Extraction T Method STLC Waste Extraction T	Notes

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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -		Project: Pole Line Ramp Project Number: 3534.x Project Manager: Laura Long			Reported: 11/26/18 09:01		
Sample ID:	B5-A	Laboratory ID: 1		T183338-12			
Reporting							
Analyte		Result	Limit	Units	Method	Notes	
Lead		3.0	0.10	mg/l	STLC Waste Extraction T		
Sample ID:	B6-A	Lab	Laboratory ID:				
	Reporting						
Analyte		Result	Limit	Units	Method	Notes	

2.9

0.10

mg/l

STLC Waste Extraction T

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Lead
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Blackburn Consulting-West Sac. 2491 Boatman Ave. West Sacramento CA, -			Reported : 11/26/18 09	:01					
		T1833	B1-B 338-02 (Se	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Metho	ods								
Lead	6.0	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction Test	

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SunStar Laboratories, Inc. Providing Quality Analytical Services Nationwide							L	25712 Commerc ake Forest, Califo 949.297.: 949.29	entre Drive ornia 92630 5020 Phone 17.5027 Fax
Blackburn Consulting-West Sac.		Proje	ct: Pole	Line Ramp					
2491 Boatman Ave.		Project Numb	er: 3534	х				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	ı Long				11/26/18 09:	01
		T1833	B2-A 38-03 (S	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	2.9	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

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SunStar Laboratories, Inc. Providing Quality Analytical Services Nationwide							L	25712 Commerce ake Forest, Califo 949.297.: 949.29	entre Drive ornia 92630 5020 Phone 7.5027 Fax
Blackburn Consulting-West Sac.		Proje	ct: Pole I	line Ramp					
2491 Boatman Ave.		Project Numb	er: 3534.	x				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	Long				11/26/18 09:	01
		T1833	B2-B 38-04 (S	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	1.9	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

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SunStar Laboratories, Inc Providing Quality Analytical Services Nationwide							L	25712 Commerce ake Forest, Califo 949.297.: 949.29	entre Drive ornia 92630 5020 Phone 7.5027 Fax
Blackburn Consulting-West Sac.		Proje	ct: Pole I	ine Ramp					
2491 Boatman Ave.		Project Numb	er: 3534.:	ĸ				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	Long				11/26/18 09:	01
		T1833	B2-C 38-05 (S	oil)				5712 Commercer ke Forest, Califor 949.297.50 949.297 Reported: 11/26/18 09:0 Method STLC Waste Extraction	
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	1.1	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

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SunStar Laboratories, Inc Providing Quality Analytical Services Nationwi	C.						L	25712 Commerce ake Forest, Califo 949.297.5 949.29	entre Drive ornia 92630 5020 Phone 7.5027 Fax
Blackburn Consulting-West Sac.		Proje	ct: Pole L	ine Ramp					
2491 Boatman Ave.		Project Numb	er: 3534.2	ĸ				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	Long				11/26/18 09:	01
		T1833	B3-B 38-07 (Se	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	ND	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

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SunStar Laboratories, Inc. Providing Quality Analytical Services Nationwide							L	25712 Commerce ake Forest, Califo 949.297.5 949.29	entre Drive ornia 92630 5020 Phone 7.5027 Fax
Blackburn Consulting-West Sac.		Proje	ct: Pole I	ine Ramp					
2491 Boatman Ave.		Project Numb	er: 3534.2	ĸ				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	Long				11/26/18 09:	01
		T1833	B4-A 38-09 (Se	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	15	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

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SunStar Laboratories, Inc Providing Quality Analytical Services Nationwide	•						L	25712 Commerce ake Forest, Califo 949.297.5 949.29	entre Drive rnia 92630 5020 Phone 7.5027 Fax
Blackburn Consulting-West Sac.		Proje	ct: Pole I	Line Ramp					
2491 Boatman Ave.		Project Numb	er: 3534.	x				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	Long				11/26/18 09:	01
		T1833	B5-A 38-12 (S	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	3.0	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

SunStar Laboratories, Inc.

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SunStar Laboratories, Inc Providing Quality Analytical Services Nationwide							L	25712 Commerce ake Forest, Califo 949.297.5 949.29	entre Drive rnia 92630 5020 Phone 7.5027 Fax
Blackburn Consulting-West Sac.		Proje	ect: Pole	Line Ramp					
2491 Boatman Ave.		Project Numb	er: 3534.	х				Reported:	
West Sacramento CA, -		Project Manag	er: Laura	Long				11/26/18 09:	01
		T1833	B6-A 38-15 (S	oil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
STLC Metals by 6000/7000 Series Methods									
Lead	2.9	0.10	mg/l	1	8111505	11/15/18	11/19/18	STLC Waste Extraction	

SunStar Laboratories, Inc.

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi For Kris Kubota, Project Manager Assistant

SunStar — Laboratories, Inc. Providing Quality Analytical Services Nationwide

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Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/26/18 09:01

STLC Metals by 6000/7000 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8111505 - STLC Metals										
Blank (8111505-BLK1)				Prepared: 1	1/15/18 Aı	nalyzed: 11	/19/18			
Selenium	ND	0.10	mg/l							
Lead	ND	0.10	"							
LCS (8111505-BS1)				Prepared: 1	1/15/18 Ai	nalyzed: 11	/19/18			
Selenium	8.28	0.10	mg/l	10.0		82.8	75-125			
Lead	8.58	0.10	"	10.0		85.8	75-125			
Matrix Spike (8111505-MS1)	Sou	rce: T183331-(01	Prepared: 1	1/15/18 Ai	nalyzed: 11	/19/18			
Selenium	9.24	0.10	mg/l	10.0	0.646	85.9	75-125			
Lead	9.28	0.10	"	10.0	ND	92.8	75-125			
Matrix Spike Dup (8111505-MSD1)	Sou	rce: T183331-(01	Prepared: 1	1/15/18 Ai	nalyzed: 11	/19/18			
Selenium	8.90	0.10	mg/l	10.0	0.646	82.5	75-125	3.73	30	
Lead	7.92	0.10	"	10.0	ND	79.2	75-125	15.8	30	

SunStar Laboratories, Inc.

SunStar Laboratories, Inc. Providing Quality Analytical Services Nationwide

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Blackburn Consulting-West Sac.	Project: Pole Line Ramp	
2491 Boatman Ave.	Project Number: 3534.x	Reported:
West Sacramento CA, -	Project Manager: Laura Long	11/26/18 09:01

Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

SunStar Laboratories, Inc.

Relinquished by: (signature) Date / Time Received by: (signature) Date / Time Turn around time: STD	CSC 11-7-18 0945 Jan 11/7/18 0949 Received good condition/cold 3	Relinquished by: (signature) Date / Time Received by: (signature) Date / Time Seals intact? (//)/NA	Relinquished by: (signature) Date / Time Received by: (signature) Date / Time Total # of containers a N/6/18 11; 42 DO'D cm 11/6 11/2 Chain of Custody seals FIDINA	BS-C VIX XX XX XX XX XX XX XX	85-8 14:05 X X X X X X	BZ-A X X X X X X X X X X X X X X X X X X X	B4-C I 13:35 I CHOLD X XX H	B4-B 13:20 X X X	A4-A 13:10 X X X					B3-A III A X X 5		81-8 11:05 X X 4 0	81-A 11/5/18 10:25 5011 Jar X X X 6	Sample D Sampled Time Type Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Type Sampled Sampled Sampled Type Sampled Sa	Project Manager: Laura Long Batch #: TIR33358 E	Phone: 916-375-8706 Fax: Collector: LUICE Morry 1) CI	client Blackburn Consulting (BCI) Date: 11/6/10 P	949-297-5020	23/12 COllinercentre Drive, Lane Forest, CA 22000
TPH-g, m 0, 2 and Pb.	Sample's are recitived	The is for sive when	All"C" samples will be held				11	ō	09	80	30	201	04	03	(None)			Comments/Preservative	#	nt Project #: 353 4,X	of a)	

	: 170440	00 00			1		-		L			dny	Pic		client	Return to	ech	posal @ \$2.00 e	ample disposal Instructions: Dis
		1.4.	2 C	F2	ne:	nd tii	arou	urn		me	e/Ti	Dat		-	: (signature	Received by	me	Date / Ti	telinquished by: (signature)
		5.1	/cold	dition	s intac d con	Seals	ceived	Rec	245	Reme	-/8	Dat	ŕ	1 /4	(signatura	Received by	US me	Date / Ti	Relinquished by: (signature)
	Notes	F	A	conta	l # of ly sea	Tota	1 of C	Chair	0	HC	e/11	bat	=	5	(signature	D. O'D	1: 40	11/6 1	Luce Morth
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5		10				++1	+1										05:50		8-8AU
Q		19			++	*	Ň		\square				Ħ	++	-		20:00		DB2-A
عرو		12				TY	S.	N				XX	++		++-		01:45		081-8 081-8
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YP		17		XX	XX						āΧ	CHa				-	51:20		86-B
e la		5		X	X	H					X			H	Usin	501	07:10	11/6/18	86-A
Total # of containers	Comments/Preservative	Laboratory ID #	pH(9045B)	6010 Total Arseniz	6010 Total Leat	6020 ICP-MS Metals	6010/7000 Title 22 Metole	8015M (diesel)	8015M (gasoline)	B021 BTEX	STOL	8260 BTEX, OXY only +5	8260 + OXY	8260	Container	Sample	Time	Date Sampled	Sample ID
		EDF #:			11	38	83	1	L.	ch #	Bate	1	1		1			Long	Project Manager:
	act #: 3 S3 4. X	Client Proje	AM	-	R	Nor	ic/	S	r: C	ecto	Coll			1 1	Ì	240,0	Fax:	A UNCUN	hone: 916-375-870
	2 of 2	Page:		5	š	10	00	1	-		Dat			L	>	H	ny (BC	Consulti	Ment Blackbupn
																92630	⁼ orest, CA	Drive, Lake I	25712 Commercentre 949-297-5020
	\bigcirc							ď	CO	Re	ły		Cu	of	Chain		es	tar ratori	SunSt Labo



SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #:	T183338					
Client Name:	BLACKBURN		Project:		POLE	LINE RAMP
Delivered by:	Client SunSt	ar Courier	GSO	FedEx	Othe	r
If Courier, Received by:			Date/Time C Received:	Courier		
Lab Received by:	BRIAN		Date/Time L Received:	Lab	11-7-18	0945
Total number of coolers re	eceived: Z					
Temperature: Cooler #1	1.9 °C +/- the CF	(1.2°C) =	= 3.1	°C correct	ed temperatu	ire
Temperature: Cooler #2	3.2 °C +/- the CF	F(1.2°C) =	= 4.4	°C correct	ed temperatu	ire
Temperature: Cooler #3	°C +/- the CF	F(1.2°C) =		°C correct	ed temperatu	ire
Temperature criteria = < (no frozen containers)	≤ 6°C	Within cr	iteria?	Yes	No	
If NO:	Can	a de	dia ma	10.0		
Samples received	on ice?	Yes		□No → Complete	e Non-Cor	nformance Sheet
If on ice, samples collected?	received same day	∐Yes →	Acceptable	□No → Complet	e Non-Coi	nformance Sheet
Custody seals intact on co	oler/sample			Yes	□No*	□N/A
Sample containers intact	Ban GA Pe			Yes	□No*	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Sample labels match Chai	in of Custody IDs			Yes	□No*	
Total number of container	rs received match COC			Yes	□No*	
Proper containers received	d for analyses requested	on COC		Yes	No*	
Proper preservative indica	ated on COC/containers	for analyses	s requested	Yes	No*	XN/A
Complete shipment receiv containers, labels, volume holding times	ved in good condition wi es preservatives and with	th correct te in method s	emperatures, specified	Yes Yes	□No*	
* Complete Non-Conformar	nce Receiving Sheet if chec	cked Co	oler/Sample Re	eview - Initials	and date:	BC 11-7-18
Comments:						

Page 1 of ____

Kris Kubota

From: Sent: To: Cc: Subject: Attachments: Kris Kubota [kris@sunstarlabs.com] Thursday, November 15, 2018 8:25 AM 'Laura Long' 'Luke Morrell'; 'Bill Hannell' RE: Additional Testing T183338_WKO_02.pdf; image002.png; image003.png

Hi Laura,

Thanks for speaking with me earlier. I've updated the work order to include the additional STLC testing for the samples listed below. As I mentioned, because of the Thanksgiving holiday, results on a standard 5-day TAT will be available by 11/26. Please see attached work order for confirmation.

Thank you so much!

Shipping Alert:

Please note that SunStar Laboratories will be observing the Thanksgiving Holidays on Thursday and Friday, November 22nd and 23rd. In addition, GSO will not have scheduled service on Thursday, November 22nd. If you have any short hold samples arriving near or during these days, please contact your Project Manager in advance to ensure all holding times are met for your samples. SunStar will be available on Saturday, November 24th if needed to receive samples. Please let your Project Manager know if you will ship or deliver samples on this day.

We appreciate your business and hope that you have a wonderful and safe holiday!

Kris Kubota Project Manager/Regional Account Manager



25712 Commercentre Dr., Lake Forest, CA 92630 Office: (949) 297-5020 | Fax: (949) 297-5027 CA ELAP Certification: 2250 | CA Small Business Certification: 31511

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From: Laura Long [mailto:laural@blackburnconsulting.com]
Sent: Thursday, November 15, 2018 7:06 AM
To: kris@sunstarlabs.com
Cc: Luke Morrell; Bill Hannell
Subject: Additional Testing

Hi Kris,

We will need additional testing on the samples that had total lead concentrations greater than 50 mg/kg. Please run STLC WET- Citric for Lead on the following: T183338-02, -03, -04, -05, -07, -09, -12, -15

Same PO for this project. Please send results to <u>laural@blackburnconsulting.com</u>. Let me know if you have any questions. Thank you!

Blackburn Consulting

2491 Boatman Ave | West Sacramento, CA 95691 P 916.375.8706| M 530.219.4891 Jaural@blackburnconsulting.com | www.blackburnconsulting.com



SunStar					Printed: 11/7/2018 3:33:13P
Laborator	ries, Inc.	WO	RK ORDER		
PROVIDING QUALITY ANALYTICAL	Services Nationwide		F183338	7	
			105550		
Client: Blackburn Consulti Project: Pole Line Ramp	ng-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Report To: Blackburn Consulting-West Sa Laura Long 2491 Boatman Ave. West Sacramento, CA -	ac.				
Date Due:11/14/18 17Received By:Brian CharceLogged In By:Brian Charce	:00 (5 day TAT) on on		Date Received: Date Logged In:	11/07/18 09:45 11/07/18 10:27	
Samples Received at: 3.1°C Custody Seals Yes Received 0 Containers Intact Yes COC/Labels Agree Yes Preservation Confiri No	On Ice Yes				
Analysis	Due	TAT	Expires	Comments	
T183338-01 B1-A [Soil] Sa &	mpled 11/05/18 10:25	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 10:25	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 10:25		
8270C	11/14/18 15:00	5	11/19/18 10:25		
T183338-02 B1-B [Soil] Sa &	mpled 11/05/18 11:05	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:05	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:05		
8270C	11/14/18 15:00	5	11/19/18 11:05		
T183338-03 B2-A [Soil] Sa &	mpled 11/05/18 11:40	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:40	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:40		
8270C	11/14/18 15:00	5	11/19/18 11:40		
T183338-04 B2-B [Soil] Sa &	mpled 11/05/18 11:50	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:50	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:50		
8270C	11/14/18 15:00	5	11/19/18 11:50		
T183338-05 B2-C [Soil] Sa	mpled 11/05/18 12:00	(GMT-08:	00) Pacific Time (US	S	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:00	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:00		

SunStar					Printed: 11/7/2018 3:33:13P
	ries, Inc.	WO	RK ORDER		
		7	183338		
Client: Blackburn Consulti Project: Pole Line Ramp	ng-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	ТАТ	Fxnires	Comments	
T192229 06 D2 A [Coll] Co	membed 11/05/19 12.20		Danifia Tima (U		
1185558-00 D5-A [5011] Sa &	impled 11/05/18 12:50	(GM1-08:0	bo) Pacific Time (03	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:30	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:30		
8270C	11/14/18 15:00	5	11/19/18 12:30		
T183338-07 B3-B [Soil] Sa &	mpled 11/05/18 12:35	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:35	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:35		
8270C	11/14/18 15:00	5	11/19/18 12:35		
pH soil 9045	11/14/18 15:00	5	11/19/18 12:35		
T183338-08 B3-C [Soil] Sa &	mpled 11/05/18 13:00	(GMT-08:	00) Pacific Time (U	8	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:00	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:00		
T183338-09 B4-A [Soil] Sa &	mpled 11/05/18 13:10	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:10	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:10		
8270C	11/14/18 15:00	5	11/19/18 13:10		
T183338-10 B4-B [Soil] Sa &	mpled 11/05/18 13:20	(GMT-08:0	00) Pacific Time (U	S	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:20	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:20		
8270C	11/14/18 15:00	5	11/19/18 13:20		
T183338-11 B4-C [Soil] Sa &	mpled 11/05/18 13:35	(GMT-08:0	00) Pacific Time (US	S	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:35	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:35		
T183338-12 B5-A [Soil] Sa &	mpled 11/05/18 13:50	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:50	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:50		
8270C	11/14/18 15:00	5	11/19/18 13:50		

SunStar					Printed: 11/7/2018 3:33:13P
- Laborator	ies, Inc.	WO	RK ORDER		
PROVIDING QUALITY ANALYTICAL SE	ERVICES NATIONWIDE	<u>ייי</u> ר	183338		
		_	Destant Managem		
Project: Pole Line Ramp	ig-west Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	ТАТ	Expires	Comments	
T100000 10 D5 D [0 1] 0	Dut			Comments	
Т183338-13 В5-В [Soil] Sar &	mpled 11/05/18 14:05	(GMT-08:0	00) Pacific Time (US	•	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 14:05	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 14:05		
8270C	11/14/18 15:00	5	11/19/18 14:05		
T183338-14 B5-C [Soil] Sai	mpled 11/05/18 14:20	(GMT-08:	00) Pacific Time (US	5	
&		(0.112 000		-	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 14:20	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 14:20		
T183338-15 B6-A [Soil] Sar &	npled 11/06/18 07:10	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:10	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:10		
8270C	11/14/18 15:00	5	11/20/18 07:10		
T183338-16 B6-B [Soil] Sar &	mpled 11/06/18 07:15	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:15	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:15		
8270C	11/14/18 15:00	5	11/20/18 07:15		
T183338-17 B6-C [Soil] Sar	mpled 11/06/18 07:25	(GMT-08:	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:25	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:25		
T183338-18 DB1-A [Soil] S	ampled 11/06/18 07:4	5 (GMT-08	8:00) Pacific Time		
(US &	11/14/18 15.00	5	05/05/10 07:45		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:45		
8260 BTFX/OXY	11/14/18 15:00	5	11/20/18 07:45	+5	
T183338-19 DB1-B [Soil] S	ampled 11/06/18 08:10	0 (GMT-08	3:00) Pacific Time		
(US &					
6010 Title 22	11/14/18 15:00	5	05/05/19 08:10		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 08:10	. 5	
8260 BTEX/UXY	11/14/18 15:00	5	11/20/18 08:10	+5	
T183338-20 DB2-A [Soil] Sa (US &	ampled 11/06/18 09:09	5 (GMT-08	8:00) Pacific Time		
6010 Title 22	11/14/18 15:00	5	05/05/19 09:05		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 09:05		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 09:05	+5	

SunStar					Printed: 11/7/2018 3:33:13P
Providing Quality Analytic	OTIES, Inc.	WO T	RK ORDER 183338		
Client: Blackburn Consu Project: Pole Line Ramp	lting-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	TAT	Expires	Comments	
T183338-21 DB2-B [Soil (US &] Sampled 11/06/18 09:2				
6010 Title 22	11/14/18 15:00	5	05/05/19 09:20		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 09:20		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 09:20	+5	
pH soil 9045	11/14/18 15:00	5	11/20/18 09:20		

6010 Title 22 subgroup 6010B T22 7470/71 Hg	Analysis groups included in t	his work order		
subgroup 6010B T22 7470/71 Hg	6010 Title 22			
Subgroup corrob raz	subgroup 6010B T22	7470/71 Hg		

SunStar					Printed: 11/15/2018 8:12:13A
Laboratorie	es, Inc.	WO	RK ORDER		
PROVIDING QUALITY ANALYTICAL SERVI	CES NATIONWIDE	רס או ר	183338	7	
			100000		
Client: Blackburn Consulting- Project: Pole Line Ramp	West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
<u>Report To:</u> Blackburn Consulting-West Sac.					
Laura Long					
2491 Boatman Ave.					
West Sacramento, CA -					
Date Due: 11/14/18 17:00	(5 day TAT)				
Received By: Brian Charon			Date Received:	11/07/18 09:45	
Logged In By: Brian Charon			Date Logged In:	11/07/18 10:27	
Samples Received at: 3.1°C Custody Seals Yes Received On Ic	ce Yes				
Containers Intact Yes					
Preservation Confirm No					
Analysis	Due	TAT	Expires	Comments	
T183338-01 B1-A [Soil] Samp	led 11/05/18 10:25	(GMT-08:	00) Pacific Time (US	5	
&		(0		-	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 10:25	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 10:25		
8270C	11/14/18 15:00	5	11/19/18 10:25		
T183338-02 B1-B [Soil] Samp &	oled 11/05/18 11:05	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:05	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:05		
8270C	11/14/18 15:00	5	11/19/18 11:05		
STLC Pb	11/26/18 15:00	5	05/04/19 11:05		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/19/18 11:05		
T183338-03 B2-A [Soil] Samp &	oled 11/05/18 11:40	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:40	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:40		
8270C	11/14/18 15:00	5	11/19/18 11:40		
STLC Pb	11/26/18 15:00	5	05/04/19 11:40		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/19/18 11:40		
T183338-04 B2-B [Soil] Samp	oled 11/05/18 11:50	(GMT-08:0	00) Pacific Time (US	5	
↔ 6010 Individual Metals	11/14/18 15:00	5	05/04/19 11:50	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 11:50	·····	
8270C	11/14/18 15:00	5	11/19/18 11:50		
STLC Pb	11/26/18 15:00	5	05/04/19 11:50		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/19/18 11:50		

SunStar					Printed: 11/15/2018 8:12:13A
Laboratorie	s, Inc.	WO	DV ODDED		
PROVIDING QUALITY ANALYTICAL SERVIC	ES NATIONWIDE		TI OTOER	-	
		l	183338		
Client: Blackburn Consulting- Project: Pole Line Ramp	West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	TAT	Expires	Comments	
T183338-05 B2-C [Soil] Sampl	led 11/05/18 12:00	(GMT-08:0	00) Pacific Time (US	5	
&	11/14/19 15.00	F	05/04/10 12:00	As Dh. andr.	
8015 Cechen Chein	11/14/18 15:00	5	05/04/19 12:00	As,Pb only	
STLC DL	11/14/18 15:00	5	11/19/18 12:00		
SILC PD STLC Leaching Procedure Metals	11/26/18 15:00	5	03/04/19 12:00		
STEC Ecaching Trocedure Wetars	11/20/18 15:00	5	11/19/18 12:00		
T183338-06 B3-A [Soil] Sampl &	ed 11/05/18 12:30	(GMT-08:0	00) Pacific Time (US		
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:30	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:30		
8270C	11/14/18 15:00	5	11/19/18 12:30		
T183338-07 B3-B [Soil] Sampl &	ed 11/05/18 12:35	(GMT-08:0	00) Pacific Time (US	;	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 12:35	As.Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 12:35		
8270C	11/14/18 15:00	5	11/19/18 12:35		
pH soil 9045	11/14/18 15:00	5	11/19/18 12:35		
STLC Pb	11/26/18 15:00	5	05/04/19 12:35		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/19/18 12:35		
T183338-08 B3-C [Soil] Sampl	led 11/05/18 13:00	(GMT-08:0	00) Pacific Time (US	5	
	11/14/10 15 00	-	05/04/10 12 00		
8015 Cechen Chein	11/14/18 15:00	5	05/04/19 13:00	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:00		
T183338-09 B4-A [Soil] Sampl &	ed 11/05/18 13:10	(GMT-08:0	00) Pacific Time (US		
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:10	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:10		
8270C	11/14/18 15:00	5	11/19/18 13:10		
STLC Pb	11/26/18 15:00	5	05/04/19 13:10		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/19/18 13:10		
T183338-10 B4-B [Soil] Sampl &	led 11/05/18 13:20	(GMT-08:0	00) Pacific Time (US		
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:20	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:20	, <u>,</u>	
8270C	11/14/18 15:00	5	11/19/18 13:20		

SunStar					Printed: 11/15/2018 8:12:13A
Laboratorie	es, Inc.	WO	DK ODDED		
PROVIDING QUALITY ANALYTICAL SERVI	CES NATIONWIDE	Uw T	102220		
: 			183338		
Client: Blackburn Consulting-	West Sac.		Project Manager:	Kris Kubota	
Project: Pole Line Ramp			Project Number:	3534.x	
Analysis	Due	ТАТ	Expires	Comments	
T183338-11 B4-C [Soil] Samm	led 11/05/18 13:35	(GMT-08:()0) Pacific Time (US	5	
&		(0			
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:35	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:35		
T183338-12 B5-A [Soil] Samp &	led 11/05/18 13:50	(GMT-08:(00) Pacific Time (US		
6010 Individual Metals	11/14/18 15:00	5	05/04/19 13:50	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 13:50	-	
8270C	11/14/18 15:00	5	11/19/18 13:50		
STLC Pb	11/26/18 15:00	5	05/04/19 13:50		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/19/18 13:50		
T183338-13 B5-B [Soil] Samp &	led 11/05/18 14:05	(GMT-08:(00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 14:05	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 14:05		
8270C	11/14/18 15:00	5	11/19/18 14:05		
T183338-14 B5-C [Soil] Samp &	oled 11/05/18 14:20	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/04/19 14:20	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/19/18 14:20		
T183338-15 B6-A [Soil] Samp &	led 11/06/18 07:10	(GMT-08:(00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:10	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:10		
8270C	11/14/18 15:00	5	11/20/18 07:10		
STLC Pb	11/26/18 15:00	5	05/05/19 07:10		
STLC Leaching Procedure Metals	11/26/18 15:00	5	11/20/18 07:10		
T183338-16 B6-B [Soil] Samp &	led 11/06/18 07:15	(GMT-08:(00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:15	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:15		
8270C	11/14/18 15:00	5	11/20/18 07:15		
T183338-17 B6-C [Soil] Samp &	oled 11/06/18 07:25	(GMT-08:0	00) Pacific Time (US	5	
6010 Individual Metals	11/14/18 15:00	5	05/05/19 07:25	As,Pb only	
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:25	-	

SunStar					Printed: 11/15/2018 8:12:13A
Providing Quality Analytica	Dries, Inc.	wo	RK ORDER [183338		
Client: Blackburn Consul Project: Pole Line Ramp	 Iting-West Sac.		Project Manager: Project Number:	Kris Kubota 3534.x	
Analysis	Due	TAT	Expires	Comments	
T183338-18 DB1-A [Soil] (US &	Sampled 11/06/18 07:4	45 (GMT-08	8:00) Pacific Time		
6010 Title 22	11/14/18 15:00	5	11/11/18 07:45		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 07:45		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 07:45		
T183338-19 DB1-B [Soil] (US & 6010 Title 22 8015 Carbon Chain 8260 BTEX/OXY	Sampled 11/06/18 08:1 11/14/18 15:00 11/14/18 15:00 11/14/18 15:00	10 (GMT-08 5 5 5	3:00) Pacific Time 11/11/18 08:10 11/20/18 08:10 11/20/18 08:10		
T183338-20 DB2-A [Soil] (US &	Sampled 11/06/18 09:0	05 (GMT-08	8:00) Pacific Time		
6010 Title 22	11/14/18 15:00	5	11/11/18 09:05		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 09:05		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 09:05		
T183338-21 DB2-B [Soil] (US &	Sampled 11/06/18 09:2	20 (GMT-08	8:00) Pacific Time		
6010 Title 22	11/14/18 15:00	5	11/11/18 09:20		
8015 Carbon Chain	11/14/18 15:00	5	11/20/18 09:20		
8260 BTEX/OXY	11/14/18 15:00	5	11/20/18 09:20		
pH soil 9045	11/14/18 15:00	5	11/20/18 09:20		

Analysis groups included i	n this work order		
6010 Title 22			
subgroup 6010B T22	7470/71 Hg		

PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

APPENDIX D

ProUCL 5.0 Statistical Analysis Calculations



1	A B C	DE	F	G H I J K	L
1		UCL Statistic	s for Unce	ensored Full Data Sets	
2					
3	User Selected Options				
4	Date/Time of Computation	ProUCL 5.111/28/2018 9	:40:50 AM		
5	From File	ADL Statistics Pole Line.	xis		
6	Full Precision	OFF			1
7	Confidence Coefficient	95%			
8	Number of Bootstrap Operations	2000			
9					- 1
10	ADI Combined Depths				
11	Abe Combined Depuis				
13			General	Statistics	
14	Total	Number of Observations	20	Number of Distinct Observations	16
15				Number of Missing Observations	1
16		Minimum	3	Mean	39.65
17		Maximum	99	Median	31.5
18	-	SD	31.92	Std. Error of Mean	7.139
19		Coefficient of Variation	0.805	Skewness	0.511
20					
21			Normal C	GOF Test	
22	SI	napiro Wilk Test Statistic	0,905	Shapiro Wilk GOF Test	
23	5% Sh	apiro Wilk Critical Value	0,905	Data Not Normal at 5% Significance Level	
24		Lilliefors Test Statistic	0,158	Lilliefors GOF Test	
25		Lilliefors Critical Value	0,192	Data appear Normal at 5% Significance Level	
26		Data appear Approx	dinate Noi	mar at 5% Significance Level	- A - 1
2/		Assu	ming Norr	nal Distribution	
20	95% N	ormal UCL		95% UCLs (Adjusted for Skewness)	
30	-	95% Student's-t UCL	51.99	95% Adjusted-CLT UCL (Chen-1995)	52.26
31				95% Modified-t UCL (Johnson-1978)	52.13
32					
33			Gamma (GOF Test	=
34		A-D Test Statistic	0.88	Anderson-Darling Gamma GOF Test	_
35		5% A-D Critical Value	0.767	Data Not Gamma Distributed at 5% Significance Level	el
36		K-S Test Statistic	0.184	Kolmogorov-Smirnov Gamma GOF Test	
37		5% K-S Critical Value	0.199	Detected data appear Gamma Distributed at 5% Significand	ce Level
38	(Detected data follow Appr.	. Gamma I	Distribution at 5% Significance Level	
39			Comme	Statistics	
40		k hot /MLE)	Gamma :	Outsites	0.024
41		Theta hat (MLE)	37.84	K stal (blas corrected MLE)	0.924
42		nu hat (MLE)	41.91	nij star (hias corrected)	36.96
43	ML	E Mean (bias corrected)	39.65	MLF Sd (bias corrected)	41.25
44				Approximate Chi Souare Value (0.05)	24.04
46	Adjus	ted Level of Significance	0.038	Adjusted Chi Square Value	23.22
47					_
48		Assu	ming Gam	ma Distribution	
49	95% Approximate Gamma	UCL (use when n>=50))	60.95	95% Adjusted Gamma UCL (use when n<50)	63.11
50					
51			Lognormal	GOF Test	
52	S	hapiro Wilk Test Statistic	0.821	Shapiro Wilk Lognormal GOF Test	

4	А	В	С	D	E	F	G	Н	1	J	к	L		
53			5% Sł	apiro Wilk (Critical Value	0.905		Data Not L	ognormal a	at 5% Signifi	cance Level			
54				Lilliefors	Test Statistic	0.214		Lilli	efors Logn	ormal GOF	Test			
55			59	% Lilliefors (Critical Value	0.192		Data Not L	ognormal a	at 5% Signifi	cance Level			
56					Data Not Lo	gnormal at	5% Signific	ance Level						
57														
58						Lognorma	I Statistics							
59			ľ	Minimum of	Logged Data	1.099				Mean of	logged Data	3.132		
60			N	laximum of	Logged Data	4.595				SD of	logged Data	1.296		
61														
62					Assu	ming Logno	ormal Distrib	oution						
63					95% H-UCL	133.1			90% (Chebyshev (MVUE) UCL	99.85		
64			95% (Chebyshev (MVUE) UCL	122.6			97.5% (Chebyshev (MVUE) UCL	154.3		
65			99% (Chebyshev (MVUE) UCL	216.4								
66														
67					Nonparamet	ric Distribu	tion Free U	CL Statistic:	5					
68			I	Data appeai	r to follow a D	viscernible	Distribution	at 5% Sign	ificance Le	evel				
69														
70					Nonpara	ametric Dis	tribution Fre	e UCLs						
71				98	5% CLT UCL	51.39				95% Ja	ckknife UCL	51.99		
72			95%	Standard Bo	ootstrap UCL	50.89		95% Bootstrap-t UC						
73			9	5% Hall's Bo	potstrap UCL	51.78			95% F	Percentile Bo	otstrap UCL	51.45		
74			9	95% BCA Bo	ootstrap UCL	51.45								
75			90% Ch	ebyshev(Me	ean, Sd) UCL	61.07			95% Ch	ebyshev(Me	an, Sd) UCL	70.77		
76			97.5% Ch	ebyshev(Me	ean, Sd) UCL	84.23			99% Ch	ebyshev(Me	an, Sd) UCL	110.7		
77														
78					:	Suggested	UCL to Use	•						
79				95% Stu	ident's-t UCL	51.99			Co	mbine	6			
80														
81			When a da	ata set follow	vs an approxir	nate (e.g., i	normal) disti	ribution pas	sing one of	the GOF te	st			
82	N	/hen applica	able, it is su	ggested to u	use a UCL ba	sed upon a	distribution	(e.g., gamn	na) passing	both GOF I	ests in ProU(CL		
83				i										
84	Note	e: Suggestic	ons regardir	ig the select	tion of a 95%	95% UCL are provided to help the user to select the most appropriate 95% U								
85			R	ecommenda	tions are base	ed upon dal	la size, data	distribution	, and skewi	ness.				
86	The	ese recomm	endations a	are based u	pon the result	s of the sin	nulation stud	lies summa	rized in Sin	igh, Maichle	, and Lee (20	06).		
87	Howe	/er, simulati	ons results	will not cov	er all Real Wo	orld data se	ts, for additi	onal insight	the user m	ay want to c	consult a stati	stician.		
88														

~

	A B C	DE	F	G H I I K	1
1		UCL Statistic	s for Uncen	sored Full Data Sets	
2					
2	User Selected Options				
4	Date/Time of Computation	ProUCL 5.111/28/2018 9	49:48 AM		
5	From File	ADL Statistics Pole Line.	xls		
5	Full Precision	OFF			
7	Confidence Coefficient	95%			
/ p	Number of Bootstrap Operations	2000			
0					
9 10					
11	ADI_ 24-30				
10					
12	4 C		General St	atistics	
14	Total	Number of Observations	6	Number of Distinct Observations	6
15	-			Number of Missing Observations	0
15		Minimum	24	Mean	34
17		Maximum	60	Median	30
10		SD	13.04	Std. Error of Mean	5 323
10		Coefficient of Variation	0.383	Skewness	2 193
19			0.000	0.000000	2.100
20	Note: Sample	e size is small (e.g., <10)	if data are	collected using ISM approach, you should use	
20	quidance prov	ided in ITRC Tech Reg C	Buide on ISM	(ITRC, 2012) to compute statistics of interest.	
23	For ex	ample, you may want to	use Chebvsh	ev UCL to estimate EPC (ITRC, 2012).	
24	Chebyshev L	JCL can be computed usi	ng the Nong	arametric and All UCL Options of ProUCL 5.1	
25			. .	• • • • • • • • • • • • • • • • • • • •	1
26			Normal GC	IF Test	1
27	SI	napiro Wilk Test Statistic	0.703	Shapiro Wilk GOF Test	
28	5% St	apiro Wilk Critical Value	0.788	Data Not Normal at 5% Significance Level	
29		Lilliefors Test Statistic	0.394	Lilliefors GOF Test	_
30	55	% Lilliefors Critical Value	0.325	Data Not Normal at 5% Significance Level	
31		Data Not N	lormal at 5%	Significance Level	
32					
33		Assu	iming Norma	I Distribution	
34	95% N	ormal UCL		95% UCLs (Adjusted for Skewness)	_
35		95% Student's-t UCL	44.73	95% Adjusted-CLT UCL (Chen-1995)	47.85
36				95% Modified-t UCL (Johnson-1978)	45.52
37					
38			Gamma GO	DF Test	
39		A-D Test Statistic	0.799	Anderson-Darling Gamma GOF Test	
40		5% A-D Critical Value	0,698	Data Not Gamma Distributed at 5% Significance Leve	el 👘
41		K-S Test Statistic	0.37	Kolmogorov-Smirnov Gamma GOF Test	
42		5% K-S Critical Value	0.332	Data Not Gamma Distributed at 5% Significance Leve	н
43		Data Not Gamma	a Distributed	at 5% Significance Level	
44			_		
45			Gamma St	atistics	
46		k hat (MLE)	10,63	k star (bias corrected MLE)	5.428
47		Theta hat (MLE)	3,197	Theta star (bias corrected MLE)	6.264
48		nu nat (MLE)	127.0	nu star (blas corrected)	05.14
49	ML	LE iviean (blas corrected)	34	MLE Sd (bias corrected)	14.59
50	Antin	ted Lovel of Cignificance	0.0122	Approximate Uni Square Value (0.05)	47.57
51	Adjus	neu Level of Significance	0,0122	Aujusted Uni Square Value	42.2
52		Later the second			

4	A B C D E	F	G	Н		J	К	L
53	Assi	uming Gam	ma Distrib	ution				
54	95% Approximate Gamma UCL (use when n>=50))	46.56		95% Adju	sted Gamma	a UCL (use v	when n<50)	52.48
55								
56		Lognormal	GOF Test					
57	Shapiro Wilk Test Statistic	0.792		Shapi	ro Wilk Log	normal GOF	- Test	
58	5% Shapiro Wilk Critical Value	0.788		Data appear	Lognormal	at 5% Signif	icance Leve	I .
59	Lilliefors Test Statistic	0.349		Liili	efors Logno	rmal GOF 1	fest	
60	5% Lilliefors Critical Value	0.325		Data Not L	ognormal at	5% Signific	ance Level	
61	Data appear Approx	imate Logn	ormal at 5	% Significan	ce Level			
62								_
63		Lognorma	I Statistics					_
64	Minimum of Logged Data	3.178				Mean of I	ogged Data	3.479
65	Maximum of Logged Data	4.094				SD of I	ogged Data	0.318
66								_
67	Assur	ning Logno	rmal Distri	Dution				
68	95% H-UCL	4/			90% C	hebyshev (N	IVUE) UCL	46.96
69	95% Chebyshev (MVUE) UCL	52.92			97.5% C	hebyshev (N	IVUE) UCL	61.19
70	99% Chebyshev (MVUE) UCL	//.44						
71		1 PD-1 4 14						
72	Nonparamet	ric Distribu	tion Free U	ICL Statistics	5			_
73	Data appear to follow a D	iscernible	Distribution	i at 5% Sign	mcance Lev	el		
74	Nonne	matria Dia	ulluutine Ee					
75			mbuaon Fr	ee UCLS		050/ 1		44 70
76	95% Standard Poststrap UCL	42.70				95% Jac		44.73
77	95% Statituard Bootstrap UCL	41.70			05% 0	90% BOOt	strap-t UCL	44
78	95% BCA Bootstrap UCL	45 17			90% FI	ercentile bot	лыгар осц	44
/9	90% Chebyshey/Mean, Sd) LICI	40.07			05% Cha	hyshov/Mos		57.2
80	97.5% Chebyshev(Mean, Sd) UCL	67.24			95 % Che	byshev(Mea		96.06
81	stationesystem (mean, bu) doe				3378 Che	Dyanev(Ivied	in, 30) 00L	60.50
02		Sunnested	UCL to Us	e				
03	95% Student's-t UCL	44.73	0021005	•		or 95% Mor	lified-t UCL	45.52
95	or 95% H-UCL	47						
86					74-3	a "		
87	Note: Suggestions regarding the selection of a 95%	UCL are pr	ovided to h	elp the user	to select the	most appro	priate 95%	UCL.
88	Recommendations are base	ed upon dat	a size, data	a distribution.	and skewn	ess.	-	-
89	These recommendations are based upon the result	s of the sirr	ulation stu	dies summai	ized in Sing	h, Maichte,	and Lee (20	06).
90	However, simulations results will not cover all Real Wo	orld data se	ts; for addit	tional insight	the user ma	y want to cu	nsult a stati	stician
91								
92	ProUCL computes and output	s H-statisti	c based U	CLs for histo	rical reason	s only.		
93	H-statistic often results in unstable (both high an	id low) valu	ies of UCL	95 as showr	in example	es in the Te	chnical Guid	le
94	It is therefore recommended	d to avoid t	he use of I	H-statistic ba	sed 95% U	CLs.		
95	Use of nonparametric methods are preferred to comp	oute UCL95	o for skewe	ed data sets	which do n	ot follow a g	amma distr	ibution.
96						-		

1	A B C	D E	F	G	Н	1	J	к	L
1		UCL Statistic	cs for Unce	nsored Ful	I Data Sets				
2									
3	User Selected Options	5							
4	Date/Time of Computation	ProUCL 5.111/28/2018 9	:49:18 AM						
5	From File	ADL Statistics Pole Line.	xls						
6	Full Precision	OFF							
7	Confidence Coefficient	95%							
8	Number of Bootstrap Operations	2000							_
9									
10									
11	ADL 12-18								
12									
13			General S	Statistics					
14	Total	Number of Observations	7			Number	of Distinct Ob	servations	6
15						Number	of Missing Ob	servations	0
16		Minimum	3					Mean	45
17		Maximum	99					Median	39
18		SD	35.43				Std. Err	or of Mean	13.39
19		Coefficient of Variation	0.787					Skewness	0.163
20									
21	Note: Sampl	e size is small (e.g., <10).	, if data are	e collected	using ISM a	approach, g	you should us	se	
22	guidance prov	vided in ITRC Tech Reg C	Buide on IS	SM (ITRC, 2	2012) to cor	npute stati	stics of intere	est.	
23	For ex	cample, you may want to i	use Cheby	shev UCL I	o estimate	EPC (ITRO	c, 2012).		
24	Chebyshev	UCL can be computed usi	ing the Nor	parametric	and All UC	L Options	of ProUCL 5	.1	
25				_					2
26			Normal G	OF Test					
27	S	hapiro Wilk Test Statistic	0.935			Shapiro W	ilk GOF Test		
28	5% SI	apiro Wilk Critical Value	0.803		Data appea	ar Normal a	at 5% Significa	ance Level	_
29		Lilliefors Test Statistic	0.168			Lilliefors	GOF Test	Total a	-
30	5	% Lilliefors Critical Value	0.304	E0/ 0115	Data appe	ar Normal a	at 5% Significa	ance Level	_
31		Data appear	Normai at	5% Signine	cance Level				_
32	= =	Acci	uming Norg	aat Distribu	tion				
33	05% N	lormal EICI	aning North		05%	UCLe (Adia	isted for Ske	wnoee)	
34	30701	95% Student's t I Ci	71.02		0570	Adjusta		Non-1005)	67.01
35		35 / 0 (ddc/r 3-(0 0 E	71.02		0	5% Modifie	d-oli oci (d	nen-1933)	71 16
30					5	o to mounte		13011-1370)	71.10
20	-		Gamma G	GOF Test					
30		A-D Test Statistic	0.608		Anders	son-Darling	I Gamma GO	F Test	
40		5% A-D Critical Value	0.728	Detected	data appear	Gamma D	istributed at 5	i% Significa	nce Level
40		K-S Test Statistic	0.278		Kolmood	prov-Smirn	ov Gamma G	OF Test	
42		5% K-S Critical Value	0.32	Detected	data appear	Gamma E	istributed at 5	% Significa	nce Level
43		Detected data appear (Gamma Dis	stributed at	5% Signific	ance Leve	I	g	
44		•••							
45			Gamma	Statistics					
46		k hat (MLE)	0,972			ks	star (bias corre	ected MLE)	0.65
47		Theta hat (MLE)	46.31			Theta s	tar (bias corre	ected MLE)	69.18
48	-	nu hat (MLE)	13.6				nu star (bias	corrected)	9.107
49	M	LE Mean (bias corrected)	45				MLE Sd (bias	corrected)	55.79
50					A	oproximate	Chi Square V	/alue (0.05)	3.392
51	Adjus	sted Level of Significance	0.0158			Ac	ijusted Chi Sq	uare Value	2.428
52									

1	A	В	С	D	E	F	G	Н		J	К	L			
53					Ass	uming Gam	ma Distribu	tion							
54	95%	Approxima	ite Gamma	UCL (use w	hen n>=50))	120.8		95% Adju	sted Gamm	a UCL (use	e when n<50)	168.8			
55															
56						Lognormal	GOF Test								
57			Sh	apiro Wilk	Fest Statistic	0.782		Shap	iro Wilk Log	normal GC	OF Test				
58			5% Sh	apiro Wilk C	Critical Value	0.803		Data Not L	ognormal a	t 5% Signif	icance Level				
59				Lilliefors 7	Fest Statistic	0.321		Lill	iefors Logno	ormal GOF	Test				
60			5%	6 Lilliefors C	Critical Value	0.304		Data Not I	.ognormal a	t 5% Signif	icance Level				
61					Data Not Lo	ognormal at	5% Signific	ance Leve	l						
62															
63						Lognorma	I Statistics								
64			N	linimum of l	ogged Data	1.099				Mean of	f logged Data	3.211			
65			M	aximum of l	Logged Data	4.595				SD of	f logged Data	1.482			
66															
67					Assu	ming Logno	rmal Distrib	oution							
68					95%,H-UCL	1656			90% C	hebyshev	(MVUE) UCL	153.6			
69			95% C	Chebyshev (MVUE) UCL	196.9			97.5% C	hebyshev	(MVUE) UCL	256.9			
70			99% C	Chebyshev (MVUE) UCL	374.9									
71															
72					Nonparame	tric Distribu	tion Free U	CL Statistic	s						
73			C	Data appear	to follow a l	Discernible	Distribution	at 5% Sigr	ificance Lev	vel					
74															
75					Nonpar	rametric Distribution Free UCLs									
76				95	5% CLT UCL	67.02				95% Ja	ackknife UCL	71.02			
77			95% 3	Standard Bo	ootstrap UCL	64.99				95% Bo	otstrap-t UCL	69.35			
78			95	5% Hall's Bo	ootstrap UCL	67.04			95% P	ercentile B	ootstrap UCL	64.71			
79			9	5% BCA Bo	ootstrap UCL	64									
80			90% Che	ebyshev(Me	an, Sd) UCL	85.17			95% Che	byshev(Me	ean, Sd) UCL	103.4			
81			97.5% Che	ebyshev(Me	an, Sd) UCL	128.6			99% Che	byshev(Me	ean, Sd) UCL	178.2			
82															
83						Suggested	UCL to Use	3							
84				95% Stu	dent's-t UCL	71.02				12-1	18				
85															
86	Note	: Suggestio	ns regardin	g the select	ion of a 95%	UCL are pr	ovided to he	elp the user	to select the	e most app	ropriate 95%	UCL.			
87	Recommendations are based upon data size, data distribution, and skewness.														
88	The	se recomm	endations a	are based u	pon the resul	ts of the sin	nulation stud	lies summa	rized in Sing	gh, Maichle	e, and Lee (20	06).			
89	Howev	er, simulati	ons results	will not cov	er all Real W	orld data se	ts; for additi	onal insight	the user ma	ay want to	consult a stati	stician.			
90															

1	A B C D E	F	G	Н	1	J	К	L.
1	UCL Statisti	cs for Unce	ensored Full	Data Sets				
2								
3	User Selected Options							
4	Date/Time of Computation ProUCL 5.111/28/2018	10:01:04 AN	4					
5	From File ADL Statistics Pole Line	.xls						
6	Full Precision OFF							
7	Confidence Coefficient 95%							=
8	Number of Bootstrap Operations 2000							
9								
10								
11	ADL 0-6							
12								
13		General S	Statistics					
14	Total Number of Observations	5			Number	of Distinct O	bservations	5
15					Number o	of Missing C	bservations	0
16	Minimum	3					Mean	53.6
17	Maximum	96					Median	69
18	SD	41.63				Std. E	rror of Mean	18.62
19	Coefficient of Variation	0.777					Skewness	-0.432
20								_
21	Note: Sample size is small (e.g., <10)), if data are	e collected	using ISM a	pproach, y	ou should u	ISE	
22	guidance provided in ITRC Tech Reg (Guide on IS	SM (ITRC, 2	2012) to con	npute statis	stics of inter	rest	_
23	For example, you may want to	use Cheby	shev UCL to	o estimate l	EPC (ITRC	, 2012).	-	
24	Chebyshev UCL can be computed us	ing the Nor	nparametric	and All UC	L Options	of ProUCL	5.1	_
25			05 T					_
26	Objection Mills Telef Objection	Normal G	OF lest	_				_
27	Snapiro Wilk Test Statistic	0.882		D	Shapiro Wi		t 	_
28	5% Shapiro Wilk Childai Value	0.762		Data appea	ar Normal a	t 5% Signific	cance Level	_
29	Lillefors Test Statistic	0.244		D. I	Lillietors	GOF Test		_
30	5% Linielors Critical Value	U.343	EV Cianifia	Data appea	ar Normal a	t 5% Signini	cance Level	_
31	Data appear	i NUIIIdi di	5% Signing					=
32	Ass	uming Nom	nal Distribut	tion				
33	95% Normal LICI			05%	ICLe (Adiu	eted for Sk	(accel	_
34	95% Student's t LICI	93.20		05	% Adjuster		Chen-1005)	80.30
30	55 % G(BERG 1 662	55.25		95	5% Modifie		oneon-1078)	02.60
30						u-(00E (30	113011-1376)	52.05
37		Gamma (GOF Test					_
30	A-D Test Statistic	0.486		Anders	on-Darling	Gamma G	OF Test	
40	5% A-D Critical Value	0.691	Detected	data appear	Gamma Di	istributed at	5% Significar	nce Level
40	K-S Test Statistic	0.324		Kolmoad	rov-Smirne	ov Gamma (GOF Test	
41	5% K-S Critical Value	0.364	Detected	data appear	Gamma Di	istributed at	5% Significar	nce Level
43	Detected data appear	Gamma Dis	stributed at	5% Sianific	ance Level		o to orginitori	
44	-			-	=			-
45		Gamma S	Statistics					=
46	k hat (MLE)	1.025			k s	tar (bias cor	rected MLE)	0.543
47	Theta hat (MLE)	52.29			Theta s	tar (bias cor	rected MLE)	98.64
48	nu hat (MLE)	10.25				nu star (bia	s corrected)	5.434
49	MLE Mean (bias corrected)	53.6				MLE Sd (bia	s corrected)	72.71
50				— — — Ap	proximate	Chi Square	Value (0.05)	1.358
51	Adjusted Level of Significance	0.0086			Adj	usted Chi S	quare Value	0.658
52								

	A	В	С	1000	D		E	F	G	Н	1. I.		J		к	L
53							Ass	uming Gar	nma Distribu	Ition						
54	95%	Approxim	ate Gamm	na UCL	L (use '	when	n>=50))	214.5		95% Adjı	isted Gan	nma l	JCL (us	e whe	en n<50)	442.5
55																
56								Lognorma	I GOF Test							
57				Shapir	ro Wilk	Test	Statistic	0.83		Shap	iro Wilk I	ogno	mal G	OF Te	est	
58			5% 3	Shapir	o Wilk	Critic	al Value	0.762		Data appea	r Lognorn	nal at	5% Sig	nificar	nce Leve	el
59				Li	lliefors	Test	Statistic	0.308		Lil	liefors Lo	gnom	al GO	F Test	t	
60				5% Lil	lliefors	Critic	al Value	0.343		Data appea	r Lognorn	nal at	5% Sig	nificar	nce Leve	el .
61						Data	a appear	Lognormal	at 5% Signi	ificance Lev	vel					
62																
63								Lognorma	al Statistics							_
64				Minin	num oi	f Logg	ged Data	1.099					Mean o	of logg	ed Data	3.42
65				Maxin	num o	f Logg	ged Data	4,564					SD	of logg	ed Data	1.483
66																
67							Assu	ming Logn	ormal Distril	oution						_
68						959	6 H-UCL	17080			90%	6 Che	byshev	(MVL	JE) UCL	186.4
69			95%	6 Cheb	oyshev	(MVI	JE) UCL	240.6			97.5%	6 Che	byshev	(MVL	JE) UCL	315.9
70			99%	6 Cheb	oyshev	(MVI	UE) UCL	463.7								
71																
72						No	nparame	tric Distrib	ution Free U	CL Statistic	s					
73				Data	appea	ar to f	iollow a [Discernible	Distribution	at 5% Sigi	nificance	Level				
74																
75							Nonpar	ametric Di	stribution Fre	ee UCLs						
76					ç	95% (CLT UCL	84.23					95% .	lackkr	nife UCL	93.29
77			959	% Star	ndard E	Boots	trap UCL	81.2					95% Bo	otstra	ip-t UCL	87.83
78				95% H	Hall's E	Boots	trap UCL	70.31			95%	6 Perc	entile E	Bootst	rap UCL	82.8
79				95%	BCA B	Boots	trap UCL	77.6								
80			90% C	Chebys	shev(N	lean,	Sd) UCL	109.5			95% (Cheby	shev(N	lean, S	Sd) UCL	. 134.8
81			97.5% (Chebys	shev(N	lean,	Sd) UCL	169.9			99% (Cheby	shev(N	lean, S	Sd) UCL	238.9
82																
83								Suggested	UCL to Use	3						
84				ę	95% St	tuden	t's-t UCL	93 29				(0-	6)	
85													•			
86	Note:	Suggesti	ons regard	ling th	e sele	ction	of a 95%	UCL are p	rovided to he	elp the user	to select	the n	nost ap	propria	ate 95%	UCL.
87				Recon	nmend	lation	s are bas	ed upon da	ita size, data	distribution	n, and ske	wnes	s.			
88	The	se recomr	mendation	s are t	based	upon	the resul	ts of the si	mulation stud	dies summa	arized in S	Singh,	Maichl	e, and	Lee (2	006).
89	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statisticit											tistician.				
90																
91	No	te: For hi	ghly nega	tively-	skewe	ed dat	ta, confid	ence limits	s (e.g., Cher	i, Johnson,	Lognorn	nal, a	nd Gan	nma) i	may not	be
92			reliable.	Chen	's and	John	son's me	thods prov	vide adjustm	ents for po	sitvely sk	ewed	data s	ets.		
93																

2	A	В	С	D	E	F	G	н	1	J	к	L
1				1	Outlier Tes	ts for Select	ed Uncens	ored Variab	les			
2		l	User Selec	ted Options	;							
3	Date	/Time of Con	nputation	ProUCL 5.	111/28/2018	9:39:43 AM						
4				From File	ADL Statist	tics Pole Line	e xis					
5			Ful	Precision	OFF							
6												
7	1											
8	Dixon	's Outlier Te	st for ADL	Combined I	Depths							
9												
10	Number of	Observations	s = 21									
11	10% critical	value: 0.39	1									
12	5% critical v	value: 0.44										
13	1% critical	value: 0.524										
14												
15	1. Observa	ation Value 4	450 is a Po	otential Outli	ier (Upper T	ŧ						
16												
17	Test Statist	ic: 0.792										
18												
19	For 10% sig	gnificance les	vel, 450 is	an outlier								
20	For 5% sign	nificance leve	el, 450 is a	n outlier.								
21	For 1% sign	nificance leve	el, 450 is a	n outlier.								
22												
23	2. Observa	tion Value 3	is a Poter	ntial Outlier	(Lower Tail)	*						
24												
25	Test Statist	iic: 0.000										
26												
27	For 10% sig	gnificance le	vel, 3 is no	t an outlier.								_
28	For 5% sig	nificance leve	el, 3 is not	an outlier.								
29	For 1% sig	nificance leve	el, 3 is not	an outlier.								
30												

1	A B	C I	DE	F	G	н		J	к	
1			UCL Statisti	ics for Unce	nsored Full	Data Sets			1	
2										
3	User Selected C	Options								
4	Date/Time of Comput	tation ProU	CL 5.111/28/2018	9.42.14 AM						
5	From	n File ADL	Statistics Pole Line	.xis						
6	Full Prec	ision OFF								1
7	Confidence Coeffi	icient 95%								
8	Number of Bootstrap Opera	tions 2000								
9										
10										
11	ADL 0-6									
12										
13				General S	Statistics					_
14		Total Numbe	r of Observations	6			Number o	of Distinct O	bservations	6
15							Number o	of Missing O	bservations	0
16			Minimum	3					Mean	119.7
17			Maximum	450					Median	76.5
18			SD	166.1				Std. Er	rror of Mean	67.79
19		Coeff	icient of Variation	1.388					Skewness	2.172
20										
21	Note: S	Sample size i	is small (e.g., <10)), if data are	e collected	using ISM a	pproach, y	ou should u	ise	
22	guidanc	e provided in	ITRC Tech Reg	Guide on IS	M (ITRC, 2	2012) to con	pute statis	tics of inter	rest.	
23		For example	, you may want to	use Cheby:	shev UCL to	o estimate E	PC (ITRC,	, 2012).		
24	Cheby	shev UCL ca	n be computed us	ing the Nor	parametric	and All UC	L Options of	of ProUCL	5.1	
25										
26				Normal G	QF Test					
27		Shapiro ¹	Wilk Test Statistic	0.703		\$	Shapiro Wil	k GOF Tes	t	
28		5% Shapiro \	Wilk Critical Value	0.788		Data Not	Normal at 5	% Significa	nce Level	8.1
29		Lillie	fors Test Statistic	0.39			Lilliefors	GOF Test		
30		5% Lillie	fors Critical Value	0.325		Data Not	Normal at 5	5% Significa	nce Level	
31			Data Not I	Normal at 5	% Significa	nce Level				_
32										5
33			Ass	uming Norm	nal Distribut	tion				
34	9	95% Normal	UCL			95% L	JCLs (Adju	sted for Ske	wness)	
35		95%	6 Student's-t UCL	256.3		95	% Adjusted	-CLT UCL (Chen-1995)	295.4
36						95	5% Modified	l-t UCL (Joh	inson-1978)	266.3
37										_
38				Gamma G	GOF Test					
39			A-D Test Statistic	0.297		Anders	on-Darling	Gamma GO	OF Test	
40		5%	A-D Critical Value	0.726	Detected	data appear	Gamma Di	stributed at	5% Significar	nce Level
41			K-S Test Statistic	0.236		Kolmogo	rov-Smirno	v Gamma (GOF Test	
42		5%	K-S Critical Value	0.345	Detected	data appear	Gamma Di	stributed at	5% Significar	nce Level
43		Dete	cted data appear	Gamma Dis	stributed at	5% Significa	ance Level			
44										
45				Gamma S	Statistics					
46			k hat (MLE)	0.664			k st	ar (bias cori	rected MLE)	0.443
47			Theta hat (MLE)	180.1			Theta st	ar (bias con	rected MLE)	270
48			nu hat (MLE)	7.972				nu star (bia	s corrected)	5.319
49		MLE Mea	n (bias corrected)	119.7			N	ALE Sd (bia	s corrected)	179.7
50						Ap	proximate (Chi Square V	Value (0.05)	1.303
51		Adjusted Lev	vel of Significance	0.0122			Adj	usted Chi S	quare Value	0.719
52										

	A B C D E	F	G	н	1	J	К	L			
53	Assu	ming Gam	ma Distribu	ition							
54	95% Approximate Gamma UCL (use when n>=50)	488.7		95% Adjus	sted Gamr	na UCL (us	e when n<50)	885.8			
55											
56		Lognormal	GOF Test								
57	Shapiro Wilk Test Statistic	0.944		Shapi	ro Wilk Lo	gnormal G	OF Test				
58	5% Shapiro Wilk Critical Value	0.788	(Data appear	Lognorma	at 5% Sig	nificance Leve	a l			
59	Lilliefors Test Statistic	0.251		Lilli	efors Logi	normal GO	F Test				
60	5% Lilliefors Critical Value	0.325	E	Data appear	Lognorma	al at 5% Sig	nificance Leve	1			
61	Data appear L	.ognormal	at 5% Signi	ficance Lev	el						
62											
63		Lognorma	I Statistics								
64	Minimum of Logged Data	1.099				Mean o	of logged Data	3.868			
65	Maximum of Logged Data	6.109				SD o	of logged Data	1.722			
66											
67	Assun	ning Logno	ormal Distrit	oution							
68	95% H-UCL	36276			90%	Chebyshev	(MVUE) UCL	410.1			
69	95% Chebyshev (MVUE) UCL	532.4			97.5%	Chebyshev	(MVUE) UCL	702.2			
70	99% Chebyshev (MVUE) UCL	1036									
71								_			
72	Nonparametr	ric Distribu	tion Free U	CL Statistics	5						
73	Data appear to follow a D	iscernible	Distribution	at 5% Signi	ificance L	evel					
74											
75	Nonpara	metric Dis	tribution Fre	ee UCLs							
76	95% CLT UCL	231.2				95% .	ackknife UCL	256.3			
77	95% Standard Bootstrap UCL	220,4				95% Bo	otstrap-t UCL	531.7			
78	95% Hall's Bootstrap UCL	767.7			95%	Percentile E	Bootstrap UCL	242.2			
79	95% BCA Bootstrap UCL	259.7									
80	90% Chebyshev(Mean, Sd) UCL	323			95% Cł	ebyshev(N	ean, Sd) UCL	415.2			
81	97.5% Chebyshev(Mean, Sd) UCL	543			99% Cł	ebyshev(N	ean, Sd) UCL	794.2			
82											
83		Suggested	UCL to Use	3							
84	95% Adjusted Gamma UCL	885.8									
85											
86	Recommended L	ICL exceed	ds the maxi	mum observ	ation						
87											
88	Note: Suggestions regarding the selection of a 95%	UCL are pr	ovided to he	elp the user	to select t	ne most ap	propriate 95%	UCL.			
89	Recommendations are base	ed upon da	ta size, data	distribution,	and skew	ness.					
90	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).										
91	However, simulations results will not cover all Real Wo	rld data se	ts; for additi	ional insight	the user n	nay want to	consult a stat	istician.			
92											

	А	В	С	D	E	F	G	Н	1	J	К	L	
1				Ordinary L	east Square	s Linear R	egression C	Output Shee	et				
2	ι	Jser Selected	d Options										
3	Date	Time of Con	nputation	ProUCL 5.1	11/28/2018	9:50:59 AM	l i						
4		i	From File	ADL Statisti	cs Pole Line	.xls							
5		Full I	Precision	OFF									
6	1												
7	1	Displ	lay Limits	False									
8	Display F	Regresion Dia	agnostics	False									
9	Disp	lay Regresio	on Tables	True									
10		Title For Y v	s X Plots	Classical R	egression								
11	idence Lev	el for Regres	sion Line	0.95									-
12	Dis	play Confider	nce Band	True									
13	Di	splay Predict	tion Band	True									
14													
15													
16		Dependen	idant Varia	ble (Y-Data)	Soluble Y								
17		Numb	er Reporte	d (Y values)	8								
18		Indepe	ndent Varia	able (x-data)	Total Lead								
19		Numb	er Reporte	ed (x-values)	8								
20													
21		_											
22		Regressio	n Estimate	es and Infere	nce Table								
23	Parameter	Estimates	Std. Error	T-values	p-values								
24	intercept	-0.143	0.742	-0.193	0.853								
25	Total Lead	• 0.0342	0.00423	8.081	1.9234E-4								
26			01		to be the								
27	Cas	une of Meder	UL.		DOF		(T.) (also	Ditation					
28		Dice of Valla	uon	143.0		142.0	F-Value	P-value					
29	2	nei	Error	12.22	c	143,9	03.31	0.0002					1
30			Total	157.2		2,204							
31	_		TOLA	107.2	'								
32				R Square	0.916								
33	-		Adjust	ed R Square	0.902								- 1
34			Sart(N	ISE) = Scale	1.485								
36													
37			Rearess	sion Table									
38	Obs	Y Vector	Yhat	Residuals	Res/Scale								1
39	1	1.1	1.91	-0.81	-0.546								-1
40	2	0	2.047	-2.047	-1.379								_
41	3	2.9	2.218	0.682	0.459								=
42	4	1.9	2.252	-0.352	-0.237								
43	5	3	2.731	0.269	0.181								
44	6	2.9	3.142	-0.242	-0.163								
45	7	6	3.245	2.755	1.856								
46	8	15	15.26	-0.255	-0.172								
47													
PHASE II SITE ASSESSMENT

Pole Line Ramp Structure Connection Project

Davis, California

APPENDIX E

Photo Report







Photo 1: West boundary of project.



Photo 3: Sample location near pole Line Road overcrossing.



Photo 2: Sample location at Pole Line Road overcrossing.



Photo 4: View of existing bike path looking west.





Photo 5: View of existing bike path looking east.



Photo 6: View of bike path looking east.