

ALISO CANYON GAS LEAK DISASTER

Community Pool Water Sampling Protocol Aliso Canyon Natural Gas Leak Disaster Porter Ranch Community Los Angeles, California

The Los Angeles County Department of Public Health (Public Health) has requested that water samples be collected from three community pools within the vicinity of the Aliso Canyon Natural Gas Incident to assess if the Aliso Canyon Facility Well SS-25 gas leak disaster and/or subsequent well sealing operations may have affected the water quality. Public Health selected community pools in areas of the Porter Ranch community that had higher rates of relocation, symptom reporting and oily residue on exterior surfaces. The purpose of this pool water sampling protocol is to provide guidance regarding the collection and analysis of water from the selected community pools. The resulting data will be used to assess potential public health impacts of the gas leak disaster on water quality in pools.

The water samples will be collected by dipping a dedicated laboratory supplied glass jar into the pool and decanting the water directly into laboratory supplied bottles appropriate for the corresponding analytical test method. Nitrile gloves will be worn during the water collection. The dedicated glass jar and the nitrile gloves will be disposed of as municipal waste between each tested pool. Each sample container will be marked in the field with the sampling location ID, date and time of sample collection, sampler's name, type of analysis, and preservatives used, if any. Each of the sample containers will be securely packed in a cooler and stored in ice to be chilled to approximately 4o Celsius in preparation for delivery to Eurofins Calscience in Garden Grove, California, a State of California Certified laboratory. An entry will be made on a chain-of-custody form supplied by the laboratory for each sample that is submitted to the laboratory for analysis.

The chemical category and test method that will be analyzed for each sample, bottle type, preservative, and holding time is summarized in the following table:

Laboratory Analysis	Bottle Type	Preservative	Holding Time
Total Petroleum Hydrocarbons (C6-C44), EPA 8015	500 mL amber glass bottle, Teflon-lined Cap	Unpreserved, Cool, 4°C	7 days until extraction; 40 days after extraction
Metals, EPA 6010 Mercury, EPA 7471A	250 mL Polyethylene Bottle	HNO ₃ to pH <2	180 days (metals), 28 days (mercury)

Water samples submitted to the laboratory will be analyzed on an expedited turnaround time basis (48-hrs) and in accordance with standard QA/QC protocol.

Community Pool Sampling Results Available

The Los Angeles County Department of Public Health sampled three community pools within the vicinity of the Aliso Canyon Storage Facility to assess if the SS-25 gas leak disaster may have affected the water quality. Three community pools were selected in areas of the Porter Ranch community that had higher rates of relocation, symptom reporting and oily residue on exterior surfaces: Highlands Community Pool, Porter Ranch Estates Community Pool and Bella Vista Community Main and Kiddie Pools.

On June 22 and July 9, 2016, one water sample was collected from each pool and tested for petroleum hydrocarbons and metals, according to approved US EPA methods. The sampling protocol targeted these is attached.

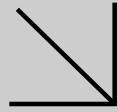
The Public Health Assessment dated May 13, 2016 found that a fingerprint of five metals (aluminum, barium, iron, manganese and vanadium) were identified in household dust and appear to be related to drilling operations during the SS-25 incident. As shown in the table below, two of the five metals of concern were found in the community pools sampled. The pool sample results for these five metals were compared to drinking water standards in the table below. Barium was found at levels ranging from 0.085 to 0.422 mg/L, which are below the drinking water standard of 1 mg/L. Vanadium was detected at 0.012 and 0.0254 mg/kg, which are below the drinking water standard of 0.05 mg/L. The lab reports are attached.

Metals of Concern	California Drinking Water Standard* (mg/L)	Bella Vista - Main Pool	Bella Vista - Kiddie Pool	Porter Ranch Estates	Highlands
Aluminum	1	Not Detected	Not Detected	Not Detected	Not Detected
Barium	1	0.134	0.422	0.085	0.275
Iron	0.3	Not Detected	Not Detected	Not Detected	Not Detected
Manganese	0.05	Not Detected	Not Detected	Not Detected	Not Detected
Vanadium	0.05	0.012	0.0254	Not Detected	Not Detected

**The California Drinking Water Standard sources are prioritized as follows: California Maximum Contaminant Level (MCL), Secondary MCL and Notification Level. The standards for aluminum and barium are based on the California MCL, iron and manganese are based on the secondary MCL, and vanadium is based on the notification level.*



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WORK ORDER NUMBER: 16-06-1766

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Leighton Consulting, Inc.

Client Project Name: Porter Ranch / 603287049

Attention: Meredith Church
17781 Cowan
Suite 140
Irvine, CA 92614-6009

Nicole Scott

Approved for release on 07/06/2016 by:
Nicole Scott
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 16-06-1766

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Work Order Narrative

Work Order: 16-06-1766

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/24/16. They were assigned to Work Order 16-06-1766.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



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Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: Porter Ranch / 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-BV-1	16-06-1766-1-A	06/22/16 08:15	Aqueous	GC 48	06/27/16	06/27/16 18:52	160627B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	91	1.00	
C7	ND	91	1.00	
C8	ND	91	1.00	
C9-C10	ND	91	1.00	
C11-C12	ND	91	1.00	
C13-C14	ND	91	1.00	
C15-C16	ND	91	1.00	
C17-C18	ND	91	1.00	
C19-C20	ND	91	1.00	
C21-C22	ND	91	1.00	
C23-C24	ND	91	1.00	
C25-C28	ND	91	1.00	
C29-C32	ND	91	1.00	
C33-C36	ND	91	1.00	
C37-C40	ND	91	1.00	
C41-C44	ND	91	1.00	
C6-C44 Total	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	101	68-140	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: Porter Ranch / 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-498-376	N/A	Aqueous	GC 48	06/27/16	06/27/16 18:06	160627B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	100	1.00	
C7	ND	100	1.00	
C8	ND	100	1.00	
C9-C10	ND	100	1.00	
C11-C12	ND	100	1.00	
C13-C14	ND	100	1.00	
C15-C16	ND	100	1.00	
C17-C18	ND	100	1.00	
C19-C20	ND	100	1.00	
C21-C22	ND	100	1.00	
C23-C24	ND	100	1.00	
C25-C28	ND	100	1.00	
C29-C32	ND	100	1.00	
C33-C36	ND	100	1.00	
C37-C40	ND	100	1.00	
C41-C44	ND	100	1.00	
C6-C44 Total	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	68-140	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

Leighton Consulting, Inc.
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Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: Porter Ranch / 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-BV-1	16-06-1766-1-B	06/22/16 08:15	Aqueous	ICP 7300	06/24/16	06/30/16 13:50	160624LA5

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	0.0424	0.0100	1.00	
Barium	0.134	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	0.0100	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	0.0312	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	ND	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	0.0120	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Calcium	547	0.100	1.00	
Iron	ND	0.100	1.00	
Magnesium	30.5	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	23.3	0.500	1.00	
Strontium	1.49	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	1.15	0.0200	1.00	
Zinc	0.0457	0.0100	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

Leighton Consulting, Inc.
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Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: Porter Ranch / 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-003-15899	N/A	Aqueous	ICP 7300	06/24/16	06/30/16 11:44	160624LA5

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	ND	0.0100	1.00	
Barium	ND	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	ND	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	ND	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	ND	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	ND	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Calcium	ND	0.100	1.00	
Iron	ND	0.100	1.00	
Magnesium	ND	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	ND	0.500	1.00	
Strontium	ND	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	ND	0.0200	1.00	
Zinc	ND	0.0100	1.00	


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Analytical Report

Leighton Consulting, Inc.
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Date Received: 06/24/16
 Work Order: 16-06-1766
 Preparation: EPA 7470A Total
 Method: EPA 7470A
 Units: mg/L

Project: Porter Ranch / 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-BV-1	16-06-1766-1-B	06/22/16 08:15	Aqueous	Mercury 04	06/27/16	06/27/16 19:09	160627LA2

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1.00	

Method Blank	099-04-008-7905	N/A	Aqueous	Mercury 04	06/27/16	06/27/16 19:05	160627LA2
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Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Porter Ranch / 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-1774-1	Sample	Aqueous	ICP 7300	06/24/16	06/28/16 13:05	160624SA5
16-06-1774-1	Matrix Spike	Aqueous	ICP 8300	06/24/16	06/28/16 13:06	160624SA5
16-06-1774-1	Matrix Spike Duplicate	Aqueous	ICP 7300	06/24/16	06/30/16 14:06	160624SA5

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	0.01940	0.5000	0.5076	98	0.5130	99	72-132	1	0-10	
Arsenic	ND	0.5000	0.5413	108	0.5273	105	80-140	3	0-11	
Barium	0.1537	0.5000	0.7150	112	0.6416	98	87-123	11	0-6	4
Beryllium	ND	0.5000	0.5724	114	0.5052	101	89-119	12	0-8	4
Cadmium	ND	0.5000	0.5664	113	0.5018	100	82-124	12	0-7	4
Chromium	ND	0.5000	0.5641	113	0.5030	101	86-122	11	0-8	4
Cobalt	ND	0.5000	0.5858	117	0.5000	100	83-125	16	0-7	4
Copper	ND	0.5000	0.5656	113	0.4929	99	78-126	14	0-7	4
Lead	ND	0.5000	0.5269	105	0.4963	99	84-120	6	0-7	
Molybdenum	ND	0.5000	0.5367	107	0.4983	100	78-126	7	0-7	
Nickel	0.01595	0.5000	0.5558	108	0.5194	101	84-120	7	0-7	
Phosphorus	ND	0.5000	0.5792	116	0.5457	109	80-140	6	0-6	
Selenium	0.03054	0.5000	0.5531	105	0.5125	96	79-127	8	0-9	
Silver	ND	0.2500	0.2800	112	0.2471	99	86-128	12	0-7	4
Thallium	ND	0.5000	0.5282	106	0.4976	100	79-121	6	0-8	
Vanadium	0.01362	0.5000	0.5594	109	0.5044	98	88-118	10	0-7	4
Aluminum	0.06226	0.5000	0.6400	116	0.5576	99	73-145	14	0-16	
Calcium	27.36	0.5000	27.42	4X	25.94	4X	77-113	4X	0-11	Q
Iron	0.5388	0.5000	0.8238	57	0.7022	33	65-149	16	0-21	3
Magnesium	13.69	0.5000	14.41	4X	12.57	4X	56-140	4X	0-11	Q
Manganese	0.007114	0.5000	0.5635	111	0.5052	100	86-116	11	0-7	4
Potassium	3.091	5.000	8.250	103	7.798	94	83-131	6	0-7	
Strontium	0.4314	0.5000	0.9468	103	0.8708	88	81-123	8	0-6	4
Tin	ND	0.5000	0.5539	111	0.5443	109	49-151	2	0-5	
Titanium	ND	0.5000	0.5686	114	0.5050	101	92-128	12	0-5	4
Boron	0.3751	0.5000	0.8472	94	0.7625	77	81-135	11	0-7	3,4
Zinc	ND	0.5000	0.5800	116	0.5274	105	89-131	10	0-8	4

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: Porter Ranch / 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
PT-BV-1	Sample	Aqueous	Mercury 04	06/27/16	06/27/16 19:09	160627SA2
PT-BV-1	Matrix Spike	Aqueous	Mercury 04	06/27/16	06/27/16 19:12	160627SA2
PT-BV-1	Matrix Spike Duplicate	Aqueous	Mercury 04	06/27/16	06/27/16 19:21	160627SA2

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.01000	0.009618	96	0.009612	96	55-133	0	0-20	

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - LCS/LCSD

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: Porter Ranch / 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-498-376	LCS	Aqueous	GC 48	06/27/16	06/27/16 18:21	160627B12			
099-15-498-376	LCSD	Aqueous	GC 48	06/27/16	06/27/16 18:36	160627B12			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	4000	4296	107	4230	106	75-117	2	0-13	

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Porter Ranch / 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
097-01-003-15899	LCS	Aqueous	ICP 8300	06/24/16	06/28/16 19:29	160624LA5	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Antimony		0.5000	0.4892	98	80-120	73-127	
Arsenic		0.5000	0.5024	100	80-120	73-127	
Barium		0.5000	0.5266	105	80-120	73-127	
Beryllium		0.5000	0.4971	99	80-120	73-127	
Cadmium		0.5000	0.5330	107	80-120	73-127	
Chromium		0.5000	0.5234	105	80-120	73-127	
Cobalt		0.5000	0.5809	116	80-120	73-127	
Copper		0.5000	0.5605	112	80-120	73-127	
Lead		0.5000	0.5243	105	80-120	73-127	
Molybdenum		0.5000	0.4991	100	80-120	73-127	
Nickel		0.5000	0.5516	110	80-120	73-127	
Phosphorus		0.5000	0.5308	106	80-120	73-127	
Selenium		0.5000	0.4887	98	80-120	73-127	
Silver		0.2500	0.2698	108	80-120	73-127	
Thallium		0.5000	0.5085	102	80-120	73-127	
Vanadium		0.5000	0.4910	98	80-120	73-127	
Aluminum		0.5000	0.5705	114	80-120	73-127	
Calcium		0.5000	0.5244	105	80-120	73-127	
Iron		0.5000	0.5783	116	80-120	73-127	
Magnesium		0.5000	0.5995	120	80-120	73-127	
Manganese		0.5000	0.5348	107	80-120	73-127	
Potassium		5.000	5.253	105	80-120	73-127	
Strontium		0.5000	0.5259	105	80-120	73-127	
Tin		0.5000	0.5188	104	80-120	73-127	
Titanium		0.5000	0.5145	103	80-120	73-127	
Boron		0.5000	0.5061	101	80-120	73-127	
Zinc		0.5000	0.5673	113	80-120	73-127	

Total number of LCS compounds: 27

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1766
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: Porter Ranch / 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-04-008-7905	LCS	Aqueous	Mercury 04	06/27/16	06/27/16 19:07	160627LA2
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Mercury		0.01000	0.009365	94	80-120	

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

Sample Analysis Summary Report

Work Order: 16-06-1766

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 6010B	EPA 3010A Total	935	ICP 7300	1
EPA 7470A	EPA 7470A Total	776	Mercury 04	1
EPA 8015B (M)	EPA 3510C	972	GC 48	1


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Location 1: 7440 Lincoln Way, Garden Grove, CA 92841

Glossary of Terms and Qualifiers

Work Order: 16-06-1766

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

1766

ORIGIN ID:VNYA (949) 477-4040
LEIGHTON GROUP INC
17781 COWAN
IRVINE, CA 926146009
UNITED STATES US

SHIP DATE: 23JUN16
ACTWGT: 26.10 LB
CAD: /POS1704
DIMS: 17x15x10 IN
BILL SENDER

Pat # 156297-435 R112 EXP 04/12
** 41/49 540.12/30BB/72ZF
#548400 06/23

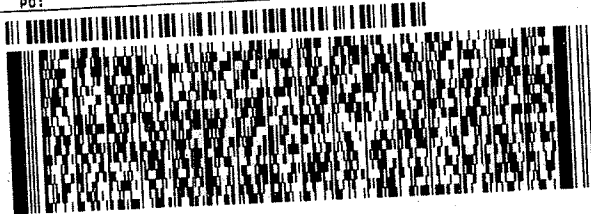
TO **NICOLE SCOTT**
EUROFINS CALSCIENCE
7440 LINCOLN WAY

GARDEN GROVE CA 92841

(714) 895-6494
INU:
PD:

REF:

DEPT:



FedEx
Express



J161016070501uy

TRK# 8086 3168 0311
0200

FRI - 24 JUN 3:00P
STANDARD OVERNIGHT

92 APVA

92841
CA-US **SNA**



SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Leighton Consulting

DATE: 06/24/2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)
 Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 3.5 °C (w/ CF): 3.5 °C; Blank Sample
 Sample(s) outside temperature criteria (PM/APM contacted by: _____)
 Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
 Sample(s) received at ambient temperature; placed on ice for transport by courier
 Ambient Temperature: Air Filter Checked by: 836

CUSTODY SEAL:
 Cooler Present and Intact Present but Not Intact Not Present N/A Checked by: 836
 Sample(s) Present and Intact Present but Not Intact Not Present N/A Checked by: 836

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE: (Trip Blank Lot Number: _____)
Aqueous: VOA VOAh VOAn₂ 100PJ 100PJna₂ 125AGB 125AGBh 125AGBp 125PB
 125PBz_{na} 250AGB 250CGB 250CGBs 250PB 250PBn 500AGB 500AGJ 500AGJs
 500PB 1AGB 1AGBna₂ 1AGBs 1PB 1PBna _____ _____ _____
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (_____) EnCores® (_____) TerraCores® (_____) _____
Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (_____) : _____ _____
 Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag
 Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO₃, **na** = NaOH, **na₂** = Na₂S₂O₃, **p** = H₃PO₄, **s** = H₂SO₄, **u** = ultra-pure, **z_{na}** = Zn (CH₃CO₂)₂ + NaOH Labeled/Checked by: 836
Reviewed by: 778

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Calscience

Supplemental Report 1

The original report has been revised/corrected.



WORK ORDER NUMBER: 16-06-1767

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Leighton Consulting, Inc.

Client Project Name: 603287049

Attention: Meredith Church
17781 Cowan
Suite 140
Irvine, CA 92614-6009

Nicole Scott

Approved for release on 07/06/2016 by:
Nicole Scott
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Calscience

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Client Project Name: 603287049
Work Order Number: 16-06-1767

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/24/16. They were assigned to Work Order 16-06-1767.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: 603287049

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-PRE-1	16-06-1767-1-A	06/23/16 10:25	Aqueous	GC 48	06/27/16	06/27/16 19:07	160627B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	91	1.00	
C7	ND	91	1.00	
C8	ND	91	1.00	
C9-C10	ND	91	1.00	
C11-C12	ND	91	1.00	
C13-C14	ND	91	1.00	
C15-C16	ND	91	1.00	
C17-C18	ND	91	1.00	
C19-C20	ND	91	1.00	
C21-C22	ND	91	1.00	
C23-C24	ND	91	1.00	
C25-C28	ND	91	1.00	
C29-C32	ND	91	1.00	
C33-C36	ND	91	1.00	
C37-C40	ND	91	1.00	
C41-C44	ND	91	1.00	
C6-C44 Total	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	96	68-140	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: 603287049

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-498-376	N/A	Aqueous	GC 48	06/27/16	06/27/16 18:06	160627B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	100	1.00	
C7	ND	100	1.00	
C8	ND	100	1.00	
C9-C10	ND	100	1.00	
C11-C12	ND	100	1.00	
C13-C14	ND	100	1.00	
C15-C16	ND	100	1.00	
C17-C18	ND	100	1.00	
C19-C20	ND	100	1.00	
C21-C22	ND	100	1.00	
C23-C24	ND	100	1.00	
C25-C28	ND	100	1.00	
C29-C32	ND	100	1.00	
C33-C36	ND	100	1.00	
C37-C40	ND	100	1.00	
C41-C44	ND	100	1.00	
C6-C44 Total	ND	100	1.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
n-Octacosane	97	68-140		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-PRE-1	16-06-1767-1-B	06/23/16 10:25	Aqueous	ICP 7300	06/24/16	06/30/16 14:04	160624LA5

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	ND	0.0100	1.00	
Barium	0.0850	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	0.0233	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	0.0161	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	0.743	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	ND	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Calcium	95.9	0.100	1.00	
Iron	ND	0.100	1.00	
Magnesium	18.3	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	27.5	0.500	1.00	
Strontium	0.787	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	0.662	0.0200	1.00	
Zinc	0.0707	0.0100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: 603287049

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-003-15899	N/A	Aqueous	ICP 7300	06/24/16	06/30/16 11:44	160624LA5

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	ND	0.0100	1.00	
Barium	ND	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	ND	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	ND	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	ND	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	ND	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Calcium	ND	0.100	1.00	
Iron	ND	0.100	1.00	
Magnesium	ND	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	ND	0.500	1.00	
Strontium	ND	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	ND	0.0200	1.00	
Zinc	ND	0.0100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 7470A Total
Method: EPA 7470A
Units: mg/L

Project: 603287049

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-PRE-1	16-06-1767-1-B	06/23/16 10:25	Aqueous	Mercury 04	06/27/16	06/27/16 19:16	160627LA2

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-04-008-7905	N/A	Aqueous	Mercury 04	06/27/16	06/27/16 19:05	160627LA2

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-1774-1	Sample	Aqueous	ICP 7300	06/24/16	06/28/16 13:05	160624SA5
16-06-1774-1	Matrix Spike	Aqueous	ICP 8300	06/24/16	06/28/16 13:06	160624SA5
16-06-1774-1	Matrix Spike Duplicate	Aqueous	ICP 7300	06/24/16	06/30/16 14:06	160624SA5

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	0.01940	0.5000	0.5076	98	0.5130	99	72-132	1	0-10	
Arsenic	ND	0.5000	0.5413	108	0.5273	105	80-140	3	0-11	
Barium	0.1537	0.5000	0.7150	112	0.6416	98	87-123	11	0-6	4
Beryllium	ND	0.5000	0.5724	114	0.5052	101	89-119	12	0-8	4
Cadmium	ND	0.5000	0.5664	113	0.5018	100	82-124	12	0-7	4
Chromium	ND	0.5000	0.5641	113	0.5030	101	86-122	11	0-8	4
Cobalt	ND	0.5000	0.5858	117	0.5000	100	83-125	16	0-7	4
Copper	ND	0.5000	0.5656	113	0.4929	99	78-126	14	0-7	4
Lead	ND	0.5000	0.5269	105	0.4963	99	84-120	6	0-7	
Molybdenum	ND	0.5000	0.5367	107	0.4983	100	78-126	7	0-7	
Nickel	0.01595	0.5000	0.5558	108	0.5194	101	84-120	7	0-7	
Phosphorus	ND	0.5000	0.5792	116	0.5457	109	80-140	6	0-6	
Selenium	0.03054	0.5000	0.5531	105	0.5125	96	79-127	8	0-9	
Silver	ND	0.2500	0.2800	112	0.2471	99	86-128	12	0-7	4
Thallium	ND	0.5000	0.5282	106	0.4976	100	79-121	6	0-8	
Vanadium	0.01362	0.5000	0.5594	109	0.5044	98	88-118	10	0-7	4
Aluminum	0.06226	0.5000	0.6400	116	0.5576	99	73-145	14	0-16	
Calcium	27.36	0.5000	27.42	4X	25.94	4X	77-113	4X	0-11	Q
Iron	0.5388	0.5000	0.8238	57	0.7022	33	65-149	16	0-21	3
Magnesium	13.69	0.5000	14.41	4X	12.57	4X	56-140	4X	0-11	Q
Manganese	0.007114	0.5000	0.5635	111	0.5052	100	86-116	11	0-7	4
Potassium	3.091	5.000	8.250	103	7.798	94	83-131	6	0-7	
Strontium	0.4314	0.5000	0.9468	103	0.8708	88	81-123	8	0-6	4
Tin	ND	0.5000	0.5539	111	0.5443	109	49-151	2	0-5	
Titanium	ND	0.5000	0.5686	114	0.5050	101	92-128	12	0-5	4
Boron	0.3751	0.5000	0.8472	94	0.7625	77	81-135	11	0-7	3,4
Zinc	ND	0.5000	0.5800	116	0.5274	105	89-131	10	0-8	4

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-1766-1	Sample	Aqueous	Mercury 04	06/27/16	06/27/16 19:09	160627SA2
16-06-1766-1	Matrix Spike	Aqueous	Mercury 04	06/27/16	06/27/16 19:12	160627SA2
16-06-1766-1	Matrix Spike Duplicate	Aqueous	Mercury 04	06/27/16	06/27/16 19:21	160627SA2

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.01000	0.009618	96	0.009612	96	55-133	0	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: 603287049

Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-498-376	LCS	Aqueous	GC 48	06/27/16	06/27/16 18:21	160627B12			
099-15-498-376	LCSD	Aqueous	GC 48	06/27/16	06/27/16 18:36	160627B12			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	4000	4296	107	4230	106	75-117	2	0-13	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: 603287049

Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
097-01-003-15899	LCS	Aqueous	ICP 8300	06/24/16	06/28/16 19:29	160624LA5	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Antimony		0.5000	0.4892	98	80-120	73-127	
Arsenic		0.5000	0.5024	100	80-120	73-127	
Barium		0.5000	0.5266	105	80-120	73-127	
Beryllium		0.5000	0.4971	99	80-120	73-127	
Cadmium		0.5000	0.5330	107	80-120	73-127	
Chromium		0.5000	0.5234	105	80-120	73-127	
Cobalt		0.5000	0.5809	116	80-120	73-127	
Copper		0.5000	0.5605	112	80-120	73-127	
Lead		0.5000	0.5243	105	80-120	73-127	
Molybdenum		0.5000	0.4991	100	80-120	73-127	
Nickel		0.5000	0.5516	110	80-120	73-127	
Phosphorus		0.5000	0.5308	106	80-120	73-127	
Selenium		0.5000	0.4887	98	80-120	73-127	
Silver		0.2500	0.2698	108	80-120	73-127	
Thallium		0.5000	0.5085	102	80-120	73-127	
Vanadium		0.5000	0.4910	98	80-120	73-127	
Aluminum		0.5000	0.5705	114	80-120	73-127	
Calcium		0.5000	0.5244	105	80-120	73-127	
Iron		0.5000	0.5783	116	80-120	73-127	
Magnesium		0.5000	0.5995	120	80-120	73-127	
Manganese		0.5000	0.5348	107	80-120	73-127	
Potassium		5.000	5.253	105	80-120	73-127	
Strontium		0.5000	0.5259	105	80-120	73-127	
Tin		0.5000	0.5188	104	80-120	73-127	
Titanium		0.5000	0.5145	103	80-120	73-127	
Boron		0.5000	0.5061	101	80-120	73-127	
Zinc		0.5000	0.5673	113	80-120	73-127	

Total number of LCS compounds: 27

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1767
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: 603287049

Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-04-008-7905	LCS	Aqueous	Mercury 04	06/27/16	06/27/16 19:07	160627LA2
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Mercury		0.01000	0.009365	94	80-120	



Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

Sample Analysis Summary Report

Work Order: 16-06-1767

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 6010B	EPA 3010A Total	935	ICP 7300	1
EPA 7470A	EPA 7470A Total	776	Mercury 04	1
EPA 8015B (M)	EPA 3510C	972	GC 48	1

Glossary of Terms and Qualifiers

Work Order: 16-06-1767

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

1767

ORIGIN ID:VNYA (949) 477-4040
LEIGHTON GROUP INC
17781 COWAN
IRVINE, CA 926146009
UNITED STATES US

SHIP DATE: 23JUN16
ACTWTG: 26.10 LB
CAD: /POS1704
DIMS: 17x15x10 IN
BILL SENDER

Part # 156257-435 R112 EXP 04/17
4282/D806/21095 E2/30 004858

TO **NICOLE SCOTT**
EUROFINS CALSCIENCE
7440 LINCOLN WAY

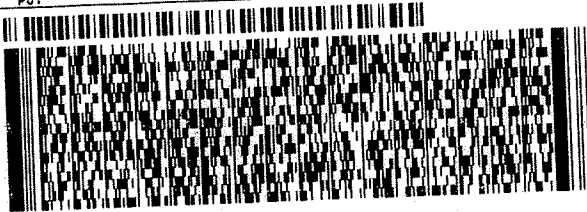
GARDEN GROVE CA 92841

(714) 895-5494

REF:

DEPT:

INU:
PO:



FedEx
Express



1010902060101911

FRI - 24 JUN 3:00P
STANDARD OVERNIGHT

TRK# 8086 3168 0311
0200

92 APVA

92841
CA-US SNA



SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Leighton Consulting

DATE: 06/24/2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)
 Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 3.5 °C (w/ CF): 3.5 °C; Blank Sample
 Sample(s) outside temperature criteria (PM/APM contacted by: _____)
 Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
 Sample(s) received at ambient temperature; placed on ice for transport by courier
 Ambient Temperature: Air Filter Checked by: 836

CUSTODY SEAL:

Cooler Present and Intact Present but Not Intact Not Present N/A Checked by: 836
 Sample(s) Present and Intact Present but Not Intact Not Present N/A Checked by: 836

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: VOA VOA_h VOA_{na2} 100PJ 100PJ_{na2} 125AGB 125AGB_h 125AGB_p 125PB
 125PB_{z_{na}} 250AGB 250CGB 250CGB_s 250PB 250PB_n 500AGB 500AGJ 500AGJ_s
 500PB 1AGB 1AGB_{na2} 1AGB_s 1PB 1PB_{na} _____ _____ _____ _____
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (_____) EnCores® (_____) TerraCores® (_____) _____
Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (____): _____ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag
 Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO₃, **na** = NaOH, **na₂** = Na₂S₂O₃, **p** = H₃PO₄, **s** = H₂SO₄, **u** = ultra-pure, **z_{na}** = Zn (CH₃CO₂)₂ + NaOH Labeled/Checked by: 836
Reviewed by: JTB

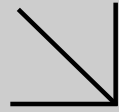




Environmental
Calscience

Supplemental Report 1

The original report has been revised/corrected.



WORK ORDER NUMBER: 16-06-1768

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Leighton Consulting, Inc.

Client Project Name: 603287049

Attention: Meredith Church
17781 Cowan
Suite 140
Irvine, CA 92614-6009

Nicole Scott

Approved for release on 07/06/2016 by:
Nicole Scott
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 16-06-1768

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 06/24/16. They were assigned to Work Order 16-06-1768.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: 603287049

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-BV-2	16-06-1768-1-A	06/23/16 12:01	Aqueous	GC 48	06/27/16	06/27/16 19:23	160627B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	91	1.00	
C7	ND	91	1.00	
C8	ND	91	1.00	
C9-C10	ND	91	1.00	
C11-C12	ND	91	1.00	
C13-C14	ND	91	1.00	
C15-C16	ND	91	1.00	
C17-C18	ND	91	1.00	
C19-C20	ND	91	1.00	
C21-C22	ND	91	1.00	
C23-C24	ND	91	1.00	
C25-C28	ND	91	1.00	
C29-C32	ND	91	1.00	
C33-C36	ND	91	1.00	
C37-C40	ND	91	1.00	
C41-C44	ND	91	1.00	
C6-C44 Total	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	99	68-140	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: 603287049

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-498-376	N/A	Aqueous	GC 48	06/27/16	06/27/16 18:06	160627B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	100	1.00	
C7	ND	100	1.00	
C8	ND	100	1.00	
C9-C10	ND	100	1.00	
C11-C12	ND	100	1.00	
C13-C14	ND	100	1.00	
C15-C16	ND	100	1.00	
C17-C18	ND	100	1.00	
C19-C20	ND	100	1.00	
C21-C22	ND	100	1.00	
C23-C24	ND	100	1.00	
C25-C28	ND	100	1.00	
C29-C32	ND	100	1.00	
C33-C36	ND	100	1.00	
C37-C40	ND	100	1.00	
C41-C44	ND	100	1.00	
C6-C44 Total	ND	100	1.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
n-Octacosane	97	68-140		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: 603287049

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-BV-2	16-06-1768-1-B	06/23/16 12:01	Aqueous	ICP 7300	06/24/16	06/30/16 14:05	160624LA5
Parameter		Result	RL		DF		Qualifiers
Antimony		ND	0.0150		1.00		
Arsenic		0.0947	0.0100		1.00		
Barium		0.422	0.0100		1.00		
Beryllium		ND	0.0100		1.00		
Cadmium		ND	0.0100		1.00		
Chromium		0.0134	0.0100		1.00		
Cobalt		ND	0.0100		1.00		
Copper		ND	0.0100		1.00		
Lead		ND	0.0100		1.00		
Molybdenum		0.0762	0.0100		1.00		
Nickel		ND	0.0100		1.00		
Phosphorus		ND	0.100		1.00		
Selenium		ND	0.0150		1.00		
Silver		0.00958	0.00500		1.00		
Thallium		ND	0.0150		1.00		
Vanadium		0.0254	0.0100		1.00		
Aluminum		ND	0.0500		1.00		
Iron		ND	0.100		1.00		
Magnesium		84.0	0.100		1.00		
Manganese		ND	0.00500		1.00		
Potassium		69.5	0.500		1.00		
Strontium		4.61	0.0200		1.00		
Tin		ND	0.0500		1.00		
Titanium		ND	0.0300		1.00		
Boron		2.93	0.0200		1.00		
Zinc		0.0284	0.0100		1.00		

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: 603287049

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-003-15899	N/A	Aqueous	ICP 7300	06/24/16	06/30/16 11:44	160624LA5

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	ND	0.0100	1.00	
Barium	ND	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	ND	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	ND	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	ND	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	ND	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Iron	ND	0.100	1.00	
Magnesium	ND	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	ND	0.500	1.00	
Strontium	ND	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	ND	0.0200	1.00	
Zinc	ND	0.0100	1.00	


 Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 7470A Total
Method: EPA 7470A
Units: mg/L

Project: 603287049

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PT-BV-2	16-06-1768-1-B	06/23/16 12:01	Aqueous	Mercury 04	06/27/16	06/27/16 19:18	160627LA2

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.000500	1.00	

Method Blank	099-04-008-7905	N/A	Aqueous	Mercury 04	06/27/16	06/27/16 19:05	160627LA2
---------------------	------------------------	------------	----------------	-------------------	-----------------	-----------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.000500	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: 603287049

Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
16-06-1774-1	Sample	Aqueous	ICP 7300	06/24/16	06/28/16 13:05	160624SA5				
16-06-1774-1	Matrix Spike	Aqueous	ICP 8300	06/24/16	06/28/16 13:06	160624SA5				
16-06-1774-1	Matrix Spike Duplicate	Aqueous	ICP 7300	06/24/16	06/30/16 14:06	160624SA5				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	0.01940	0.5000	0.5076	98	0.5130	99	72-132	1	0-10	
Arsenic	ND	0.5000	0.5413	108	0.5273	105	80-140	3	0-11	
Barium	0.1537	0.5000	0.7150	112	0.6416	98	87-123	11	0-6	4
Beryllium	ND	0.5000	0.5724	114	0.5052	101	89-119	12	0-8	4
Cadmium	ND	0.5000	0.5664	113	0.5018	100	82-124	12	0-7	4
Chromium	ND	0.5000	0.5641	113	0.5030	101	86-122	11	0-8	4
Cobalt	ND	0.5000	0.5858	117	0.5000	100	83-125	16	0-7	4
Copper	ND	0.5000	0.5656	113	0.4929	99	78-126	14	0-7	4
Lead	ND	0.5000	0.5269	105	0.4963	99	84-120	6	0-7	
Molybdenum	ND	0.5000	0.5367	107	0.4983	100	78-126	7	0-7	
Nickel	0.01595	0.5000	0.5558	108	0.5194	101	84-120	7	0-7	
Phosphorus	ND	0.5000	0.5792	116	0.5457	109	80-140	6	0-6	
Selenium	0.03054	0.5000	0.5531	105	0.5125	96	79-127	8	0-9	
Silver	ND	0.2500	0.2800	112	0.2471	99	86-128	12	0-7	4
Thallium	ND	0.5000	0.5282	106	0.4976	100	79-121	6	0-8	
Vanadium	0.01362	0.5000	0.5594	109	0.5044	98	88-118	10	0-7	4
Aluminum	0.06226	0.5000	0.6400	116	0.5576	99	73-145	14	0-16	
Iron	0.5388	0.5000	0.8238	57	0.7022	33	65-149	16	0-21	3
Magnesium	13.69	0.5000	14.41	4X	12.57	4X	56-140	4X	0-11	Q
Manganese	0.007114	0.5000	0.5635	111	0.5052	100	86-116	11	0-7	4
Potassium	3.091	5.000	8.250	103	7.798	94	83-131	6	0-7	
Strontium	0.4314	0.5000	0.9468	103	0.8708	88	81-123	8	0-6	4
Tin	ND	0.5000	0.5539	111	0.5443	109	49-151	2	0-5	
Titanium	ND	0.5000	0.5686	114	0.5050	101	92-128	12	0-5	4
Boron	0.3751	0.5000	0.8472	94	0.7625	77	81-135	11	0-7	3,4
Zinc	ND	0.5000	0.5800	116	0.5274	105	89-131	10	0-8	4

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-06-1766-1	Sample	Aqueous	Mercury 04	06/27/16	06/27/16 19:09	160627SA2
16-06-1766-1	Matrix Spike	Aqueous	Mercury 04	06/27/16	06/27/16 19:12	160627SA2
16-06-1766-1	Matrix Spike Duplicate	Aqueous	Mercury 04	06/27/16	06/27/16 19:21	160627SA2

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.01000	0.009618	96	0.009612	96	55-133	0	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: 603287049

Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-498-376	LCS	Aqueous	GC 48	06/27/16	06/27/16 18:21	160627B12			
099-15-498-376	LCSD	Aqueous	GC 48	06/27/16	06/27/16 18:36	160627B12			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	4000	4296	107	4230	106	75-117	2	0-13	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: 603287049

Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
097-01-003-15899	LCS	Aqueous	ICP 8300	06/24/16	06/28/16 19:29	160624LA5	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Antimony		0.5000	0.4892	98	80-120	73-127	
Arsenic		0.5000	0.5024	100	80-120	73-127	
Barium		0.5000	0.5266	105	80-120	73-127	
Beryllium		0.5000	0.4971	99	80-120	73-127	
Cadmium		0.5000	0.5330	107	80-120	73-127	
Chromium		0.5000	0.5234	105	80-120	73-127	
Cobalt		0.5000	0.5809	116	80-120	73-127	
Copper		0.5000	0.5605	112	80-120	73-127	
Lead		0.5000	0.5243	105	80-120	73-127	
Molybdenum		0.5000	0.4991	100	80-120	73-127	
Nickel		0.5000	0.5516	110	80-120	73-127	
Phosphorus		0.5000	0.5308	106	80-120	73-127	
Selenium		0.5000	0.4887	98	80-120	73-127	
Silver		0.2500	0.2698	108	80-120	73-127	
Thallium		0.5000	0.5085	102	80-120	73-127	
Vanadium		0.5000	0.4910	98	80-120	73-127	
Aluminum		0.5000	0.5705	114	80-120	73-127	
Iron		0.5000	0.5783	116	80-120	73-127	
Magnesium		0.5000	0.5995	120	80-120	73-127	
Manganese		0.5000	0.5348	107	80-120	73-127	
Potassium		5.000	5.253	105	80-120	73-127	
Strontium		0.5000	0.5259	105	80-120	73-127	
Tin		0.5000	0.5188	104	80-120	73-127	
Titanium		0.5000	0.5145	103	80-120	73-127	
Boron		0.5000	0.5061	101	80-120	73-127	
Zinc		0.5000	0.5673	113	80-120	73-127	

Total number of LCS compounds: 26

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 06/24/16
Work Order: 16-06-1768
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: 603287049

Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-04-008-7905	LCS	Aqueous	Mercury 04	06/27/16	06/27/16 19:07	160627LA2
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Mercury		0.01000	0.009365	94	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

Sample Analysis Summary Report

Work Order: 16-06-1768

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 6010B	EPA 3010A Total	935	ICP 7300	1
EPA 7470A	EPA 7470A Total	776	Mercury 04	1
EPA 8015B (M)	EPA 3510C	972	GC 48	1

Glossary of Terms and Qualifiers

Work Order: 16-06-1768

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.



Calscience

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofins.com or call us.

LABORATORY CLIENT:

ADDRESS: Leighton Consulting
17781 Cowan STATE: CA ZIP: 926
CITY: Irvine
TEL: 949-681-4208 E-MAIL: mclausche@leighton.com
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
 SAME DAY 24 HR 48 HR 72 HR 5 DAYS STANDARD

EDD: COELT EDF OTHER

SPECIAL INSTRUCTIONS:

WFO NO. / LAB USE ONLY
16-06-1768

CHAIN-OF-CUSTODY RECORD

DATE: 6/23/2016
PAGE: 1 OF 1

CLIENT PROJECT NAME / NO.: 603287049
P.O. NO.:
LAB CONTACT OR QUOTE NO.:
PROJECT CONTACT: Meredith Church
GLOBAL ID:
LOG CODE:
SAMPLER(S): (PRINT)
Bryanna Copeland
Shanahan Hill

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) <input type="checkbox"/> GRO	<input type="checkbox"/> TPH(d) <input type="checkbox"/> DRO	TPH <input checked="" type="checkbox"/> TPH <input type="checkbox"/> C6-C36 <input type="checkbox"/> C6-C44	BTEX / MTBE <input type="checkbox"/> 8260 <input type="checkbox"/>	VOCs (8260)	Oxygenates (8260)	Prep (5035) <input type="checkbox"/> En Core <input type="checkbox"/> Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs <input type="checkbox"/> 8270 <input type="checkbox"/> 8270 SIM	T22 Metals <input checked="" type="checkbox"/> 8010/747X <input type="checkbox"/> 6020/747X	Cr(VI) <input type="checkbox"/> 7196 <input type="checkbox"/> 7199 <input type="checkbox"/> 218.6	
	<u>09T-BV-2</u>	<u>6/23/16</u>	<u>12:01</u>	<u>water</u>	<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>											

Relinquished by: (Signature) Bryanna Copeland, Shanahan 6/23/16
Relinquished by: (Signature) Shanahan Hill
Relinquished by: (Signature) CPA to FedEx
Received by: (Signature/Affiliation) Fred Copeland, LCF
Received by: (Signature/Affiliation) CPA
Received by: (Signature/Affiliation) Pre-11

Date: 6/23/2016 Time: 12:40
Date: 6/23/16 Time: 1345
Date: 6/23/16 Time: 1800
Date: 6/24/16 Time: 1345

1768

ORIGIN ID:VNYA (949) 477-4040
LEIGHTON GROUP INC
17781 COWAN
IRVINE, CA 926146009
UNITED STATES US

SHIP DATE: 23JUN16
ACTWGT: 26.10 LB
CAD: /POS1704
DIMS: 17x15x10 IN
BILL SENDER

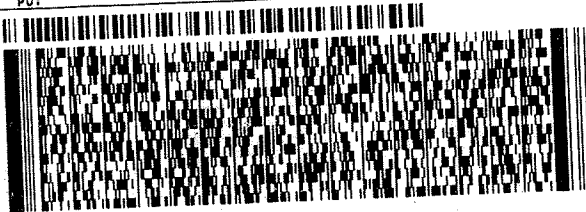
PAID BY 150297-435 BITE EXP 04/17 \$4
1227/0806/21015 02/30 008958

TO **NICOLE SCOTT**
EUROFINS CALSCIENCE
7440 LINCOLN WAY

GARDEN GROVE CA 92841

(714) 895-5494
INU:
PO:

REF:
DEPT:



FedEx
Express



AN 105060910191

FRI - 24 JUN 3:00P
STANDARD OVERNIGHT

TRK# 8086 3168 0311
0200

92 APVA

92841
CA-US **SNA**



SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Leighton Consulting

DATE: 06/24/2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)
 Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 3.5 °C (w/ CF): 3.5 °C; Blank Sample
 Sample(s) outside temperature criteria (PM/APM contacted by: _____)
 Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
 Sample(s) received at ambient temperature; placed on ice for transport by courier
 Ambient Temperature: Air Filter
 Checked by: 836

CUSTODY SEAL:
 Cooler Present and Intact Present but Not Intact Not Present N/A
 Sample(s) Present and Intact Present but Not Intact Not Present N/A
 Checked by: 836
 Checked by: 836

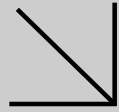
SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE: (Trip Blank Lot Number: _____)
Aqueous: VOA VOA_h VOA_{na2} 100PJ 100PJ_{na2} 125AGB 125AGB_h 125AGB_p 125PB
 125PB_{z_{na}} 250AGB 250CGB 250CGB_s 250PB 250PB_n 500AGB 500AGJ 500AGJ_s
 500PB 1AGB 1AGB_{na2} 1AGB_s 1PB 1PB_{na} _____ _____ _____
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (_____) EnCores® (_____) TerraCores® (_____) _____
Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (____): _____ _____
 Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag
 Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 836
 s = H₂SO₄, u = ultra-pure, z_{na} = Zn (CH₃CO₂)₂ + NaOH Reviewed by: 778

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Calscience



WORK ORDER NUMBER: 16-07-0660

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Leighton Consulting, Inc.

Client Project Name: LCI / 603287049

Attention: Meredith Church
17781 Cowan
Suite 140
Irvine, CA 92614-6009

Nicole Scott

Approved for release on 07/14/2016 by:
Nicole Scott
Project Manager

ResultLink ▶

Email your PM ▶



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Work Order Number: 16-07-0660

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 07/12/16. They were assigned to Work Order 16-07-0660.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: LCI / 603287049

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HCP-PT	16-07-0660-1-A	07/09/16 11:00	Aqueous	GC 48	07/12/16	07/13/16 00:52	160712B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	100	1.00	
C7	ND	100	1.00	
C8	ND	100	1.00	
C9-C10	ND	100	1.00	
C11-C12	ND	100	1.00	
C13-C14	ND	100	1.00	
C15-C16	ND	100	1.00	
C17-C18	ND	100	1.00	
C19-C20	ND	100	1.00	
C21-C22	ND	100	1.00	
C23-C24	ND	100	1.00	
C25-C28	ND	100	1.00	
C29-C32	ND	100	1.00	
C33-C36	ND	100	1.00	
C37-C40	ND	100	1.00	
C41-C44	ND	100	1.00	
C6-C44 Total	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	82	68-140	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: LCI / 603287049

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-498-382	N/A	Aqueous	GC 48	07/12/16	07/12/16 23:35	160712B12

Parameter	Result	RL	DF	Qualifiers
C6	ND	100	1.00	
C7	ND	100	1.00	
C8	ND	100	1.00	
C9-C10	ND	100	1.00	
C11-C12	ND	100	1.00	
C13-C14	ND	100	1.00	
C15-C16	ND	100	1.00	
C17-C18	ND	100	1.00	
C19-C20	ND	100	1.00	
C21-C22	ND	100	1.00	
C23-C24	ND	100	1.00	
C25-C28	ND	100	1.00	
C29-C32	ND	100	1.00	
C33-C36	ND	100	1.00	
C37-C40	ND	100	1.00	
C41-C44	ND	100	1.00	
C6-C44 Total	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	70	68-140	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: LCI / 603287049

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HCP-PT	16-07-0660-1-B	07/09/16 11:00	Aqueous	ICP 7300	07/12/16	07/13/16 19:15	160712LA2

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	0.0221	0.0100	1.00	
Barium	0.275	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	0.0747	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	0.0225	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	0.145	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	ND	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Calcium	206	0.100	1.00	
Iron	ND	0.100	1.00	
Magnesium	18.8	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	13.5	0.500	1.00	
Sodium	274	0.500	1.00	
Strontium	0.864	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	1.90	0.0200	1.00	
Silicon	14.3	0.0500	1.00	
Zinc	0.0321	0.0100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: LCI / 603287049

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-003-15930	N/A	Aqueous	ICP 7300	07/12/16	07/13/16 18:32	160712LA2

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1.00	
Arsenic	ND	0.0100	1.00	
Barium	ND	0.0100	1.00	
Beryllium	ND	0.0100	1.00	
Cadmium	ND	0.0100	1.00	
Chromium	ND	0.0100	1.00	
Cobalt	ND	0.0100	1.00	
Copper	ND	0.0100	1.00	
Lead	ND	0.0100	1.00	
Molybdenum	ND	0.0100	1.00	
Nickel	ND	0.0100	1.00	
Phosphorus	ND	0.100	1.00	
Selenium	ND	0.0150	1.00	
Silver	ND	0.00500	1.00	
Thallium	ND	0.0150	1.00	
Vanadium	ND	0.0100	1.00	
Aluminum	ND	0.0500	1.00	
Calcium	ND	0.100	1.00	
Iron	ND	0.100	1.00	
Magnesium	ND	0.100	1.00	
Manganese	ND	0.00500	1.00	
Potassium	ND	0.500	1.00	
Sodium	ND	0.500	1.00	
Strontium	ND	0.0200	1.00	
Tin	ND	0.0500	1.00	
Titanium	ND	0.0300	1.00	
Boron	ND	0.0200	1.00	
Silicon	ND	0.0500	1.00	
Zinc	ND	0.0100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 7470A Total
Method: EPA 7470A
Units: mg/L

Project: LCI / 603287049

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HCP-PT	16-07-0660-1-B	07/09/16 11:00	Aqueous	Mercury 04	07/12/16	07/13/16 18:07	160712LA3

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1.00	

Method Blank	099-04-008-7920	N/A	Aqueous	Mercury 04	07/12/16	07/12/16 15:52	160712LA3
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Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: LCI / 603287049

Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
HCP-PT	Sample	Aqueous	ICP 7300	07/12/16	07/13/16 19:15	160712SA2				
HCP-PT	Matrix Spike	Aqueous	ICP 7300	07/12/16	07/13/16 19:16	160712SA2				
HCP-PT	Matrix Spike Duplicate	Aqueous	ICP 7300	07/12/16	07/13/16 19:18	160712SA2				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	0.5000	0.5450	109	0.5359	107	72-132	2	0-10	
Arsenic	0.02212	0.5000	0.5667	109	0.5610	108	80-140	1	0-11	
Barium	0.2749	0.5000	0.7906	103	0.7755	100	87-123	2	0-6	
Beryllium	ND	0.5000	0.5243	105	0.5131	103	89-119	2	0-8	
Cadmium	ND	0.5000	0.5078	102	0.5001	100	82-124	2	0-7	
Chromium	ND	0.5000	0.5102	102	0.5001	100	86-122	2	0-8	
Cobalt	ND	0.5000	0.5170	103	0.5109	102	83-125	1	0-7	
Copper	0.07472	0.5000	0.6214	109	0.6079	107	78-126	2	0-7	
Lead	ND	0.5000	0.4909	98	0.4875	97	84-120	1	0-7	
Molybdenum	0.02251	0.5000	0.5398	103	0.5364	103	78-126	1	0-7	
Nickel	ND	0.5000	0.5224	104	0.5148	103	84-120	1	0-7	
Phosphorus	0.1449	0.5000	0.7282	117	0.7206	115	80-140	1	0-6	
Selenium	ND	0.5000	0.5850	117	0.5728	115	79-127	2	0-9	
Silver	ND	0.2500	0.2642	106	0.2589	104	86-128	2	0-7	
Thallium	ND	0.5000	0.4769	95	0.4776	96	79-121	0	0-8	
Vanadium	ND	0.5000	0.5134	103	0.5041	101	88-118	2	0-7	
Aluminum	ND	0.5000	0.5545	111	0.5656	113	73-145	2	0-16	
Calcium	206.0	0.5000	201.9	4X	207.4	4X	77-113	4X	0-11	Q
Iron	ND	0.5000	0.4233	85	0.4278	86	65-149	1	0-21	
Magnesium	18.77	0.5000	19.22	4X	18.81	4X	56-140	4X	0-11	Q
Manganese	ND	0.5000	0.5012	100	0.4915	98	86-116	2	0-7	
Potassium	13.51	5.000	18.77	105	19.50	120	83-131	4	0-7	
Sodium	273.7	5.000	275.5	4X	268.0	4X	73-127	4X	0-9	Q
Strontium	0.8638	0.5000	1.366	100	1.349	97	81-123	1	0-6	
Tin	ND	0.5000	0.5542	111	0.5434	109	49-151	2	0-5	
Titanium	ND	0.5000	0.5109	102	0.4996	100	92-128	2	0-5	
Boron	1.902	0.5000	2.440	108	2.391	98	81-135	2	0-7	
Silicon	14.26	0.5000	14.91	4X	14.61	4X	24-180	4X	0-15	Q
Zinc	0.03213	0.5000	0.5756	109	0.6166	117	89-131	7	0-8	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: LCI / 603287049

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-07-0186-21	Sample	Sea Water	Mercury 04	07/12/16	07/12/16 15:56	160712SA3
16-07-0186-21	Matrix Spike	Sea Water	Mercury 04	07/12/16	07/12/16 15:59	160712SA3
16-07-0186-21	Matrix Spike Duplicate	Sea Water	Mercury 04	07/12/16	07/12/16 16:01	160712SA3

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.01000	0.009863	99	0.009374	94	55-133	5	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: LCI / 603287049

Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-498-382	LCS	Aqueous	GC 48	07/12/16	07/12/16 23:51	160712B12			
099-15-498-382	LCSD	Aqueous	GC 48	07/12/16	07/13/16 00:06	160712B12			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	4000	3677	92	3627	91	75-117	1	0-13	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: LCI / 603287049

Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
097-01-003-15930	LCS	Aqueous	ICP 7300	07/12/16	07/13/16 18:34	160712LA2	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Antimony		0.5000	0.5438	109	80-120	73-127	
Arsenic		0.5000	0.5505	110	80-120	73-127	
Barium		0.5000	0.5527	111	80-120	73-127	
Beryllium		0.5000	0.5251	105	80-120	73-127	
Cadmium		0.5000	0.5499	110	80-120	73-127	
Chromium		0.5000	0.5363	107	80-120	73-127	
Cobalt		0.5000	0.5703	114	80-120	73-127	
Copper		0.5000	0.5178	104	80-120	73-127	
Lead		0.5000	0.5445	109	80-120	73-127	
Molybdenum		0.5000	0.5464	109	80-120	73-127	
Nickel		0.5000	0.5691	114	80-120	73-127	
Phosphorus		0.5000	0.5952	119	80-120	73-127	
Selenium		0.5000	0.5404	108	80-120	73-127	
Silver		0.2500	0.2584	103	80-120	73-127	
Thallium		0.5000	0.5336	107	80-120	73-127	
Vanadium		0.5000	0.5184	104	80-120	73-127	
Aluminum		0.5000	0.4798	96	80-120	73-127	
Calcium		0.5000	0.5404	108	80-120	73-127	
Iron		0.5000	0.4723	94	80-120	73-127	
Magnesium		0.5000	0.5290	106	80-120	73-127	
Manganese		0.5000	0.5449	109	80-120	73-127	
Potassium		5.000	4.937	99	80-120	73-127	
Sodium		5.000	4.970	99	80-120	73-127	
Strontium		0.5000	0.5274	105	80-120	73-127	
Tin		0.5000	0.5861	117	80-120	73-127	
Titanium		0.5000	0.5344	107	80-120	73-127	
Boron		0.5000	0.5151	103	80-120	73-127	
Silicon		0.5000	0.5696	114	80-120	73-127	
Zinc		0.5000	0.5594	112	80-120	73-127	

Total number of LCS compounds: 29

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

Leighton Consulting, Inc.
17781 Cowan, Suite 140
Irvine, CA 92614-6009

Date Received: 07/12/16
Work Order: 16-07-0660
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: LCI / 603287049

Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-04-008-7920	LCS	Aqueous	Mercury 04	07/12/16	07/12/16 15:54	160712LA3
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Mercury		0.01000	0.009331	93	80-120	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

Sample Analysis Summary Report

Work Order: 16-07-0660

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 6010B	EPA 3010A Total	935	ICP 7300	1
EPA 7470A	EPA 7470A Total	868	Mercury 04	1
EPA 8015B (M)	EPA 3510C	682	GC 48	1

Glossary of Terms and Qualifiers

Work Order: 16-07-0660

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

0660

ORIGIN ID: JTOA (949) 477-4040
LEIGHTON CONSULTING
17781 COWAN
IRVINE, CA 92614
UNITED STATES US

SHIP DATE: 11JUL16
ACTWTG: 10.80 LB
CAD: 6991508/SSFO1704
DIMS: 15x11x12 IN
BILL THIRD PARTY

158297V435 H12 0211 11 00 58

TO CAL SCIENCE
PROJECT NUMBER 603287.049
7440 LINCOLN WAY

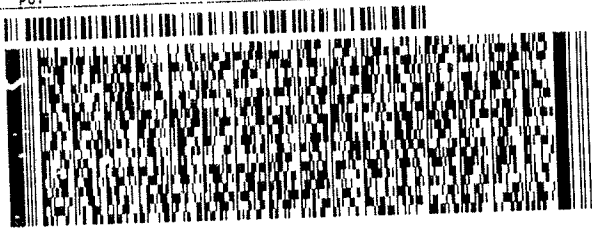
9

GARDEN GROVE CA 92841

(714) 896-6494
INV: PO:

REF:

DEPT:



FedEx
Express



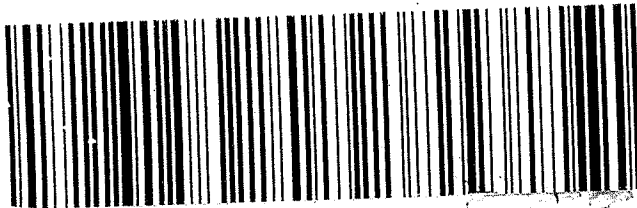
REL#
3785346

TUE - 12 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 7835 5061 0435
0201

92 APVA

92841
CA--US SNA



SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Leighton Consulting

DATE: 07/12/2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC1B (CF: 0.0°C); Temperature (w/o CF): 3-8 °C (w/ CF): 3-8 °C; Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: Air Filter

Checked by: 876

CUSTODY SEAL:

Cooler Present and Intact Present but Not Intact Not Present N/A

Checked by: 876

Sample(s) Present and Intact Present but Not Intact Not Present N/A

Checked by: 876

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input checked="" type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: VOA VOA_h VOA_{na2} 100PJ 100PJ_{na2} 125AGB 125AGB_h 125AGB_p 125PB
 125PB_{z_{na}} 250AGB 250CGB 250CGB_s 250PB 250PB_n 500AGB 500AGJ 500AGJs
 500PB 1AGB 1AGB_{na2} 1AGBs 1PB 1PB_{na} _____ _____ _____

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (_____) EnCores® (_____) TerraCores® (_____) _____

Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (_____) _____ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO₃, **na** = NaOH, **na₂** = Na₂S₂O₃, **p** = H₃PO₄, Labeled/Checked by: 876

s = H₂SO₄, **u** = ultra-pure, **z_{na}** = Zn(CH₃CO₂)₂ + NaOH Reviewed by: 107

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