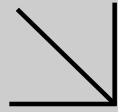




Environmental
Calscience

Supplemental Report 1

Additional requested analyses are reported as a stand-alone report.



WORK ORDER NUMBER: 18-02-1302

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: California Water Service Company

Client Project Name: PV Yard Stockpile

Attention: Robert Medina
 2000 South Tubeway Avenue
 Commerce, CA 90040-1624

Approved for release on 03/05/2018 by:
 Don Burley
 Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute 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.



Contents

Client Project Name: PV Yard Stockpile
Work Order Number: 18-02-1302

1	Work Order Narrative.	3
2	Sample Summary.	4
3	Client Sample Data.	5
	3.1 CA Fish and Game 96-Hour Acute Aquatic Bioassay (Solid).	5
4	Sample Analysis Summary.	6
5	Glossary of Terms and Qualifiers.	7
6	Chain-of-Custody/Sample Receipt Form.	8

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 02/20/18. They were assigned to Work Order 18-02-1302.

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.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.



Calscience

Sample Summary

Client: California Water Service Company	Work Order: 18-02-1302
2000 South Tubeway Avenue	Project Name: PV Yard Stockpile
Commerce, CA 90040-1624	PO Number: 0000105469
	Date/Time Received: 02/20/18 10:10
	Number of Containers: 3

Attn: Robert Medina

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
PV-37-SP-SOIL	18-02-1302-1	02/20/18 08:38	3	Solid


Return to Contents

Analytical Report

California Water Service Company 2000 South Tubeway Avenue Commerce, CA 90040-1624	Date Received: 02/20/18 Work Order: 18-02-1302 Preparation: N/A Method: CA Fish and Game
Project: PV Yard Stockpile	Page 1 of 1

Test Species: Fathead Minnow (Pimephales Promelas)	Mean Length: 44 mm	Mean Weight: 0.48 g
Sample Collected: 02/20/18 08:38:00	Sample Received: 02/20/18 10:10:00	
Test Start: 02/27/18 15:00:00	Test End: 03/03/18 15:00:00	

Initial Water Quality Parameters

Residual Chlorine: < 0.01 mg/L	Temperature: 20 °C
pH: 7.3 units	Conductivity: 875 umhos/cm
Dissolved Oxygen (D.O.): 8.52 mg/L	Alkalinity: 190 mg/L
Hardness: 44 mg/L	Ammonia: N/A

Sample Preparation

The sample was not adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
PV-37-SP-SOIL	18-02-1302-1	02/20/18	Solid	02/27/18	03/03/18 15:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	10	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

Sample was received within recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	23.00
Upper 95% confidence limit:	23.40
Lower 95% confidence limit:	22.60

SRT: Standard Reference Toxicant.



Calscience

Sample Analysis Summary Report

Work Order: 18-02-1302

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
CA Fish and Game	N/A	1009	TANK	1


Return to Contents

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

Glossary of Terms and Qualifiers

Work Order: 18-02-1302

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.

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: California Water Service

DATE: 02/20/2018

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

Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): 16.5 °C (w/ CF): 16.7 °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: 826

CUSTODY SEAL:

Cooler Present and Intact Present but Not Intact Not Present N/A Checked by: 826

Sample(s) Present and Intact Present but Not Intact Not Present N/A Checked by: 826

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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			
Acid/base preserved samples - pH within acceptable range	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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_zna (pH__9)

250AGB 250CGB 250CGBs (pH__2) 250PB 250PB_n (pH__2) 500AGB 500AGJ 500AGJs (pH__2) 500PB

1AGB 1AGB_{na2} 1AGBs (pH__2) 1AGBs (O&G) 1PB 1PB_{na} (pH__12) _____ _____ _____

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (____) EnCores® (____) TerraCores® (____) 2 ozCGJ _____ _____

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: 826

s = H₂SO₄, **u** = ultra-pure, **x** = Na₂SO₃+NaHSO₄.H₂O, **z**na = Zn (CH₃CO₂)₂ + NaOH Reviewed by: 778