

September 17, 2009

Michele Woods
AECOM Environment
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Subject: **Calscience Work Order No.: 09-09-0197**
Client Reference: Sediment Sampling

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/2/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink that reads 'Vikas Patel'.

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Analytical Report



AECOM Environment
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 09/02/09
 Work Order No: 09-09-0197
 Preparation: EPA 3510C
 Method: Organotins by Krone et al.

Project: Sediment Sampling

Page 1 of 1

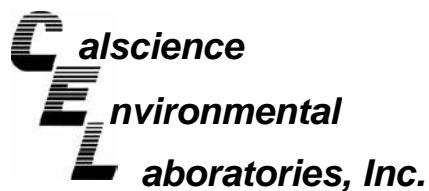
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-090109	09-09-0197-1-A	09/01/09 08:06	Aqueous	GC/MS Y	09/03/09	09/08/09 17:20	090903L05

Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	3.0	1		ng/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Tripentyltin	119	50-130			

Method Blank	099-07-035-107	N/A	Aqueous	GC/MS Y	09/03/09	09/08/09 14:08	090903L05
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	3.0	1		ng/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Tripentyltin	115	50-130			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 09/02/09
Work Order No: 09-09-0197
Preparation: EPA 3550B
Method: Organotins by Krone et al.

Project: Sediment Sampling

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R8-090209	09-09-0197-2-A	09/02/09 08:35	Solid	GC/MS Y	09/08/09	09/11/09 16:41	090908L08

Parameter	Result	RL	DF	Qual	Units
Tributyltin	12	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	119	50-130			

R7-090109	09-09-0197-3-A	09/01/09 11:29	Solid	GC/MS Y	09/08/09	09/14/09 13:06	090908L08
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	9.9	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	118	50-130			

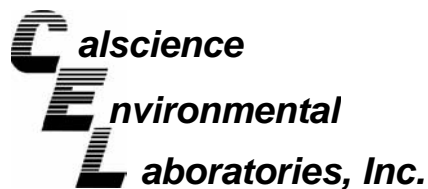
R6-090109	09-09-0197-4-A	09/01/09 14:54	Solid	GC/MS Y	09/08/09	09/11/09 17:44	090908L08
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	8.6	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	127	50-130			

Method Blank	099-07-016-674	N/A	Solid	GC/MS Y	09/08/09	09/09/09 09:34	090908L08
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	121	50-130			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



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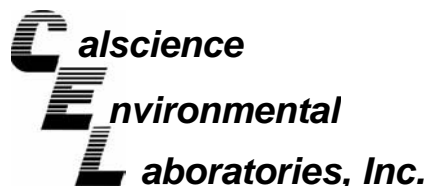
Date Received: 09/02/09
Work Order No: 09-09-0197
Preparation: EPA 3550B
Method: Organotins by Krone et al.

Project Sediment Sampling

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
R7-090109	Solid	GC/MS Y	09/08/09	09/11/09	090908S08

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	98	102	50-130	4	0-20	
Tributyltin	99	106	50-130	6	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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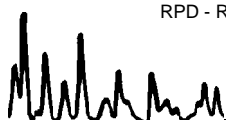
Date Received: N/A
Work Order No: 09-09-0197
Preparation: EPA 3510C
Method: Organotins by Krone et al.

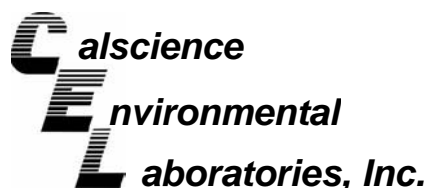
Project: Sediment Sampling

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-035-107	Aqueous	GC/MS Y	09/03/09	09/08/09	090903L05

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	85	82	50-130	3	0-20	
Tributyltin	93	90	50-130	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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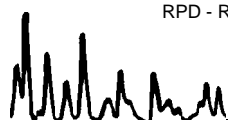
Date Received: N/A
Work Order No: 09-09-0197
Preparation: EPA 3550B
Method: Organotins by Krone et al.

Project: Sediment Sampling

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-016-674	Solid	GC/MS Y	09/08/09	09/09/09	090908L08

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	86	78	50-130	9	0-20	
Tributyltin	108	96	50-130	12	0-20	

RPD - Relative Percent Difference , CL - Control Limit

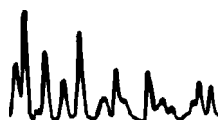


Glossary of Terms and Qualifiers



Work Order Number: 09-09-0197

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
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 matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
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.
U	Undetected at the laboratory method detection limit.
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.





DATE: 9/2/2009

PAGE: 1 OF

[illegible]

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: AECOM

DATE: 09/02/09

TEMPERATURE: (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 2.9 °C - 0.2 °C (CF) = 2.7 °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.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter ☐ Metals Only ☐ PCBs Only

Initial: WMB

CUSTODY SEALS INTACT:

☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/A

Initial: WMB

☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not Present

Initial: PS

SAMPLE CONDITION:

Yes No N/A

Chain-Of-Custody (COC) document(s) received with samples..... ☒

☐

☐

COC document(s) received complete..... ☒

☐

☐

☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.

☐ COC not relinquished. ☐ No date relinquished. ☐ No time relinquished.

Sampler's name indicated on COC..... ☒

☐

☐

Sample container label(s) consistent with COC..... ☒

☐

☐

Sample container(s) intact and good condition..... ☒

☐

☐

Correct containers and volume for analyses requested..... ☒

☐

☐

Analyses received within holding time..... ☒

☐

☐

Proper preservation noted on COC or sample container..... ☒

☐

☐

☐ Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace..... ☐

☐

☒

Tedlar bag(s) free of condensation..... ☐

☐

☒

CONTAINER TYPE:

Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve ☐ EnCores® ☐ TerraCores® ☐ _____

Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 1AGB ☒ 1AGB_{na2} ☐ 1AGB_s

☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 500PB ☐ 500PB_{na}

☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar® ☐ Summa® ☐ _____ **Other:** ☐ _____ **Checked/Labeled by:** PS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelop **Reviewed by:** WRC

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ Na: NaOH p: H₃PO₄ s: H₂SO₄ znna: ZnAc₂+NaOH f: Field-filtered **Scanned by:** PS