

Supplemental Report 2

December 23, 2008

The original report has been revised/corrected.

Michele Woods
ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Subject: **Calscience Work Order No.: 08-10-2479**
Client Reference: 01865-079-0002

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 10/28/2008 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 cursive script that reads 'Vikas Patel'.

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: 01865-079-0002

Page 1 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R7-102708	08-10-2479-1-A	10/27/08 10:30	Solid	ICP 5300	10/29/08	10/30/08 20:32	081029L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	1.45	0.500	1		Lead	64.7	0.500	1	
Chromium	31.9	0.250	1		Nickel	9.59	0.250	1	
Copper	74.2	0.500	1		Zinc	335	1.00	1	

R6-102708	08-10-2479-2-A	10/27/08 14:00	Solid	ICP 5300	10/29/08	10/30/08 20:35	081029L05
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	1.22	0.500	1		Lead	87.9	0.500	1	
Chromium	61.3	0.250	1		Nickel	10.3	0.250	1	
Copper	65.7	0.500	1		Zinc	238	1.00	1	

R5-102808	08-10-2479-3-A	10/28/08 13:50	Solid	ICP 5300	10/29/08	10/30/08 20:37	081029L05
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	ND	0.500	1		Lead	27.3	0.500	1	
Chromium	17.4	0.250	1		Nickel	4.84	0.250	1	
Copper	28.8	0.500	1		Zinc	105	1.00	1	

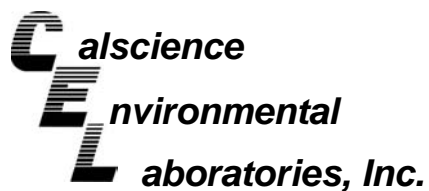
R4-102808	08-10-2479-4-A	10/28/08 12:45	Solid	ICP 5300	10/29/08	10/30/08 20:40	081029L05
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	ND	0.500	1		Lead	28.1	0.500	1	
Chromium	18.9	0.250	1		Nickel	4.50	0.250	1	
Copper	32.0	0.500	1		Zinc	89.9	1.00	1	

R6-102808 (dup)	08-10-2479-5-A	10/28/08 11:30	Solid	ICP 5300	10/29/08	10/30/08 20:42	081029L05
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	1.28	0.500	1		Lead	53.3	0.500	1	
Chromium	26.8	0.250	1		Nickel	10.4	0.250	1	
Copper	61.8	0.500	1		Zinc	363	1.00	1	

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

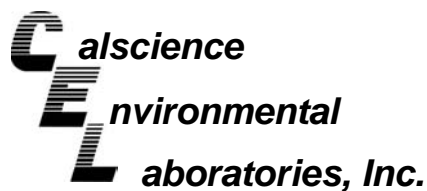
Project: 01865-079-0002

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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	097-01-002-11,680	N/A	Solid	ICP 5300	10/29/08	10/29/08 17:29	081029L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	ND	0.500	1		Lead	ND	0.500	1	
Chromium	ND	0.250	1		Nickel	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: 01865-079-0002

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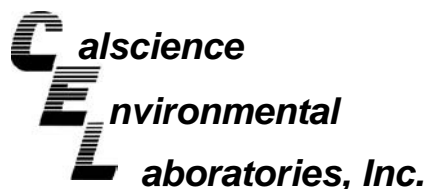
Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-102808 (eb)	08-10-2479-6-E	10/28/08 16:00	Aqueous	ICP 5300	10/29/08	10/30/08 13:44	081029LA3

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	ND	0.00500	1		Lead	ND	0.0100	1	
Chromium	ND	0.00500	1		Nickel	ND	0.00500	1	
Copper	ND	0.00500	1		Zinc	ND	0.0100	1	

Method Blank	097-01-003-8,775	N/A	Aqueous	ICP 5300	10/29/08	10/30/08 10:53	081029LA3
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Cadmium	ND	0.00500	1		Lead	ND	0.0100	1	
Chromium	ND	0.00500	1		Nickel	ND	0.00500	1	
Copper	ND	0.00500	1		Zinc	ND	0.0100	1	

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: 01865-079-0002

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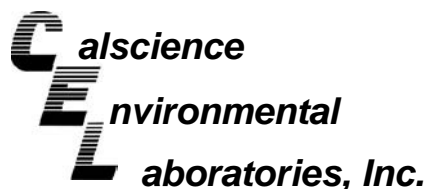
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R7-102708	08-10-2479-1-A	10/27/08 10:30	Solid	GC 46	10/30/08	10/31/08 04:25	081030B02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	2.3		1	
C7	ND		1		C23-C24	4.9		1	
C8	ND		1		C25-C28	18		1	
C9-C10	ND		1		C29-C32	23		1	
C11-C12	ND		1		C33-C36	18		1	
C13-C14	ND		1		C37-C40	13		1	
C15-C16	ND		1		C41-C44	8.9		1	
C17-C18	0.24		1		C6-C44 Total	91	5.0	1	
C19-C20	1.4		1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	116	61-145							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R6-102708	08-10-2479-2-A	10/27/08 14:00	Solid	GC 46	10/30/08	10/31/08 04:40	081030B02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	9.2		1	
C7	ND		1		C23-C24	15		1	
C8	ND		1		C25-C28	31		1	
C9-C10	ND		1		C29-C32	37		1	
C11-C12	ND		1		C33-C36	27		1	
C13-C14	0.29		1		C37-C40	19		1	
C15-C16	1.7		1		C41-C44	10		1	
C17-C18	2.4		1		C6-C44 Total	160	5.0	1	
C19-C20	8.6		1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	121	61-145							

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: 01865-079-0002

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R5-102808	08-10-2479-3-A	10/28/08 13:50	Solid	GC 46	10/30/08	10/31/08 04:55	081030B02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	0.36		1	
C7	ND		1		C23-C24	1.9		1	
C8	ND		1		C25-C28	9.1		1	
C9-C10	ND		1		C29-C32	12		1	
C11-C12	ND		1		C33-C36	12		1	
C13-C14	ND		1		C37-C40	9.6		1	
C15-C16	ND		1		C41-C44	5.7		1	
C17-C18	ND		1		C6-C44 Total	50	5.0	1	
C19-C20	0.30		1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	121	61-145							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R4-102808	08-10-2479-4-A	10/28/08 12:45	Solid	GC 46	10/30/08	10/31/08 05:10	081030B02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	0.64		1	
C7	ND		1		C23-C24	0.90		1	
C8	ND		1		C25-C28	4.7		1	
C9-C10	ND		1		C29-C32	8.2		1	
C11-C12	ND		1		C33-C36	6.1		1	
C13-C14	ND		1		C37-C40	6.5		1	
C15-C16	ND		1		C41-C44	6.0		1	
C17-C18	ND		1		C6-C44 Total	33	5.0	1	
C19-C20	0.26		1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	116	61-145							

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3550B
 Method: EPA 8015B (M)
 Units: mg/kg

Project: 01865-079-0002

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R6-102808 (dup)	08-10-2479-5-A	10/28/08 11:30	Solid	GC 46	10/30/08	10/31/08 05:26	081030B02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		2		C21-C22	8.5		2	
C7	ND		2		C23-C24	14		2	
C8	ND		2		C25-C28	51		2	
C9-C10	ND		2		C29-C32	65		2	
C11-C12	ND		2		C33-C36	49		2	
C13-C14	ND		2		C37-C40	35		2	
C15-C16	0.64		2		C41-C44	22		2	
C17-C18	1.0		2		C6-C44 Total	250	10	2	
C19-C20	3.0		2						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	125	61-145							

Method Blank	099-12-275-2,270	N/A	Solid	GC 46	10/30/08	10/31/08 00:05	081030B02
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Parameter	Result	RL	DF	Qual
TPH as Diesel	ND	5.0	1	
Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	94	61-145		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3510C
 Method: EPA 8015B (M)
 Units: ug/L

Project: 01865-079-0002

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-102808 (eb)	08-10-2479-6-A	10/28/08 16:00	Aqueous	GC 47	10/30/08	10/31/08 00:04	081030B05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	ND		1	
C7	ND		1		C23-C24	ND		1	
C8	ND		1		C25-C28	ND		1	
C9-C10	ND		1		C29-C32	ND		1	
C11-C12	ND		1		C33-C36	ND		1	
C13-C14	ND		1		C37-C40	ND		1	
C15-C16	ND		1		C41-C44	ND		1	
C17-C18	ND		1		C6-C44 Total	ND	500	1	
C19-C20	ND		1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	94	68-140							

Method Blank	099-12-308-884	N/A	Aqueous	GC 47	10/30/08	10/30/08 20:05	081030B05
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Parameter	Result	RL	DF	Qual
TPH as Diesel	ND	500	1	
Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	106	68-140		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3510C
 Method: EPA 8270C
 Units: ug/L

Project: 01865-079-0002

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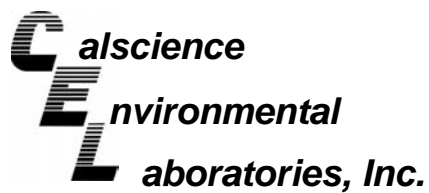
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-102808 (eb)	08-10-2479-6-A	10/28/08 16:00	Aqueous	GC/MS P	10/29/08	10/31/08 17:38	081029L07

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Acenaphthylene	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
Acenaphthene	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
Fluorene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
Phenanthrene	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Anthracene	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Fluoranthene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
Pyrene	ND	10	1		1-Methylnaphthalene	ND	10	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	69	7-121			Phenol-d6	51	1-127		
Nitrobenzene-d5	93	50-146			2-Fluorobiphenyl	76	42-138		
2,4,6-Tribromophenol	85	41-137			p-Terphenyl-d14	90	47-173		

Method Blank	095-01-003-2,542	N/A	Aqueous	GC/MS P	10/29/08	10/31/08 12:37	081029L07
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Acenaphthylene	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
Acenaphthene	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
Fluorene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
Phenanthrene	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Anthracene	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Fluoranthene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
Pyrene	ND	10	1		1-Methylnaphthalene	ND	10	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	63	7-121			Phenol-d6	50	1-127		
Nitrobenzene-d5	99	50-146			2-Fluorobiphenyl	98	42-138		
2,4,6-Tribromophenol	93	41-137			p-Terphenyl-d14	93	47-173		

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: Organotins by Krone et al.

Project: 01865-079-0002

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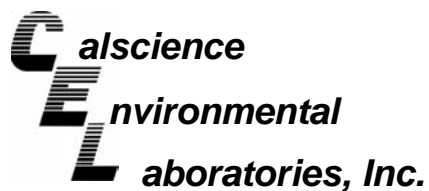
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-102808 (eb)	08-10-2479-6-G	10/28/08 16:00	Aqueous	GC/MS Y	10/30/08	11/07/08 13:59	081030L13

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>	
Triphenyltin	99	50-130			

Method Blank	099-07-035-78	N/A	Aqueous	GC/MS Y	10/30/08	11/07/08 11:16	081030L13
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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>	
Triphenyltin	116	50-130			

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: Organotins by Krone et al.

Project: 01865-079-0002

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R7-102708	08-10-2479-1-A	10/27/08 10:30	Solid	GC/MS Y	11/03/08	11/07/08 16:07	081103L07

Parameter	Result	RL	DF	Qual	Units
Tributyltin	5.8	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	113	50-130			

R6-102708	08-10-2479-2-A	10/27/08 14:00	Solid	GC/MS Y	11/03/08	11/07/08 16:39	081103L07
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	12	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	104	50-130			

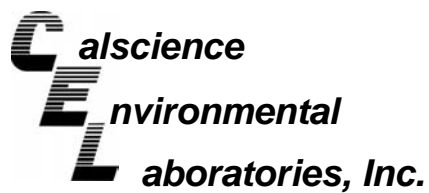
R5-102808	08-10-2479-3-A	10/28/08 13:50	Solid	GC/MS Y	11/03/08	11/07/08 17:11	081103L07
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	9.8	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	104	50-130			

R4-102808	08-10-2479-4-A	10/28/08 12:45	Solid	GC/MS Y	11/03/08	11/07/08 17:44	081103L07
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	8.4	3.0	1		ug/kg
Surrogates:	REC (%)	Control Limits		Qual	
Triphenyltin	105	50-130			

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: Organotins by Krone et al.

Project: 01865-079-0002

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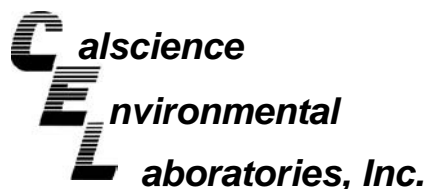
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R6-102808 (dup)	08-10-2479-5-A	10/28/08 11:30	Solid	GC/MS Y	11/03/08	11/07/08 18:15	081103L07

Parameter	Result	RL	DF	Qual	Units
Tributyltin	11	3.0	1		ug/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Triphenyltin	115	50-130			

Method Blank	099-07-016-591	N/A	Solid	GC/MS Y	11/03/08	11/07/08 15:35	081103L07
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Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	3.0	1		ug/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Triphenyltin	113	50-130			

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: EPA 8082
Units: ug/L

Project: 01865-079-0002

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-102808 (eb)	08-10-2479-6-D	10/28/08 16:00	Aqueous	GC 16	10/29/08	11/04/08 01:14	081029L11

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	0.50	1		Aroclor-1248	ND	0.50	1	
Aroclor-1221	ND	0.50	1		Aroclor-1254	ND	0.50	1	
Aroclor-1232	ND	0.50	1		Aroclor-1260	ND	0.50	1	
Aroclor-1242	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	74	50-135			2,4,5,6-Tetrachloro-m-Xylene	91	50-135		

Method Blank	099-12-527-55	N/A	Aqueous	GC 16	10/29/08	11/04/08 00:17	081029L11
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	0.50	1		Aroclor-1248	ND	0.50	1	
Aroclor-1221	ND	0.50	1		Aroclor-1254	ND	0.50	1	
Aroclor-1232	ND	0.50	1		Aroclor-1260	ND	0.50	1	
Aroclor-1242	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	79	50-135			2,4,5,6-Tetrachloro-m-Xylene	107	50-135		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3545
 Method: EPA 8270C
 Units: mg/kg

Project: 01865-079-0002

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R7-102708	08-10-2479-1-A	10/27/08 10:30	Solid	GC/MS TT	10/30/08	11/03/08 16:42	081030L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	0.50	1		Pyrene	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1		Benzo (a) Anthracene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1		Chrysene	ND	0.50	1	
Acenaphthylene	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.50	1	
Acenaphthene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1		Benzo (a) Pyrene	ND	0.50	1	
Phenanthrene	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Anthracene	ND	0.50	1		Dibenz (a,h) Anthracene	ND	0.50	1	
Fluoranthene	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	73	42-120			Phenol-d6	62	46-118		
Nitrobenzene-d5	93	42-150			2-Fluorobiphenyl	88	38-134		
2,4,6-Tribromophenol	78	36-132			p-Terphenyl-d14	99	35-167		

R6-102708	08-10-2479-2-A	10/27/08 14:00	Solid	GC/MS TT	10/30/08	11/03/08 17:09	081030L04
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	0.50	1		Pyrene	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1		Benzo (a) Anthracene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1		Chrysene	ND	0.50	1	
Acenaphthylene	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.50	1	
Acenaphthene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1		Benzo (a) Pyrene	ND	0.50	1	
Phenanthrene	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Anthracene	ND	0.50	1		Dibenz (a,h) Anthracene	ND	0.50	1	
Fluoranthene	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	56	42-120			Phenol-d6	48	46-118		
Nitrobenzene-d5	72	42-150			2-Fluorobiphenyl	68	38-134		
2,4,6-Tribromophenol	64	36-132			p-Terphenyl-d14	69	35-167		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3545
 Method: EPA 8270C
 Units: mg/kg

Project: 01865-079-0002

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R5-102808	08-10-2479-3-A	10/28/08 13:50	Solid	GC/MS TT	10/30/08	11/03/08 17:35	081030L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	0.50	1		Pyrene	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1		Benzo (a) Anthracene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1		Chrysene	ND	0.50	1	
Acenaphthylene	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.50	1	
Acenaphthene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1		Benzo (a) Pyrene	ND	0.50	1	
Phenanthrene	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Anthracene	ND	0.50	1		Dibenz (a,h) Anthracene	ND	0.50	1	
Fluoranthene	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	63	42-120			Phenol-d6	54	46-118		
Nitrobenzene-d5	79	42-150			2-Fluorobiphenyl	80	38-134		
2,4,6-Tribromophenol	76	36-132			p-Terphenyl-d14	99	35-167		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R4-102808	08-10-2479-4-A	10/28/08 12:45	Solid	GC/MS TT	10/30/08	11/03/08 18:02	081030L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	0.50	1		Pyrene	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1		Benzo (a) Anthracene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1		Chrysene	ND	0.50	1	
Acenaphthylene	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.50	1	
Acenaphthene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1		Benzo (a) Pyrene	ND	0.50	1	
Phenanthrene	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Anthracene	ND	0.50	1		Dibenz (a,h) Anthracene	ND	0.50	1	
Fluoranthene	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	59	42-120			Phenol-d6	50	46-118		
Nitrobenzene-d5	74	42-150			2-Fluorobiphenyl	74	38-134		
2,4,6-Tribromophenol	67	36-132			p-Terphenyl-d14	88	35-167		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3545
 Method: EPA 8270C
 Units: mg/kg

Project: 01865-079-0002

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R6-102808 (dup)	08-10-2479-5-A	10/28/08 11:30	Solid	GC/MS TT	10/30/08	11/03/08 18:28	081030L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	0.50	1		Pyrene	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1		Benzo (a) Anthracene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1		Chrysene	ND	0.50	1	
Acenaphthylene	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.50	1	
Acenaphthene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1		Benzo (a) Pyrene	ND	0.50	1	
Phenanthrene	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Anthracene	ND	0.50	1		Dibenz (a,h) Anthracene	ND	0.50	1	
Fluoranthene	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	60	42-120			Phenol-d6	48	46-118		
Nitrobenzene-d5	76	42-150			2-Fluorobiphenyl	72	38-134		
2,4,6-Tribromophenol	62	36-132			p-Terphenyl-d14	105	35-167		

Method Blank	099-12-549-661	N/A	Solid	GC/MS TT	10/30/08	11/04/08 10:43	081030L04
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	0.50	1		Pyrene	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1		Benzo (a) Anthracene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1		Chrysene	ND	0.50	1	
Acenaphthylene	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.50	1	
Acenaphthene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1		Benzo (a) Pyrene	ND	0.50	1	
Phenanthrene	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Anthracene	ND	0.50	1		Dibenz (a,h) Anthracene	ND	0.50	1	
Fluoranthene	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	87	42-120			Phenol-d6	90	46-118		
Nitrobenzene-d5	94	42-150			2-Fluorobiphenyl	88	38-134		
2,4,6-Tribromophenol	88	36-132			p-Terphenyl-d14	87	35-167		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3545
 Method: EPA 8082
 Units: ug/kg

Project: 01865-079-0002

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R7-102708	08-10-2479-1-A	10/27/08 10:30	Solid	GC 16	10/30/08	11/03/08 22:42	081030L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	10	1		Aroclor-1248	ND	10	1	
Aroclor-1221	ND	10	1		Aroclor-1254	ND	10	1	
Aroclor-1232	ND	10	1		Aroclor-1260	ND	10	1	
Aroclor-1242	ND	10	1		Aroclor-1262	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2,4,5,6-Tetrachloro-m-Xylene	51	50-130			Decachlorobiphenyl	80	50-130		

R6-102708	08-10-2479-2-A	10/27/08 14:00	Solid	GC 16	10/30/08	11/03/08 23:01	081030L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	10	1		Aroclor-1248	ND	10	1	
Aroclor-1221	ND	10	1		Aroclor-1254	ND	10	1	
Aroclor-1232	ND	10	1		Aroclor-1260	ND	10	1	
Aroclor-1242	ND	10	1		Aroclor-1262	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2,4,5,6-Tetrachloro-m-Xylene	69	50-130			Decachlorobiphenyl	84	50-130		

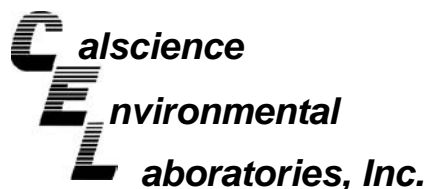
R5-102808	08-10-2479-3-A	10/28/08 13:50	Solid	GC 16	10/30/08	11/03/08 23:20	081030L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	10	1		Aroclor-1248	ND	10	1	
Aroclor-1221	ND	10	1		Aroclor-1254	ND	10	1	
Aroclor-1232	ND	10	1		Aroclor-1260	ND	10	1	
Aroclor-1242	ND	10	1		Aroclor-1262	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2,4,5,6-Tetrachloro-m-Xylene	62	50-130			Decachlorobiphenyl	59	50-130		

R4-102808	08-10-2479-4-A	10/28/08 12:45	Solid	GC 16	10/30/08	11/03/08 23:39	081030L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	10	1		Aroclor-1248	ND	10	1	
Aroclor-1221	ND	10	1		Aroclor-1254	ND	10	1	
Aroclor-1232	ND	10	1		Aroclor-1260	ND	10	1	
Aroclor-1242	ND	10	1		Aroclor-1262	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2,4,5,6-Tetrachloro-m-Xylene	104	50-130			Decachlorobiphenyl	70	50-130		

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: 01865-079-0002

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R6-102808 (dup)	08-10-2479-5-A	10/28/08 11:30	Solid	GC 16	10/30/08	11/03/08 23:58	081030L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	10	1		Aroclor-1248	ND	10	1	
Aroclor-1221	ND	10	1		Aroclor-1254	ND	10	1	
Aroclor-1232	ND	10	1		Aroclor-1260	ND	10	1	
Aroclor-1242	ND	10	1		Aroclor-1262	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2,4,5,6-Tetrachloro-m-Xylene	77	50-130			Decachlorobiphenyl	83	50-130		

Method Blank	099-12-565-68	N/A	Solid	GC 16	10/30/08	11/03/08 15:56	081030L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	10	1		Aroclor-1248	ND	10	1	
Aroclor-1221	ND	10	1		Aroclor-1254	ND	10	1	
Aroclor-1232	ND	10	1		Aroclor-1260	ND	10	1	
Aroclor-1242	ND	10	1		Aroclor-1262	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2,4,5,6-Tetrachloro-m-Xylene	114	50-130			Decachlorobiphenyl	99	50-130		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3510C
 Method: EPA 8081A
 Units: ug/L

Project: 01865-079-0002

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R9-102808 (eb)	08-10-2479-6-C	10/28/08 16:00	Aqueous	GC 41	10/29/08	10/30/08 20:11	081029L12

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
4,4'-DDE	ND	0.10	1		2,4'-DDE	ND	0.10	1	
4,4'-DDD	ND	0.10	1		2,4'-DDT	ND	0.10	1	
2,4'-DDD	ND	0.10	1		4,4'-DDT	ND	0.10	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	109	50-135			2,4,5,6-Tetrachloro-m-Xylene	93	50-135		

Method Blank	099-12-567-4	N/A	Aqueous	GC 41	10/29/08	10/30/08 12:14	081029L12
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
4,4'-DDE	ND	0.10	1		2,4'-DDE	ND	0.10	1	
4,4'-DDD	ND	0.10	1		2,4'-DDT	ND	0.10	1	
2,4'-DDD	ND	0.10	1		4,4'-DDT	ND	0.10	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	130	50-135			2,4,5,6-Tetrachloro-m-Xylene	93	50-135		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3545
 Method: EPA 8081A
 Units: ug/kg

Project: 01865-079-0002

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R7-102708	08-10-2479-1-A	10/27/08 10:30	Solid	GC 41	10/30/08	11/03/08 19:42	081030L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4'-DDD	ND	1.0	1		4,4'-DDD	7.4	1.0	1	
2,4'-DDE	ND	1.0	1		4,4'-DDE	6.9	1.0	1	
2,4'-DDT	ND	1.0	1		4,4'-DDT	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2,4,5,6-Tetrachloro-m-Xylene	1593	50-130		2	Decachlorobiphenyl	90	50-130		

R6-102708	08-10-2479-2-A	10/27/08 14:00	Solid	GC 41	10/30/08	11/03/08 20:10	081030L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4'-DDD	ND	1.0	1		4,4'-DDD	11	5.0	5	
2,4'-DDE	ND	1.0	1		4,4'-DDE	12	5.0	5	
2,4'-DDT	ND	1.0	1		4,4'-DDT	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2,4,5,6-Tetrachloro-m-Xylene	60	50-130			Decachlorobiphenyl	123	50-130		

R5-102808	08-10-2479-3-A	10/28/08 13:50	Solid	GC 41	10/30/08	11/03/08 20:38	081030L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4'-DDD	ND	1.0	1		4,4'-DDD	2.1	1.0	1	
2,4'-DDE	ND	1.0	1		4,4'-DDE	3.0	1.0	1	
2,4'-DDT	ND	1.0	1		4,4'-DDT	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2,4,5,6-Tetrachloro-m-Xylene	53	50-130			Decachlorobiphenyl	76	50-130		

R4-102808	08-10-2479-4-A	10/28/08 12:45	Solid	GC 41	10/30/08	11/03/08 21:07	081030L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4'-DDD	ND	1.0	1		4,4'-DDD	1.9	1.0	1	
2,4'-DDE	ND	1.0	1		4,4'-DDE	2.7	1.0	1	
2,4'-DDT	ND	1.0	1		4,4'-DDT	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2,4,5,6-Tetrachloro-m-Xylene	70	50-130			Decachlorobiphenyl	106	50-130		

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

Analytical Report



ENSR International
 3995 Via Oro Avenue
 Long Beach, CA 90810-1869

Date Received: 10/28/08
 Work Order No: 08-10-2479
 Preparation: EPA 3545
 Method: EPA 8081A
 Units: ug/kg

Project: 01865-079-0002

Page 2 of 2

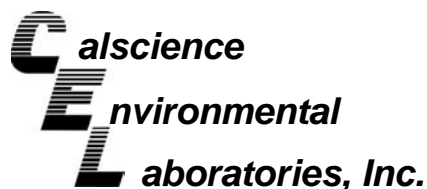
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
R6-102808 (dup)	08-10-2479-5-A	10/28/08 11:30	Solid	GC 41	10/30/08	11/03/08 21:35	081030L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4'-DDD	ND	1.0	1		4,4'-DDD	14	5.0	5	
2,4'-DDE	ND	1.0	1		4,4'-DDE	13	5.0	5	
2,4'-DDT	ND	1.0	1		4,4'-DDT	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2,4,5,6-Tetrachloro-m-Xylene	89	50-130			Decachlorobiphenyl	116	50-130		

Method Blank	099-12-777-15	N/A	Solid	GC 41	10/30/08	11/03/08 17:21	081030L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4'-DDD	ND	1.0	1		4,4'-DDD	ND	1.0	1	
2,4'-DDE	ND	1.0	1		4,4'-DDE	ND	1.0	1	
2,4'-DDT	ND	1.0	1		4,4'-DDT	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2,4,5,6-Tetrachloro-m-Xylene	89	50-130			Decachlorobiphenyl	94	50-130		

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479

Project: 01865-079-0002

Page 1 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix
R7-102708	08-10-2479-1	10/27/08	Solid

Comment(s): (9) Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Moisture	65.7	0.100	1		%	N/A	10/29/08	ASTM D-2216
Carbon, Total Organic (9)	64000	1500	1		mg/kg	N/A	10/29/08	EPA 9060A

R6-102708	08-10-2479-2	10/27/08	Solid
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Comment(s): (9) Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Moisture	57.7	0.100	1		%	N/A	10/29/08	ASTM D-2216
Carbon, Total Organic (9)	37000	1200	1		mg/kg	N/A	10/29/08	EPA 9060A

R5-102808	08-10-2479-3	10/28/08	Solid
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Comment(s): (9) Results are reported on a dry weight basis.

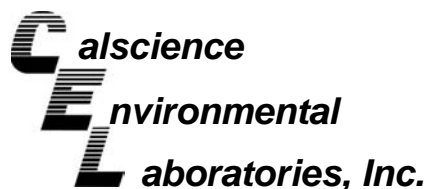
Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Moisture	68.1	0.100	1		%	N/A	10/29/08	ASTM D-2216
Carbon, Total Organic (9)	76000	1600	1		mg/kg	N/A	10/29/08	EPA 9060A

R4-102808	08-10-2479-4	10/28/08	Solid
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Comment(s): (9) Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Moisture	69.6	0.100	1		%	N/A	10/29/08	ASTM D-2216
Carbon, Total Organic (9)	60000	1600	1		mg/kg	N/A	10/29/08	EPA 9060A

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



Analytical Report



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: 10/28/08
Work Order No: 08-10-2479

Project: 01865-079-0002

Page 2 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix
R6-102808 (dup)	08-10-2479-5	10/28/08	Solid

Comment(s): (9) Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Moisture	53.1	0.100	1		%	N/A	10/29/08	ASTM D-2216
Carbon, Total Organic (9)	47000	1100	1		mg/kg	N/A	10/29/08	EPA 9060A

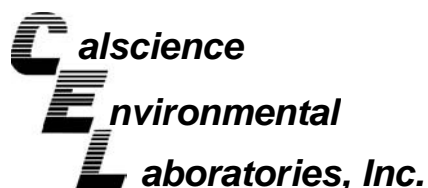
R9-102808 (eb)	08-10-2479-6	10/28/08	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Carbon, Total Organic	ND	0.50	1		mg/L	N/A	10/30/08	SM 5310 D

Method Blank	N/A	Solid
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Moisture	ND	0.100	1		%	N/A	10/29/08	ASTM D-2216
Carbon, Total Organic	ND	500	1		mg/kg	N/A	10/29/08	EPA 9060A
Carbon, Total Organic	ND	0.50	1		mg/L	N/A	10/30/08	SM 5310 D

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



Quality Control - Spike/Spike Duplicate



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Long Beach, CA 90810-1869

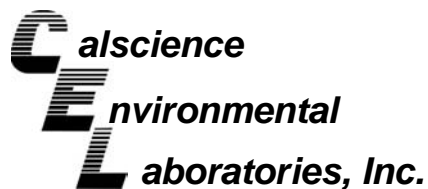
Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3050B
Method: EPA 6010B

Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-10-2466-1	Solid	ICP 5300	10/29/08	10/29/08	081029S05

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Cadmium	99	105	75-125	5	0-20	
Chromium	100	105	75-125	3	0-20	
Copper	105	108	75-125	2	0-20	
Lead	104	133	75-125	19	0-20	3
Nickel	97	104	75-125	6	0-20	
Zinc	98	127	75-125	11	0-20	3

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - PDS / PDSD



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Long Beach, CA 90810-1869

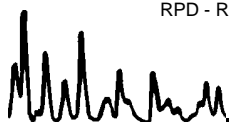
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Preparation: EPA 3050B
Method: EPA 6010B

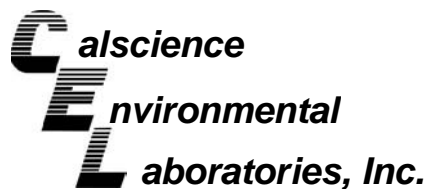
Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
08-10-2466-1	Solid	ICP 5300	10/29/08	10/29/08	081029S05

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Cadmium	108	99	75-125	10	0-20	
Chromium	101	94	75-125	5	0-20	
Copper	102	101	75-125	1	0-20	
Lead	111	96	75-125	11	0-20	
Nickel	106	95	75-125	9	0-20	
Zinc	96	98	75-125	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - Spike/Spike Duplicate



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Long Beach, CA 90810-1869

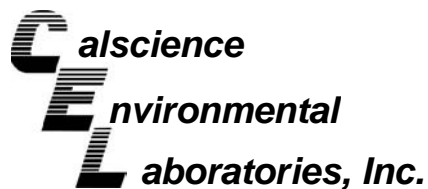
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Work Order No: 08-10-2479
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-10-2389-2	Aqueous	ICP 5300	10/29/08	10/30/08	081029SA3

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Cadmium	101	101	82-124	0	0-7	
Chromium	99	100	86-122	1	0-8	
Copper	97	98	78-126	0	0-7	
Lead	102	102	84-120	0	0-7	
Nickel	96	96	84-120	0	0-7	
Zinc	105	104	89-131	0	0-8	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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Long Beach, CA 90810-1869

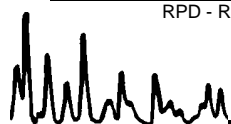
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Work Order No: 08-10-2479
Preparation: EPA 3550B
Method: EPA 8015B (M)

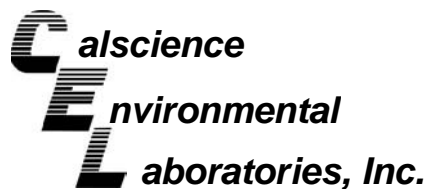
Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-10-2495-3	Solid	GC 46	10/30/08	10/31/08	081030S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	87	86	64-130	1	0-15	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - Spike/Spike Duplicate



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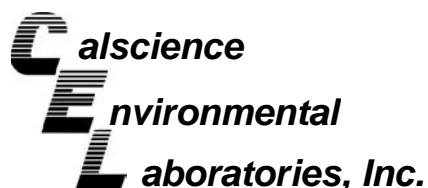
Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: Organotins by Krone et al.

Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
R6-102808 (dup)	Solid	GC/MS Y	11/03/08	11/07/08	081103S07

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	101	101	50-130	0	0-20	
Tributyltin	124	124	50-130	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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Long Beach, CA 90810-1869

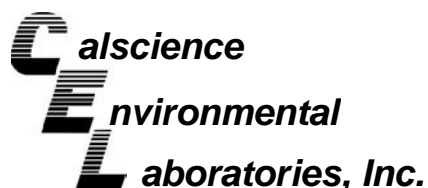
Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8270C

Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-10-2495-10	Solid	GC/MS TT	10/30/08	11/04/08	081030S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Phenol	87	87	57-123	0	0-16	
2-Chlorophenol	91	91	57-111	0	0-17	
1,4-Dichlorobenzene	74	74	49-127	0	0-20	
N-Nitroso-di-n-propylamine	92	92	54-144	1	0-17	
1,2,4-Trichlorobenzene	90	90	42-132	0	0-20	
Naphthalene	92	91	50-150	1	0-20	
4-Chloro-3-Methylphenol	98	97	50-128	1	0-17	
Dimethyl Phthalate	89	88	50-150	1	0-20	
Acenaphthylene	92	91	50-150	1	0-20	
Acenaphthene	90	90	49-133	0	0-18	
4-Nitrophenol	97	94	30-144	3	0-21	
2,4-Dinitrotoluene	89	88	50-128	1	0-18	
Fluorene	92	92	50-150	0	0-20	
Pentachlorophenol	95	94	29-113	1	0-22	
Pyrene	97	97	47-149	1	0-20	
Butyl Benzyl Phthalate	94	96	50-150	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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Long Beach, CA 90810-1869

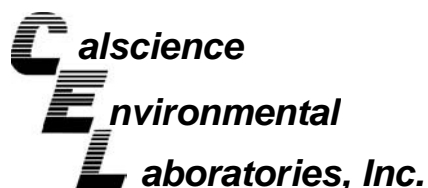
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Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8082

Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
R6-102808 (dup)	Solid	GC 16	10/30/08	11/03/08	081030S03

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	366	254	50-135	36	0-25	3,4
Aroclor-1260	316	178	50-135	56	0-25	3,4

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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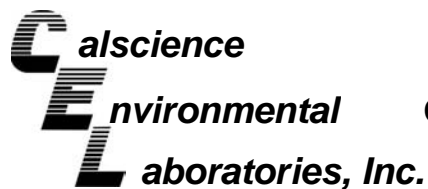
Date Received: 10/28/08
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8081A

Project 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
R6-102808 (dup)	Solid	GC 41	10/30/08	11/03/08	081030S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aldrin	55	64	50-135	15	0-25	
Alpha-BHC	74	79	50-135	7	0-25	
Beta-BHC	95	90	50-135	5	0-25	
Delta-BHC	108	103	50-135	5	0-25	
Gamma-BHC	75	69	50-135	8	0-25	
Dieldrin	104	91	50-135	13	0-25	
4,4'-DDD	624	86	50-135	85	0-25	3,4
4,4'-DDE	107	42	50-135	19	0-25	3
4,4'-DDT	5592	154	50-135	189	0-25	3,4
Endosulfan I	61	54	50-135	11	0-25	
Endosulfan II	57	59	50-135	3	0-25	
Endosulfan Sulfate	101	81	50-135	22	0-25	
Endrin	80	74	50-135	8	0-25	
Endrin Aldehyde	77	64	50-135	18	0-25	
Endrin Ketone	111	65	50-135	53	0-25	4
Heptachlor	81	58	50-135	33	0-25	4
Heptachlor Epoxide	87	78	50-135	11	0-25	
Methoxychlor	85	65	50-135	27	0-25	4

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

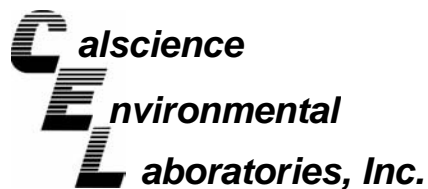
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Work Order No: 08-10-2479

Project: 01865-079-0002

Matrix: Aqueous

<u>Parameter</u>	<u>Method</u>	<u>Quality Control Sample ID</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>MS% REC</u>	<u>MSD % REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Carbon, Total Organic	SM 5310 D	08-10-2490-1	10/30/08	N/A	99	101	70-130	1	0-25	
Carbon, Total Organic	EPA 9060A	08-10-2475-1	10/29/08	N/A	93	94	75-125	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Duplicate



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received: N/A
Work Order No: 08-10-2479

Project: 01865-079-0002

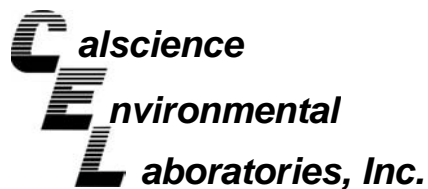
Matrix: Solid

<u>Parameter</u>	<u>Method</u>	<u>QC Sample ID</u>	<u>Date Analyzed</u>	<u>Sample Conc</u>	<u>DUP Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Moisture	ASTM D-2216	08-10-2453-3	10/29/08	4.20	4.20	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit

A handwritten signature in black ink, appearing to be a stylized name.

7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - LCS/LCS Duplicate



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

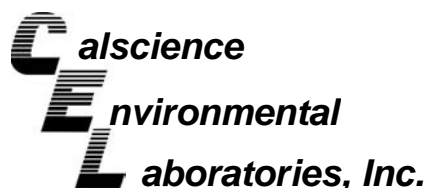
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3050B
Method: EPA 6010B

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-11,680	Solid	ICP 5300	10/29/08	10/29/08	081029L05

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Cadmium	107	107	80-120	1	0-20	
Chromium	102	102	80-120	0	0-20	
Copper	105	105	80-120	0	0-20	
Lead	107	93	80-120	14	0-20	
Nickel	108	109	80-120	0	0-20	
Zinc	105	106	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

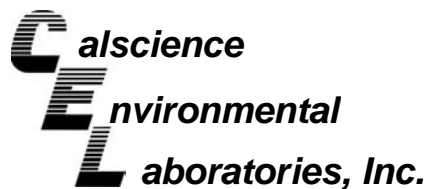
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-8,775	Aqueous	ICP 5300	10/29/08	10/30/08	081029LA3

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Cadmium	108	107	80-120	2	0-20	
Chromium	105	103	80-120	1	0-20	
Copper	105	103	80-120	2	0-20	
Lead	110	109	80-120	1	0-20	
Nickel	108	107	80-120	1	0-20	
Zinc	107	107	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



ENSR International
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Long Beach, CA 90810-1869

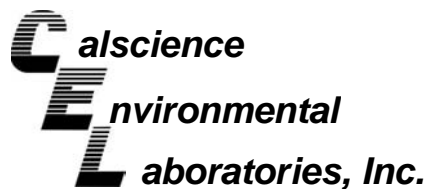
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Work Order No: 08-10-2479
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-275-2,270	Solid	GC 46	10/30/08	10/31/08	081030B02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	83	83	75-123	0	0-12	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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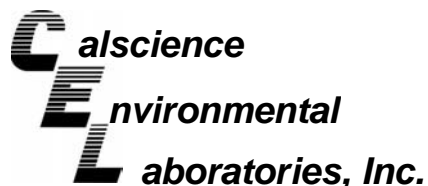
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-308-884	Aqueous	GC 47	10/30/08	10/30/08	081030B05

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	85	88	75-117	4	0-13	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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Long Beach, CA 90810-1869

Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: EPA 8270C

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
095-01-003-2,542	Aqueous	GC/MS P	10/29/08	10/31/08	081029L07		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Phenol	52	53	4-142	0-165	0	0-24	
2-Chlorophenol	96	95	53-113	43-123	1	0-17	
1,4-Dichlorobenzene	100	100	50-122	38-134	1	0-19	
N-Nitroso-di-n-propylamine	107	107	56-146	41-161	0	0-22	
Naphthalene	100	101	21-133	2-152	1	0-20	
4-Chloro-3-Methylphenol	101	102	55-121	44-132	2	0-18	
Dimethyl Phthalate	103	104	0-112	0-131	1	0-20	
Acenaphthylene	101	103	33-145	14-164	2	0-20	
Acenaphthene	107	109	55-139	41-153	2	0-17	
4-Nitrophenol	42	44	1-145	0-169	3	0-29	
2,4-Dinitrotoluene	113	113	41-161	21-181	0	0-22	
Fluorene	106	107	59-121	49-131	0	0-20	
Pentachlorophenol	73	73	34-130	18-146	1	0-23	
Pyrene	98	97	38-170	16-192	1	0-27	
Butyl Benzyl Phthalate	105	103	0-152	0-177	2	0-20	
1,2,4-Trichlorobenzene	101	101	49-121	37-133	0	0-19	

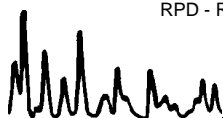
Total number of LCS compounds : 16

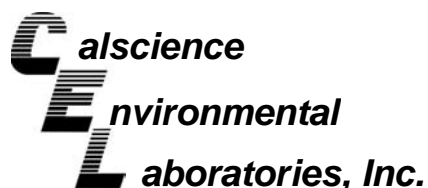
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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Long Beach, CA 90810-1869

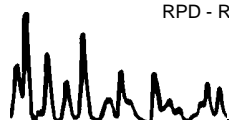
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Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: Organotins by Krone et al.

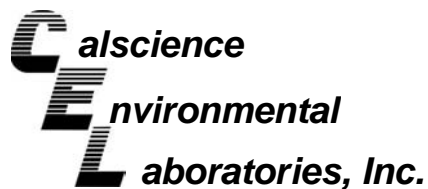
Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-035-78	Aqueous	GC/MS Y	10/30/08	11/07/08	081030L13

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	86	88	50-130	2	0-20	
Tributyltin	107	107	50-130	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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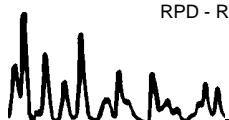
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: Organotins by Krone et al.

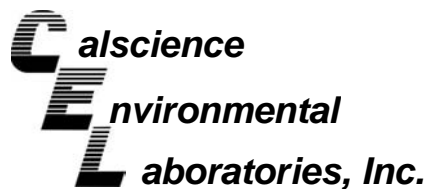
Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-016-591	Solid	GC/MS Y	11/03/08	11/07/08	081103L07

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	98	93	50-130	5	0-20	
Tributyltin	129	120	50-130	7	0-20	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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Long Beach, CA 90810-1869

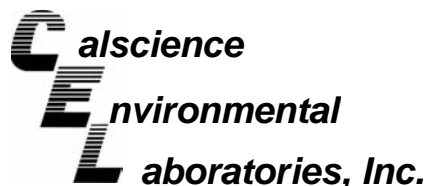
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: EPA 8082

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-527-55	Aqueous	GC 16	10/29/08	11/04/08	081029L11

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1260	118	124	50-135	5	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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Long Beach, CA 90810-1869

Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8270C

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-549-661	Solid	GC/MS TT	10/30/08	11/04/08	081030L04		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Phenol	95	92	59-125	48-136	3	0-15	
2-Chlorophenol	100	98	60-114	51-123	3	0-15	
1,4-Dichlorobenzene	104	101	61-121	51-131	3	0-21	
N-Nitroso-di-n-propylamine	100	99	64-136	52-148	1	0-15	
1,2,4-Trichlorobenzene	105	103	58-118	48-128	2	0-18	
Naphthalene	104	101	21-133	2-152	3	0-20	
4-Chloro-3-Methylphenol	104	102	61-121	51-131	2	0-14	
Dimethyl Phthalate	97	97	0-112	0-131	1	0-20	
Acenaphthylene	105	103	33-145	14-164	2	0-20	
Acenaphthene	102	100	59-125	48-136	2	0-15	
4-Nitrophenol	107	104	38-152	19-171	2	0-31	
2,4-Dinitrotoluene	98	97	51-141	36-156	1	0-16	
Fluorene	106	103	59-121	49-131	3	0-20	
Pentachlorophenol	99	98	38-116	25-129	1	0-20	
Pyrene	106	104	51-141	36-156	1	0-14	
Butyl Benzyl Phthalate	101	100	0-152	0-177	1	0-20	

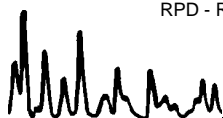
Total number of LCS compounds : 16

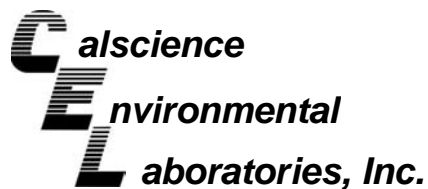
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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3995 Via Oro Avenue
Long Beach, CA 90810-1869

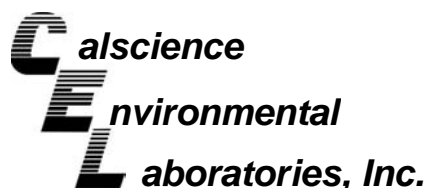
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8082

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-565-68	Solid	GC 16	10/30/08	11/03/08	081030L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	82	81	50-135	1	0-25	
Aroclor-1260	88	92	50-135	4	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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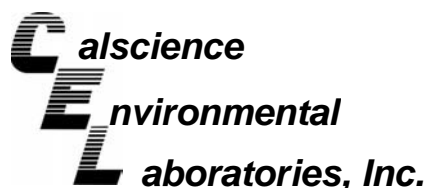
Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3510C
Method: EPA 8081A

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-567-4	Aqueous	GC 41	10/29/08	10/30/08	081029L12

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	98	95	50-135	3	0-25	
Heptachlor	91	94	50-135	3	0-25	
Endosulfan I	101	100	50-135	2	0-25	
Dieldrin	101	99	50-135	2	0-25	
Endrin	106	104	50-135	2	0-25	
4,4'-DDT	101	99	50-135	3	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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Long Beach, CA 90810-1869

Date Received: N/A
Work Order No: 08-10-2479
Preparation: EPA 3545
Method: EPA 8081A

Project: 01865-079-0002

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-777-15	Solid	GC 41	10/30/08	11/03/08	081030L02		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Aldrin	104	106	50-135	36-149	2	0-25	
Alpha-BHC	108	109	50-135	36-149	0	0-25	
Beta-BHC	92	95	50-135	36-149	3	0-25	
Delta-BHC	108	111	50-135	36-149	3	0-25	
Gamma-BHC	104	107	50-135	36-149	3	0-25	
Dieldrin	103	104	50-135	36-149	1	0-25	
4,4'-DDD	111	113	50-135	36-149	2	0-25	
4,4'-DDE	93	100	50-135	36-149	7	0-25	
4,4'-DDT	85	88	50-135	36-149	4	0-25	
Endosulfan I	104	108	50-135	36-149	4	0-25	
Endosulfan II	99	100	50-135	36-149	1	0-25	
Endosulfan Sulfate	101	102	50-135	36-149	2	0-25	
Endrin	107	110	50-135	36-149	2	0-25	
Endrin Aldehyde	101	102	50-135	36-149	2	0-25	
Endrin Ketone	98	100	50-135	36-149	2	0-25	
Heptachlor	103	104	50-135	36-149	1	0-25	
Heptachlor Epoxide	98	99	50-135	36-149	1	0-25	
Methoxychlor	81	84	50-135	36-149	4	0-25	

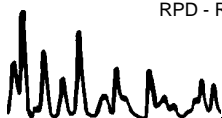
Total number of LCS compounds : 18

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 Limit





Quality Control - Laboratory Control Sample



ENSR International
3995 Via Oro Avenue
Long Beach, CA 90810-1869

Date Received:
Work Order No:

N/A
08-10-2479

Project: 01865-079-0002

Matrix : Aqueous

<u>Parameter</u>	<u>Method</u>	<u>Quality Control Sample ID</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Conc. Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
Carbon, Total Organic	SM 5310 D	099-05-097-3,114	10/30/08	N/A	5.00	5.17	103	80-120	
Carbon, Total Organic	EPA 9060A	099-06-013-332	10/29/08	N/A	6000	5720	95	80-120	

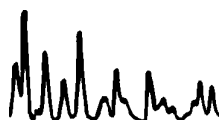
RPD - Relative Percent Difference , CL - Control Limit

Glossary of Terms and Qualifiers



Work Order Number: 08-10-2479

<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.





Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 10/28/08

Page 1 of 1

LABORATORY CLIENT: <u>SoCal Laboratory</u>							CLIENT PROJECT NAME / NUMBER: <u>01865-079-0002</u>				P.O. NO.:															
ADDRESS: <u>7440 Lincoln Way</u>							PROJECT CONTACT: <u>Michele Woods</u>				LAB USE ONLY															
CITY: <u>Garden Grove</u>		STATE: <u>CA</u>		ZIP: <u>92841</u>			SAMPLER(S): (PRINT) <u>Miguel Monterroso</u> <u>Arthur Yabes</u>				COELT LOG CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>															
TEL: <u>714-895-5494</u>		E-MAIL:					COOLER RECEIPT				TEMP= °C															
TURNAROUND TIME: <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> STANDARD							REQUESTED ANALYSES																			
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input type="checkbox"/> RWQCB REPORTING FORMS <input type="checkbox"/> COELT EDF <input type="checkbox"/>																										
SPECIAL INSTRUCTIONS: <u>Please see attached Table 1 & Table 2, Analytical Methods (2 pages)</u>							TPH (cc) <u>TPH (d) or (C6-C36) or (C6-C14)</u> <u>TPH (3550 B Carbon Range)</u> <u>BTEX / MTBE (8260B) or ()</u> <u>VOCs (8260B) SVOCs</u> <u>Oxygenates (8260B)</u> <u>Encore Prep (5035)</u> <u>PAHs (8270C)</u> <u>Pesticides (8270C)</u> <u>PCBs (8082)</u> <u>PNAs (8310) or (8270C)</u> <u>T22 Metals (8270C) 6010</u> <u>Cr(VI) [7196A or 7199 or 218.6]</u> <u>VOCs (TO-14A) or (TO-15)</u> <u>TPH (g) [TO-3]+</u> <u>ASTM Grain Size D4464M</u> <u>Chronic Toxicity 025</u> <u>Total Organic Carbon 9060</u> <u>Tributyltin GC/MS</u> <u>Organotins</u>																			
Please see attached Table 1 & Table 2, Analytical Methods (2 pages)																										
LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	DATE	TIME	MATRIX	NO. OF CONT.	TPH (cc)	TPH (d) or (C6-C36) or (C6-C14)	TPH (3550 B Carbon Range)	BTEX / MTBE (8260B) or ()	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	PAHs (8270C)	Pesticides (8270C)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (8270C) 6010	Cr(VI) [7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g) [TO-3]+	ASTM Grain Size D4464M	Chronic Toxicity 025	Total Organic Carbon 9060	Tributyltin GC/MS	Organotins
1	R7-102708		10/27/08	1030	Sed	4			X					X	X			X				X	X	X	X	X
2	R6-102708		10/27/08	1400	Sed	4			X					X	X			X				X	X	X	X	X
3	R5-102808		10/28/08	1350	Sed	4			X					X	X			X				X	X	X	X	X
4	R4-102808		10/28/08	1245	Sed	4			X					X	X			X				X	X	X	X	X
5	R6-102808 (dup)		10/28/08	1130	Sed	4			X					X	X			X				X	X	X	X	X
6	R9-102808 (eb)		10/28/08	1600	AQ	7	X				X				X	X		X						X		X
Relinquished by: (Signature) <u>Arthur Yabes</u>							Received by: (Signature/Affiliation) <u>phung</u>							Date: <u>10/28/08</u>		Time: <u>1655</u>										
Relinquished by: (Signature) <u>phung</u>							Received by: (Signature/Affiliation) <u>Danny L CEL</u>							Date: <u>10/28/08</u>		Time: <u>18:30</u>										
Relinquished by: (Signature)							Received by: (Signature/Affiliation)							Date:		Time:										

Table 1
Coordinated Sediment Monitoring Parameters and Analytical Methods
ConocoPhillips

Metals		PAHs	
Cadmium	EPA 6010	Anthracene	EPA 8270
Chromium	EPA 6010	1,2-Benzanthracene	EPA 8270
Copper	EPA 6010	3,4-Benzofluoranthene	EPA 8270
Lead	EPA 6010	Benzo(k)fluoranthene	EPA 8270
Nickel	EPA 6010	1,12-Benzoperylene	EPA 8270
Zinc	EPA 6010	Benzo(a)pyrene	EPA 8270
PCBs		Chrysenes	EPA 8270
Arochlor 1016	EPA 8081/8082	Dibenz(a,h)anthracene	EPA 8270
Arochlor 1221	EPA 8081/8082	Indeno(1,2,3-cd)pyrene	EPA 8270
Arochlor 1232	EPA 8081/8082	Pyrene	EPA 8270
Arochlor 1242	EPA 8081/8082	Fluorine	EPA 8270
Arochlor 1248	EPA 8081/8082	Phenanthrene	EPA 8270
Arochlor 1254	EPA 8081/8082	Acenaphthylene	EPA 8270
Arochlor 1260	EPA 8081/8082	Miscellaneous Parameters	
Pesticides		Sediment grain size	ASTM D4464M
4,4'-DDT	EPA 8081/8082	Chronic toxicity (E. Estuarius)	EPA/600/R-94/025
4,4'-DDD	EPA 8081/8082	Total organic carbon	EPA 9060
4,4'-DDE	EPA 8081/8082	TPH (C ₇ -C ₄₄)	EPA 3550B/TPH - Carbon Range
2,4'-DDT	EPA 8081/8082	Description of odor and color	
2,4'-DDD	EPA 8081/8082	Visible aquatic life in sediment	
2,4'-DDE	EPA 8081/8082		

2479

Table 2**Coordinated Sediment Monitoring Parameters and Analytical Methods
BP, ConocoPhillips, and Shell****Parameter**

Tributyltin

GC/MS

WORK ORDER #: 08-10-2479

SAMPLE RECEIPT FORMCooler 1 of 2CLIENT: ENRSDATE: 10/28/08**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen)Temperature 1.3 °C + 1.8°C (CF) = 3.1 °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 ☐ FilterInitial: pl**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: pl☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: AD**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on sample label(s).....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☒ 16ozCGJ ☐ Sleeve ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_{po4} ☐ 1AGB ☒ 1AGB_{na2}☐ 1AGB_s ☒ 500AGB ☐ 500AGB_s ☐ 250CGB ☒ 250CGB_s ☒ 1PB ☐ 500PB ☐ 500PB_{na} ☐ 250PB☒ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PBsterile ☐ 100PB_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Summa® ☐ _____Checked/Labeled by: AD

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Reviewed by: D.L.Preservative: h:HCL n:HNO₃ na₂:Na₂S₂O₃ na:NaOH po₄:H₃PO₄ s:H₂SO₄ znna:ZnAc₂+NaOHScanned by: AD

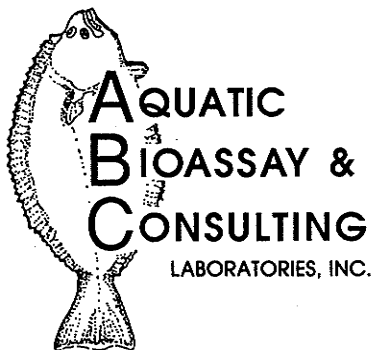
WORK ORDER #: **08-10-2479****SAMPLE RECEIPT FORM**Cooler 2 of 2CLIENT: ENRSDATE: 10/28/08**TEMPERATURE:** (Criteria: 0.0 °C – 6.0 °C, not frozen)Temperature 1.3 °C + 1.8 °C (CF) = 3.1 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature 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 ☐ FilterInitial: RL**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: RL☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: D.L**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on sample label(s).....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☒ 16ozCGJ ☐ Sleeve ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA^h ☐ VOA_{Na2} ☐ 125AGB ☐ 125AGB^h ☐ 125AGBpo₄ ☐ 1AGB ☒ 1AGB^h_{Na2}☐ 1AGBs ☒ 500AGB ☐ 500AGBs ☐ 250CGB ☒ 250CGBs ☒ 1PB ☐ 500PB ☐ 500PB_{Na} ☐ 250PB☒ 250PB_{Na} ☐ 125PB ☐ 125PB_{znna} ☐ 100PBsterile ☐ 100PB_{Na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Summa® ☐ _____Checked/Labeled by: RL

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Reviewed by: D.LPreservative: h:HCL n:HNO₃ na₂:Na₂S₂O₃ na:NaOH po₄:H₃PO₄ s:H₂SO₄ znna:ZnAc₂+NaOHScanned by: RL



TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

November 27th, 2008

Mr. Bob Stearns
 Calscience Environmental Laboratories, Inc.
 7440 Lincoln Way
 Garden Grove, CA 92841-1432

Dear Mr. Stearns:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA/600/R-94/025. Results were as follows:

CLIENT:	Calscience Environmental Laboratories, Inc.
SAMPLE I.D.:	R7-102708
DATE RECEIVED:	October 29 th , 2008
ABC LAB. NO.:	CSE1008.418

***Eohaustorius estuarius* 10 Day Survival Sediment Bioassay**

Percent Survival = 90.0% Survival

Yours very truly,

cc: Thomas (Tim) Mikel
 Laboratory Director

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008418	Sample ID: CSE1008418
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/27/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R7-102708		

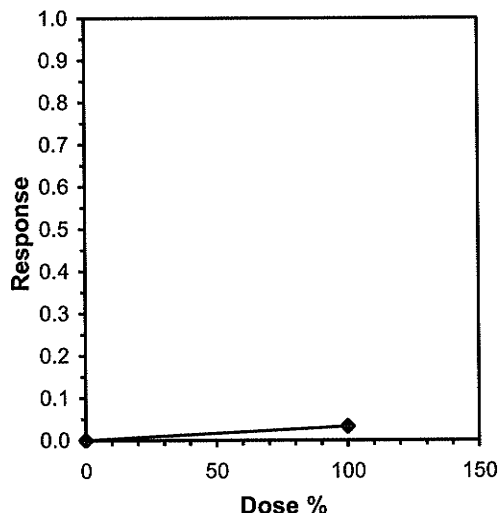
Conc-%	1	2	3	4	5
N Control	0.9000	0.9000	0.9500	0.9000	1.0000
100	0.9000	0.9000	0.9500	0.9000	0.8500

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
N Control	0.9300	1.0000	1.3102	1.2490	1.4588	7.090	5				0.9300	1.0000
100	0.9000	0.9677	1.2531	1.1731	1.3453	4.878	5	1.149	1.860	0.0925	0.9000	0.9677

Auxiliary Tests	Statistic		Critical	Skew	Kurt	
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88492		0.781	0.98943	0.30853	
F-Test indicates equal variances (p = 0.44)	2.30942		23.1545			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05318	0.05696	0.00816	0.00618	0.28383	1, 8
Treatments vs N Control						

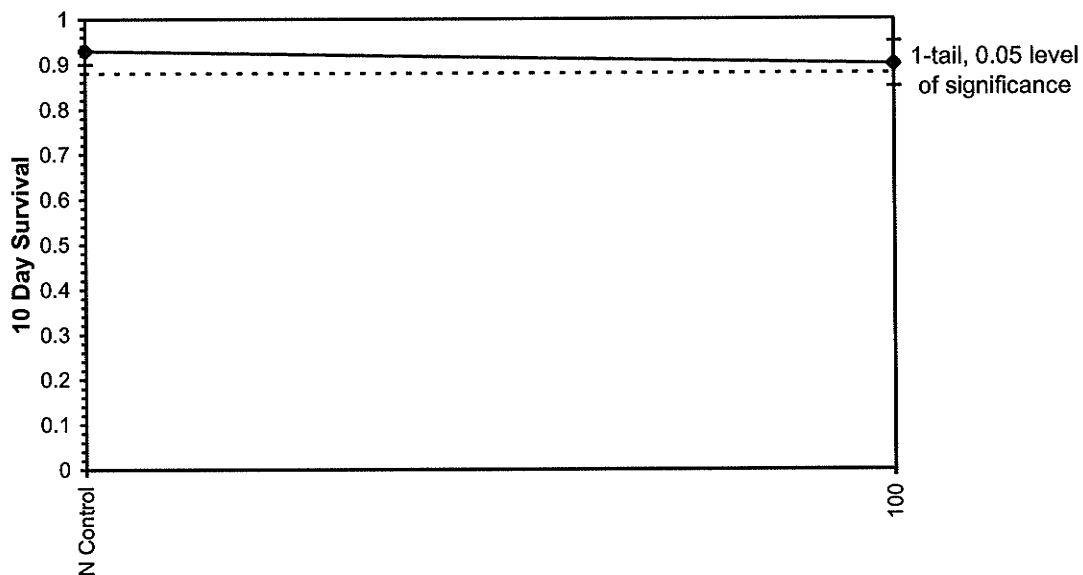
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008418	Sample ID:	CSE1008418
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/27/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R7-102708				

Dose-Response Plot

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008418	Sample ID: CSE1008418
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/27/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R7-102708		

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
N Control	Temp C	15.00	15.00	15.00	0.00	0.00	2
100		15.00	15.00	15.00	0.00	0.00	2
N Control	pH	7.85	7.80	7.90	0.07	3.39	2
100		7.80	7.80	7.80	0.00	0.00	2
N Control	Dissolved Oxygen	9.90	9.80	10.00	0.14	3.80	2
100		9.65	9.20	10.10	0.64	8.27	2
N Control	Salinity ppt	20.00	20.00	20.00	0.00	0.00	2
100		20.00	20.00	20.00	0.00	0.00	2



TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

November 27th, 2008

Mr. Bob Stearns
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Stearns:

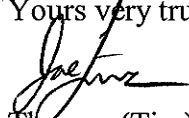
We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA/600/R-94/025. Results were as follows:

CLIENT:	Calscience Environmental Laboratories, Inc.
SAMPLE I.D.:	R6-102708
DATE RECEIVED:	October 29 th , 2008
ABC LAB. NO.:	CSE1008.419

***Eohaustorius estuarius* 10 Day Survival Sediment Bioassay**

Percent Survival = 93.0% Survival

Yours very truly,


for: Thomas (Tim) Mikel
Laboratory Director

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008419	Sample ID: CSE1008419
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/27/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R6-102708		

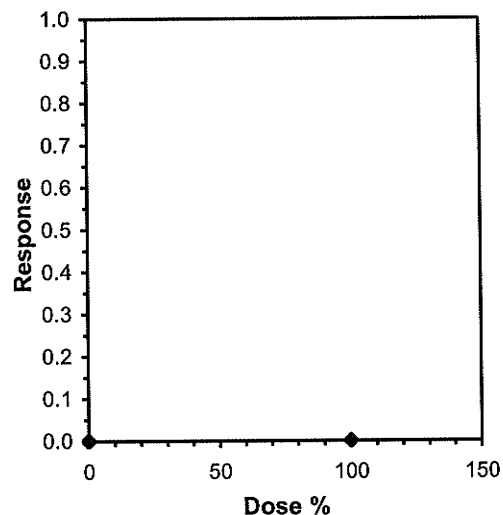
Conc-%	1	2	3	4	5
N Control	0.9000	0.9000	0.9500	0.9000	1.0000
100	0.9000	0.9500	0.9500	0.9000	0.9500

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
N Control	0.9300	1.0000	1.3102	1.2490	1.4588	7.090	5				0.9300	1.0000
100	0.9300	1.0000	1.3068	1.2490	1.3453	4.034	5	0.072	1.860	0.0888	0.9300	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79095	0.781	0.93019	0.40614		
F-Test indicates equal variances (p = 0.30)	3.10602	23.1545				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05081	0.05443	3E-05	0.0057	0.94423	1, 8
Treatments vs N Control						

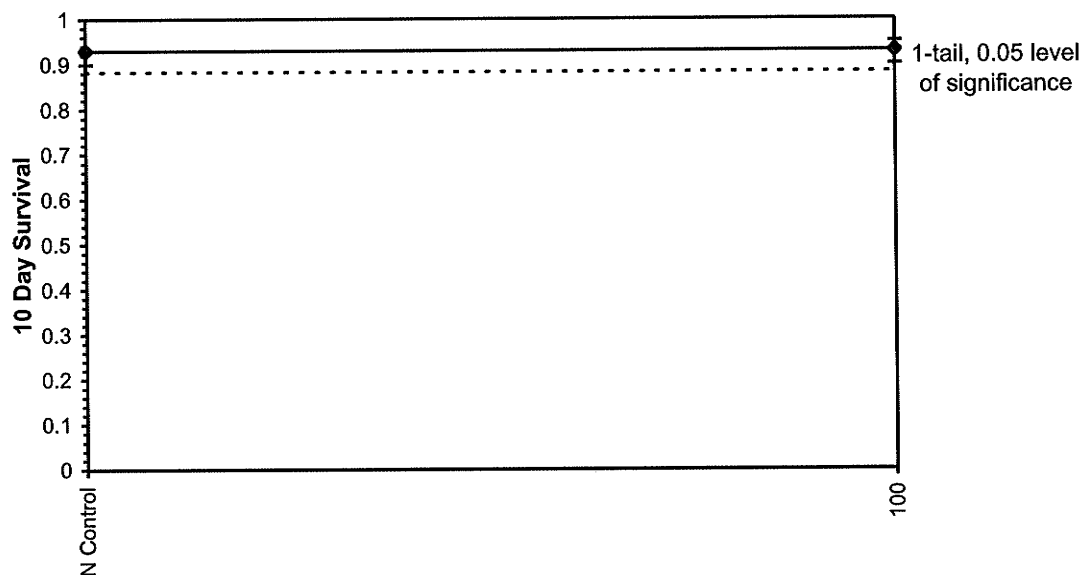
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008419	Sample ID:	CSE1008419
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/27/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R6-102708				

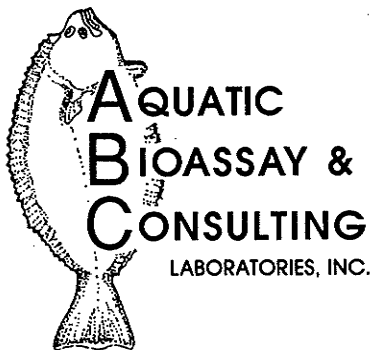
Dose-Response Plot

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008419	Sample ID:	CSE1008419
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/27/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R6-102708				

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
N Control	Temp C	15.00	15.00	15.00	0.00	0.00	2
100		15.00	15.00	15.00	0.00	0.00	2
N Control	pH	7.85	7.80	7.90	0.07	3.39	2
100		7.80	7.80	7.80	0.00	0.00	2
N Control	Dissolved Oxygen	9.90	9.80	10.00	0.14	3.80	2
100		9.75	9.50	10.00	0.35	6.10	2
N Control	Salinity ppt	20.00	20.00	20.00	0.00	0.00	2
100		20.00	20.00	20.00	0.00	0.00	2



TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

November 27th, 2008

Mr. Bob Stearns
 Calscience Environmental Laboratories, Inc.
 7440 Lincoln Way
 Garden Grove, CA 92841-1432

Dear Mr. Stearns:

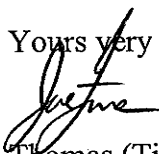
We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA/600/R-94/025. Results were as follows:

CLIENT:	Calscience Environmental Laboratories, Inc.
SAMPLE I.D.:	R5-102708
DATE RECEIVED:	October 29 th , 2008
ABC LAB. NO.:	CSE1008.420

***Eohaustorius estuarius* 10 Day Survival Sediment Bioassay**

Percent Survival = 93.0% Survival

Yours very truly,


 for: Thomas (Tim) Mikel
 Laboratory Director

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008420	Sample ID: CSE1008420
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/28/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R5-102708		

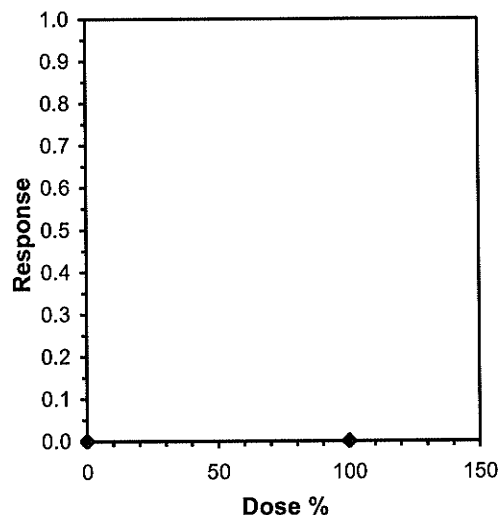
Conc-%	1	2	3	4	5
N Control	0.9000	0.9000	0.9500	0.9000	1.0000
100	0.9500	0.9000	0.9000	0.9500	0.9500

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
N Control	0.9300	1.0000	1.3102	1.2490	1.4588	7.090	5				0.9300	1.0000
100	0.9300	1.0000	1.3068	1.2490	1.3453	4.034	5	0.072	1.860	0.0888	0.9300	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79095		0.781		0.93019	0.40614
F-Test indicates equal variances (p = 0.30)	3.10602		23.1545			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05081	0.05443	3E-05	0.0057	0.94423	1, 8
Treatments vs N Control						

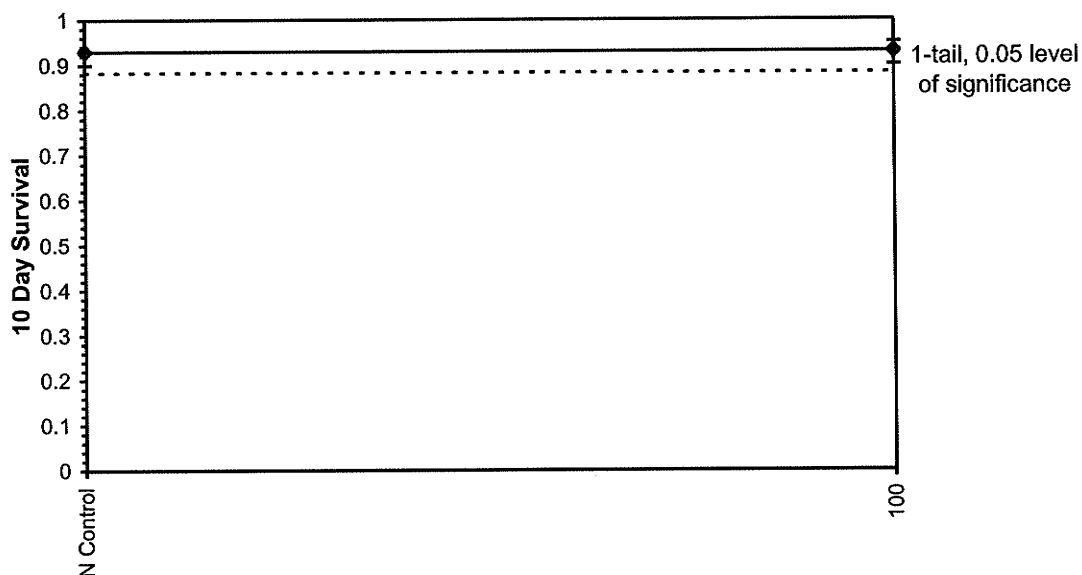
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008420	Sample ID:	CSE1008420
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/28/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R5-102708				

Dose-Response Plot

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008420	Sample ID:	CSE1008420
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/28/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R5-102708				

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
N Control	Temp C	15.00	15.00	15.00	0.00	0.00	2
100		15.00	15.00	15.00	0.00	0.00	2
N Control	pH	7.85	7.80	7.90	0.07	3.39	2
100		7.80	7.80	7.80	0.00	0.00	2
N Control	Dissolved Oxygen	9.90	9.80	10.00	0.14	3.80	2
100		9.75	9.50	10.00	0.35	6.10	2
N Control	Salinity ppt	20.00	20.00	20.00	0.00	0.00	2
100		20.00	20.00	20.00	0.00	0.00	2



TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

November 27th, 2008

Mr. Bob Stearns
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Stearns:

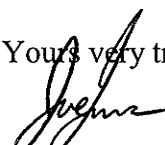
We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA/600/R-94/025. Results were as follows:

CLIENT:	Calscience Environmental Laboratories, Inc.
SAMPLE I.D.:	R4-102708
DATE RECEIVED:	October 29 th , 2008
ABC LAB. NO.:	CSE1008.421

***Eohaustorius estuarius* 10 Day Survival Sediment Bioassay**

Percent Survival = 91.0% Survival

Yours very truly,


For: Thomas (Tim) Mikel
Laboratory Director

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008421	Sample ID: CSE1008421
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/28/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R4-102708		

Conc-%	1	2	3	4	5
N Control	0.9000	0.9000	0.9500	0.9000	1.0000
100	0.9000	0.9000	0.9500	0.9000	0.9000

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
N Control	0.9300	1.0000	1.3102	1.2490	1.4588	7.090	5				0.9300	1.0000
100	0.9100	0.9785	1.2683	1.2490	1.3453	3.393	5	0.916	1.860	0.0851	0.9100	0.9785

Auxiliary TestsShapiro-Wilk's Test indicates normal distribution ($p > 0.01$)F-Test indicates equal variances ($p = 0.17$)**Hypothesis Test (1-tail, 0.05)**

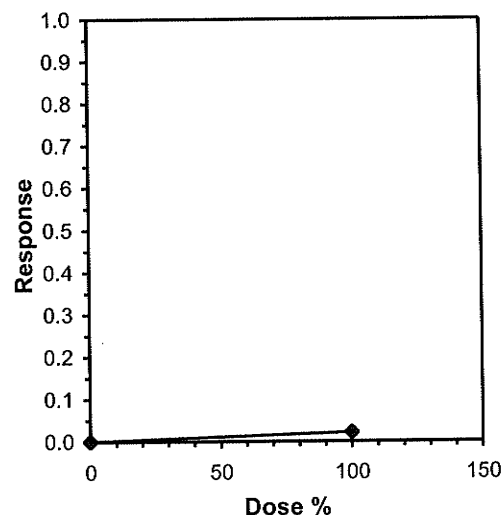
Homoscedastic t Test indicates no significant differences

Treatments vs N Control

Statistic		Critical	Skew	Kurt	
0.82895		0.781	1.33645	1.35075	
4.65903		23.1545			
MSDu	MSDp	MSB	MSE	F-Prob	df
0.04846	0.0519	0.0044	0.00524	0.38643	1, 8

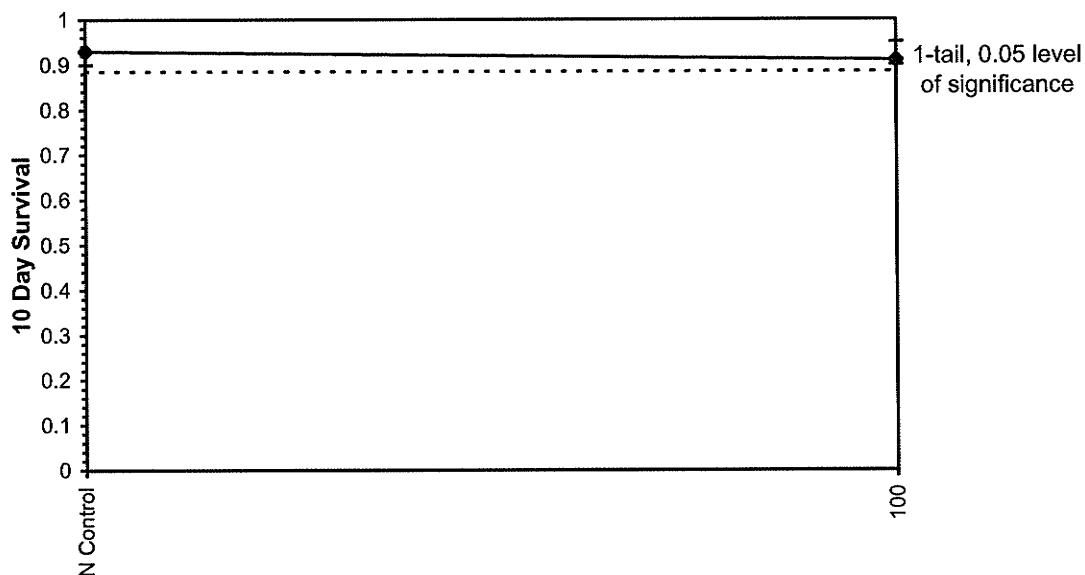
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008421	Sample ID:	CSE1008421
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/28/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R4-102708				

Dose-Response Plot

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date:	11/4/2008	Test ID:	CSE1008421	Sample ID:	CSE1008421
End Date:	11/14/2008	Lab ID:	CAABC	Sample Type:	SEDIMENT
Sample Date:	10/28/2008	Protocol:	EPA/600/R-94/025	Test Species:	Eohaustorius estuarius
Comments:	R4-102708				

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
N Control	Temp C	15.00	15.00	15.00	0.00	0.00	2
100		15.00	15.00	15.00	0.00	0.00	2
N Control	pH	7.85	7.80	7.90	0.07	3.39	2
100		7.85	7.80	7.90	0.07	3.39	2
N Control	Dissolved Oxygen	9.90	9.80	10.00	0.14	3.80	2
100		9.65	9.40	9.90	0.35	6.16	2
N Control	Salinity ppt	20.00	20.00	20.00	0.00	0.00	2
100		20.00	20.00	20.00	0.00	0.00	2



TOXICITY TESTING • OCEANOGRAPHIC RESEARCH

November 27th, 2008

Mr. Bob Stearns
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Mr. Stearns:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods*, EPA/600/R-94/025. Results were as follows:

CLIENT:	Calscience Environmental Laboratories, Inc.
SAMPLE I.D.:	R6 (Dup) -102708
DATE RECEIVED:	October 29 th , 2008
ABC LAB. NO.:	CSE1008.422

***Eohaustorius estuarius* 10 Day Survival Sediment Bioassay**

Percent Survival = 92.0% Survival

Yours very truly,

A handwritten signature in dark ink, appearing to read "Tim Mikel", is written over the printed name.

Thomas (Tim) Mikel
Laboratory Director

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008422	Sample ID: CSE1008422
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/28/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R6-102708 (Dup)		

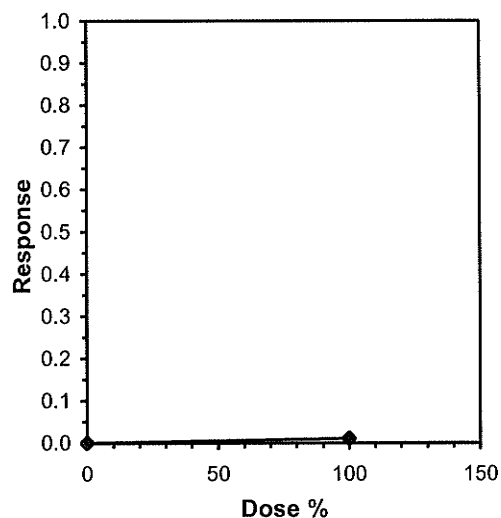
Conc-%	1	2	3	4	5
N Control	0.9000	0.9000	0.9500	0.9000	1.0000
100	0.9500	0.9000	0.9000	0.9500	0.9000

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
N Control	0.9300	1.0000	1.3102	1.2490	1.4588	7.090	5				0.9300	1.0000
100	0.9200	0.9892	1.2875	1.2490	1.3453	4.094	5	0.475	1.860	0.0888	0.9200	0.9892

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.8244	0.781	1.09477	0.40614		
F-Test indicates equal variances (p = 0.30)	3.10602	23.1545				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05081	0.05443	0.00129	0.0057	0.6474	1, 8
Treatments vs N Control						

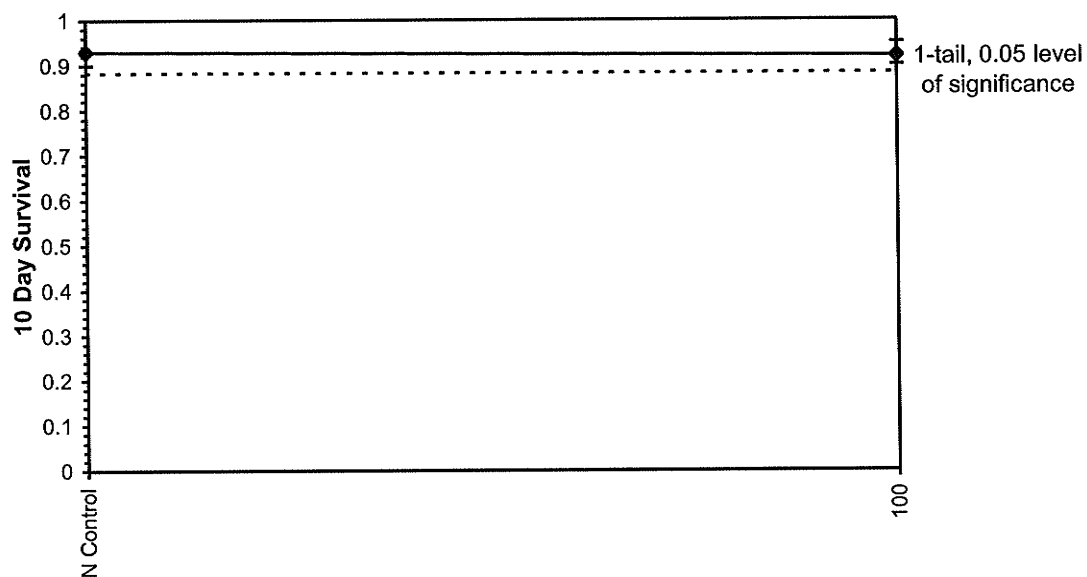
Linear Interpolation (200 Resamples)				
Point	%	SD	95% CL(Exp)	Skew

IC05	>100
IC10	>100
IC15	>100
IC20	>100
IC25	>100
IC40	>100
IC50	>100



Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008422	Sample ID: CSE1008422
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/28/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R6-102708 (Dup)		

Dose-Response Plot

Eohaustorius 10 Day Sediment Survival Bioassay

Start Date: 11/4/2008	Test ID: CSE1008422	Sample ID: CSE1008422
End Date: 11/14/2008	Lab ID: CAABC	Sample Type: SEDIMENT
Sample Date: 10/28/2008	Protocol: EPA/600/R-94/025	Test Species: Eohaustorius estuarius
Comments: R6-102708 (Dup)		

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
N Control	Temp C	15.00	15.00	15.00	0.00	0.00	2
100		15.00	15.00	15.00	0.00	0.00	2
N Control	pH	7.85	7.80	7.90	0.07	3.39	2
100		7.80	7.80	7.80	0.00	0.00	2
N Control	Dissolved Oxygen	9.90	9.80	10.00	0.14	3.80	2
100		9.90	9.70	10.10	0.28	5.37	2
N Control	Salinity ppt	20.00	20.00	20.00	0.00	0.00	2
100		20.00	20.00	20.00	0.00	0.00	2



8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

November 11, 2008

Vik Patel
Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1427

Re: PTS File No: 38981
08-10-2479

Dear Mr. Patel:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your 08-10-2479 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2504.

Sincerely,
PTS Laboratories, Inc.

Rachel Spitz
Project Manager

Encl.

PTS Laboratories

Project Name: N/A
Project Number: 08-10-2479

PTS File No: 38981
Client: Calscience

TEST PROGRAM

CORE ID	Depth ft.	Core Recovery ft.	Grain Size Analysis D4464M							Notes
		Plugs:	Grab							
Rcvd. 10/29/08										
R7-102708	N/A	N/A	X							
R6-102708	N/A	N/A	X							
R5-102808	N/A	N/A	X							
R4-102808	N/A	N/A	X							
R6-102808 (dup)	N/A	N/A	X							
TOTALS:	5 Jars		5							

Laboratory Test Program Notes

PARTICLE SIZE SUMMARY
(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: N/A
PROJECT NO: 08-10-2479

Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
R7-102708	N/A	Fine sand	0.167	0.00	0.00	25.35	41.86	27.18	5.61	32.79
R6-102708	N/A	Silt	0.041	0.00	0.00	3.69	31.92	52.93	11.46	64.39
R5-102808	N/A	Silt	0.022	0.00	0.00	2.88	19.49	61.74	15.90	77.63
R4-102808	N/A	Silt	0.015	0.00	0.00	0.01	9.61	71.79	18.59	90.38
R6-102808 (dup)	N/A	Fine sand	0.073	0.00	0.00	7.61	41.84	43.27	7.29	50.55

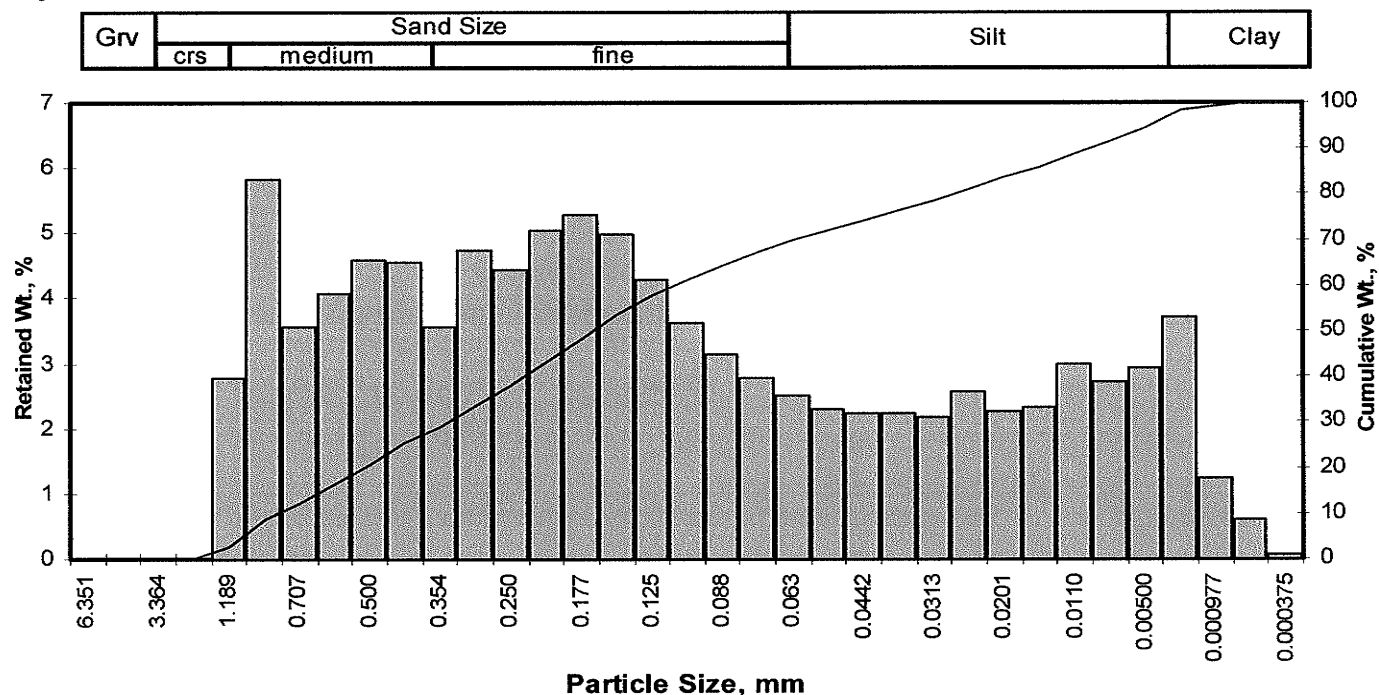
(1) Based on Mean from Trask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Calscience
Project: N/A
Project No: 08-10-2479

PTS File No: 38981
Sample ID: R7-102708
Depth, ft: N/A



Particle Size, mm

Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	2.77	2.77	2.77
0.0331	0.841	0.25	20	5.82	5.82	8.59
0.0278	0.707	0.50	25	3.55	3.55	12.14
0.0234	0.595	0.75	30	4.06	4.06	16.20
0.0197	0.500	1.00	35	4.58	4.58	20.78
0.0166	0.420	1.25	40	4.57	4.57	25.35
0.0139	0.354	1.50	45	3.55	3.55	28.90
0.0117	0.297	1.75	50	4.74	4.74	33.64
0.0098	0.250	2.00	60	4.44	4.44	38.07
0.0083	0.210	2.25	70	5.04	5.04	43.11
0.0070	0.177	2.50	80	5.29	5.29	48.40
0.0059	0.149	2.75	100	4.98	4.98	53.38
0.0049	0.125	3.00	120	4.29	4.29	57.67
0.0041	0.105	3.25	140	3.62	3.62	61.29
0.0035	0.088	3.50	170	3.13	3.13	64.42
0.0029	0.074	3.75	200	2.79	2.79	67.21
0.0025	0.063	4.00	230	2.51	2.51	69.72
0.0021	0.053	4.25	270	2.29	2.29	72.01
0.00174	0.0442	4.50	325	2.23	2.23	74.24
0.00146	0.0372	4.75	400	2.23	2.23	76.47
0.00123	0.0313	5.00	450	2.18	2.18	78.65
0.000986	0.0250	5.32	500	2.55	2.55	81.20
0.000790	0.0201	5.64	635	2.26	2.26	83.46
0.000615	0.0156	6.00		2.31	2.31	85.77
0.000435	0.0110	6.50		2.98	2.98	88.75
0.000308	0.00781	7.00		2.72	2.72	91.47
0.000197	0.00500	7.65		2.92	2.92	94.39
0.000077	0.00195	9.00		3.71	3.71	98.10
0.000038	0.000977	10.00		1.23	1.23	99.33
0.000019	0.000488	11.00		0.61	0.61	99.94
0.000015	0.000375	11.38		0.06	0.06	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	-0.06	0.0410	1.041
10	0.35	0.0309	0.785
16	0.74	0.0236	0.600
25	1.23	0.0168	0.426
40	2.10	0.0092	0.234
50	2.58	0.0066	0.167
60	3.16	0.0044	0.112
75	4.59	0.0016	0.042
84	5.72	0.0007	0.019
90	6.73	0.0004	0.009
95	7.87	0.0002	0.004

Measure	Trask	Inman	Folk-Ward
Median, phi	2.58	2.58	2.58
Median, in.	0.0066	0.0066	0.0066
Median, mm	0.167	0.167	0.167
Mean, phi	2.10	3.23	3.01
Mean, in.	0.0092	0.0042	0.0049
Mean, mm	0.234	0.106	0.124
Sorting	3.198	2.493	2.448
Skewness	0.797	0.261	0.298
Kurtosis	0.248	0.590	0.969

Grain Size Description	Fine sand
(ASTM-USCS Scale)	(based on Mean from Trask)

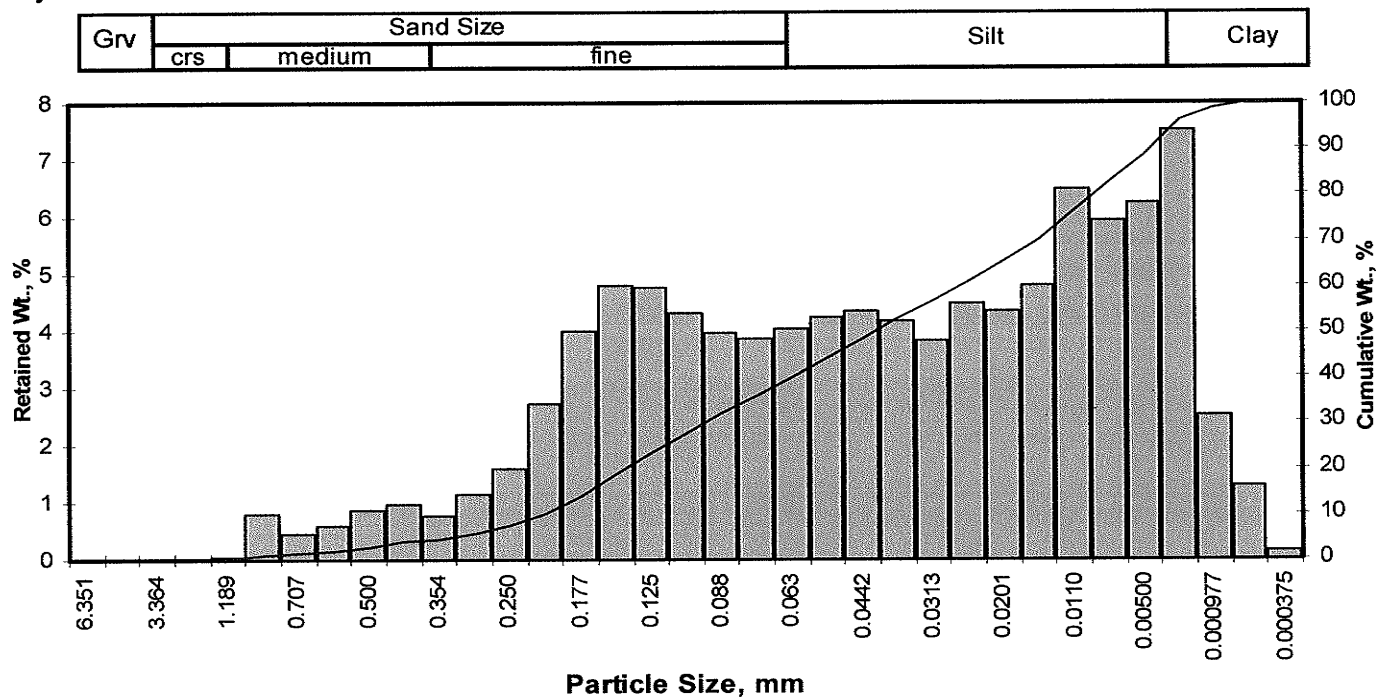
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	25.35
Fine Sand	200	41.86
Silt	>0.005 mm	27.18
Clay	<0.005 mm	5.61
Total		100

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Calscience
Project: N/A
Project No: 08-10-2479

PTS File No: 38981
Sample ID: R6-102708
Depth, ft: N/A



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.03	0.03	0.03
0.0331	0.841	0.25	20	0.79	0.79	0.82
0.0278	0.707	0.50	25	0.45	0.45	1.27
0.0234	0.595	0.75	30	0.59	0.59	1.86
0.0197	0.500	1.00	35	0.87	0.87	2.73
0.0166	0.420	1.25	40	0.96	0.96	3.69
0.0139	0.354	1.50	45	0.76	0.76	4.45
0.0117	0.297	1.75	50	1.15	1.15	5.60
0.0098	0.250	2.00	60	1.60	1.60	7.20
0.0083	0.210	2.25	70	2.73	2.73	9.93
0.0070	0.177	2.50	80	3.99	3.99	13.92
0.0059	0.149	2.75	100	4.79	4.79	18.71
0.0049	0.125	3.00	120	4.76	4.76	23.47
0.0041	0.105	3.25	140	4.32	4.32	27.78
0.0035	0.088	3.50	170	3.95	3.95	31.73
0.0029	0.074	3.75	200	3.88	3.88	35.61
0.0025	0.063	4.00	230	4.04	4.04	39.65
0.0021	0.053	4.25	270	4.25	4.25	43.90
0.00174	0.0442	4.50	325	4.36	4.36	48.26
0.00146	0.0372	4.75	400	4.18	4.18	52.44
0.00123	0.0313	5.00	450	3.83	3.83	56.27
0.000986	0.0250	5.32	500	4.47	4.47	60.74
0.000790	0.0201	5.64	635	4.34	4.34	65.08
0.000615	0.0156	6.00		4.80	4.80	69.88
0.000435	0.0110	6.50		6.50	6.50	76.37
0.000308	0.00781	7.00		5.94	5.94	82.31
0.000197	0.00500	7.65		6.23	6.23	88.54
0.000077	0.00195	9.00		7.53	7.53	96.07
0.000038	0.000977	10.00		2.51	2.51	98.58
0.000019	0.000488	11.00		1.29	1.29	99.87
0.000015	0.000375	11.38		0.13	0.13	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	1.62	0.0128	0.325
10	2.25	0.0083	0.210
16	2.61	0.0065	0.164
25	3.09	0.0046	0.118
40	4.02	0.0024	0.062
50	4.60	0.0016	0.041
60	5.27	0.0010	0.026
75	6.39	0.0005	0.012
84	7.17	0.0003	0.007
90	7.91	0.0002	0.004
95	8.81	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	4.60	4.60	4.60
Median, in.	0.0016	0.0016	0.0016
Median, mm	0.041	0.041	0.041
Mean, phi	3.95	4.89	4.80
Mean, in.	0.0025	0.0013	0.0014
Mean, mm	0.065	0.034	0.036
Sorting	3.144	2.283	2.230
Skewness	0.909	0.126	0.148
Kurtosis	0.257	0.574	0.891

Grain Size Description	Silt
(ASTM-USCS Scale)	(based on Mean from Trask)

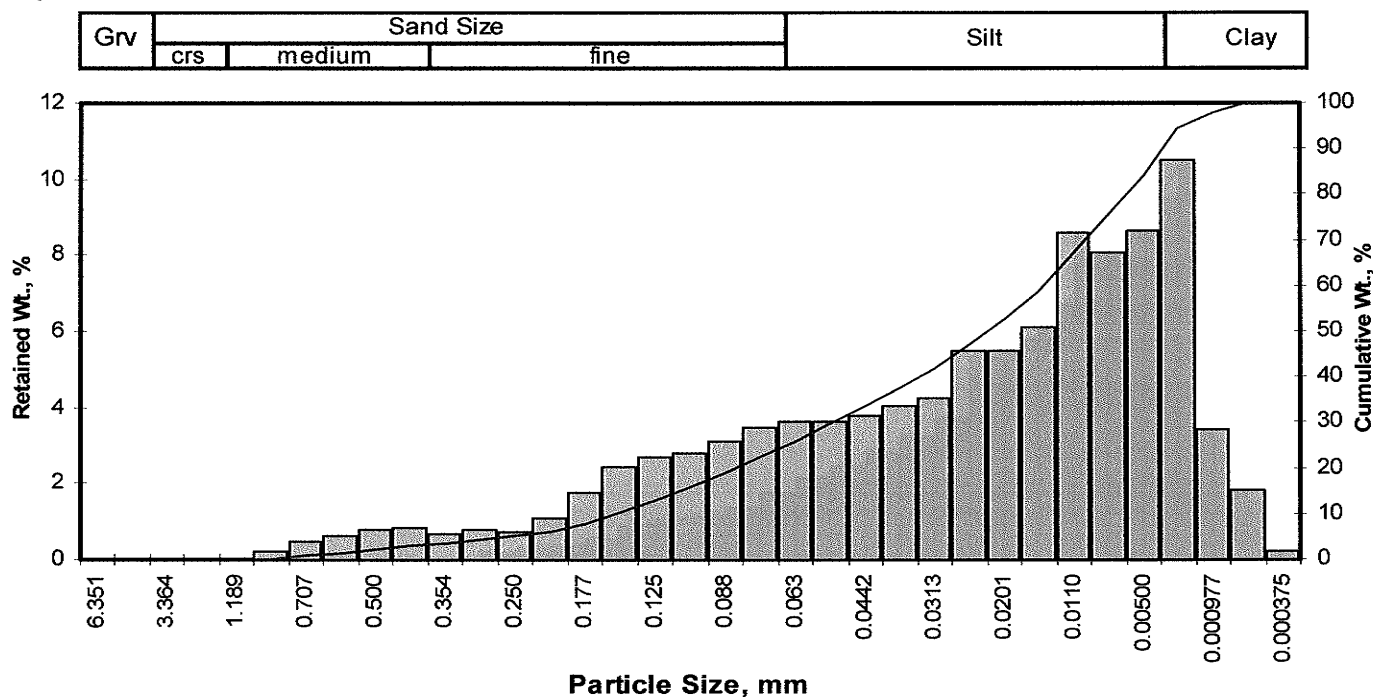
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	3.69
Fine Sand	200	31.92
Silt	>0.005 mm	52.93
Clay	<0.005 mm	11.46
Total		100

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Calscience
Project: N/A
Project No: 08-10-2479

PTS File No: 38981
Sample ID: R5-102808
Depth, ft: N/A



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent	Cumulative Weight Percent greater than			
Inches	Millimeters						Weight percent	Phi Value	Particle Size	
								Inches	Millimeters	
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00	5	1.98	0.0100	0.253
0.1873	4.757	-2.25	4	0.00	0.00	0.00	10	2.71	0.0060	0.152
0.1324	3.364	-1.75	6	0.00	0.00	0.00	16	3.27	0.0041	0.104
0.0787	2.000	-1.00	10	0.00	0.00	0.00	25	3.93	0.0026	0.066
0.0468	1.189	-0.25	16	0.00	0.00	0.00	40	4.90	0.0013	0.034
0.0331	0.841	0.25	20	0.20	0.20	0.20	50	5.48	0.0009	0.022
0.0278	0.707	0.50	25	0.47	0.47	0.67	60	6.07	0.0006	0.015
0.0234	0.595	0.75	30	0.62	0.62	1.29	75	6.97	0.0003	0.008
0.0197	0.500	1.00	35	0.76	0.76	2.05	84	7.64	0.0002	0.005
0.0166	0.420	1.25	40	0.83	0.83	2.88	90	8.41	0.0001	0.003
0.0139	0.354	1.50	45	0.66	0.66	3.54	95	9.12	0.0001	0.002
0.0117	0.297	1.75	50	0.80	0.80	4.34				
0.0098	0.250	2.00	60	0.71	0.71	5.05				
0.0083	0.210	2.25	70	1.08	1.08	6.13				
0.0070	0.177	2.50	80	1.78	1.78	7.91				
0.0059	0.149	2.75	100	2.44	2.44	10.35				
0.0049	0.125	3.00	120	2.67	2.67	13.02				
0.0041	0.105	3.25	140	2.79	2.79	15.81				
0.0035	0.088	3.50	170	3.10	3.10	18.91				
0.0029	0.074	3.75	200	3.46	3.46	22.37				
0.0025	0.063	4.00	230	3.62	3.62	25.98				
0.0021	0.053	4.25	270	3.63	3.63	29.61				
0.00174	0.0442	4.50	325	3.80	3.80	33.41				
0.00146	0.0372	4.75	400	4.06	4.06	37.47				
0.00123	0.0313	5.00	450	4.25	4.25	41.72				
0.000986	0.0250	5.32	500	5.47	5.47	47.19				
0.000790	0.0201	5.64	635	5.48	5.48	52.67				
0.000615	0.0156	6.00		6.13	6.13	58.80				
0.000435	0.0110	6.50		8.57	8.57	67.37				
0.000308	0.00781	7.00		8.09	8.09	75.45				
0.000197	0.00500	7.65		8.65	8.65	84.10				
0.000077	0.00195	9.00		10.50	10.50	94.60				
0.000038	0.000977	10.00		3.42	3.42	98.02				
0.000019	0.000488	11.00		1.79	1.79	99.81				
0.000015	0.000375	11.38		0.19	0.19	100.00				
TOTALS				100.00	100.00	100.00				

Measure	Trask	Inman	Folk-Ward
Median, phi	5.48	5.48	5.48
Median, in.	0.0009	0.0009	0.0009
Median, mm	0.022	0.022	0.022
Mean, phi	4.77	5.45	5.46
Mean, in.	0.0014	0.0009	0.0009
Mean, mm	0.037	0.023	0.023
Sorting	2.868	2.186	2.174
Skewness	1.023	-0.015	0.002
Kurtosis	0.193	0.632	0.962

Grain Size Description		Silt	
(ASTM-USCS Scale)		(based on Mean from Trask)	

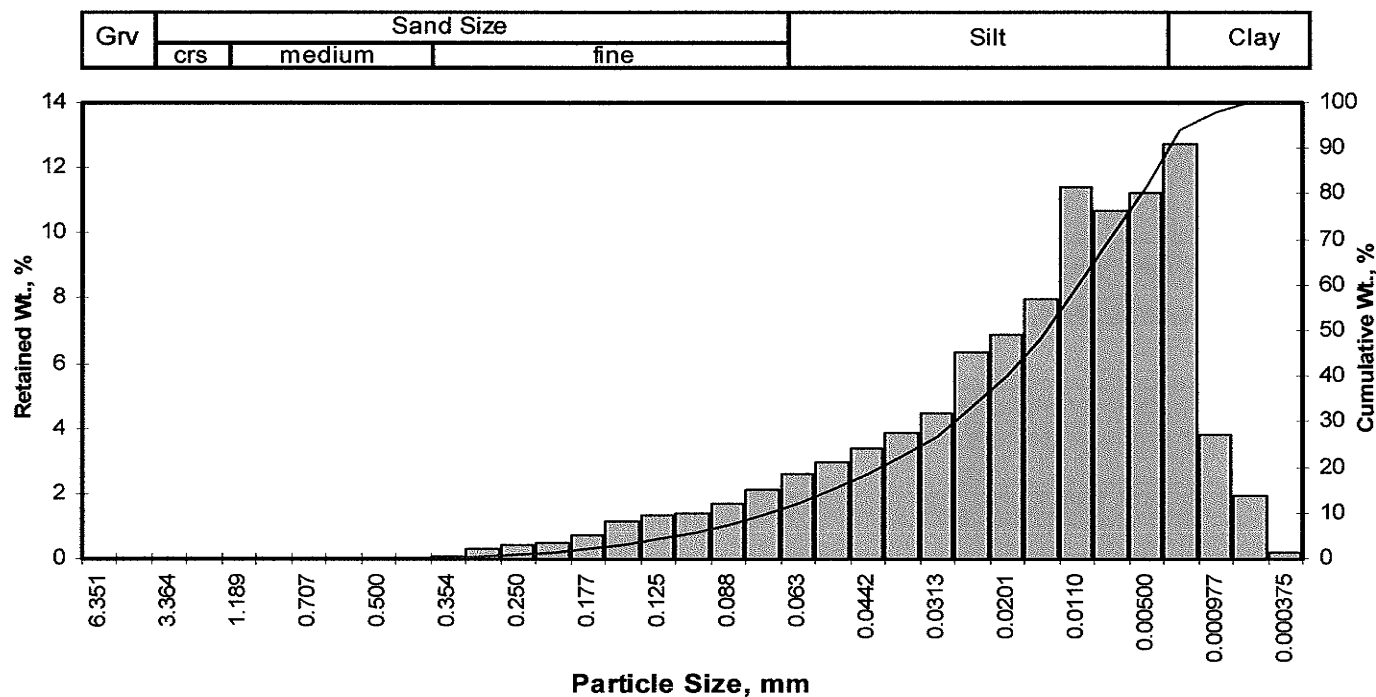
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	2.88
Fine Sand	200	19.49
Silt	>0.005 mm	61.74
Clay	<0.005 mm	15.90
Total		100

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Calscience
Project: N/A
Project No: 08-10-2479

PTS File No: 38981
Sample ID: R4-102808
Depth, ft: N/A



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.01	0.01	0.01
0.0139	0.354	1.50	45	0.07	0.07	0.07
0.0117	0.297	1.75	50	0.31	0.31	0.38
0.0098	0.250	2.00	60	0.40	0.40	0.78
0.0083	0.210	2.25	70	0.49	0.49	1.27
0.0070	0.177	2.50	80	0.74	0.74	2.01
0.0059	0.149	2.75	100	1.12	1.12	3.13
0.0049	0.125	3.00	120	1.30	1.30	4.44
0.0041	0.105	3.25	140	1.38	1.38	5.82
0.0035	0.088	3.50	170	1.66	1.66	7.48
0.0029	0.074	3.75	200	2.14	2.14	9.62
0.0025	0.063	4.00	230	2.61	2.61	12.23
0.0021	0.053	4.25	270	2.95	2.95	15.18
0.00174	0.0442	4.50	325	3.36	3.36	18.55
0.00146	0.0372	4.75	400	3.88	3.88	22.43
0.00123	0.0313	5.00	450	4.46	4.46	26.89
0.000986	0.0250	5.32	500	6.34	6.34	33.24
0.000790	0.0201	5.64	635	6.86	6.87	40.10
0.000615	0.0156	6.00		7.97	7.98	48.08
0.000435	0.0110	6.50		11.40	11.41	59.49
0.000308	0.00781	7.00		10.70	10.71	70.20
0.000197	0.00500	7.65		11.20	11.21	81.41
0.000077	0.00195	9.00		12.70	12.71	94.12
0.000038	0.000977	10.00		3.77	3.77	97.89
0.000019	0.000488	11.00		1.91	1.91	99.80
0.000015	0.000375	11.38		0.20	0.20	100.00
TOTALS				99.90	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	3.10	0.0046	0.116
10	3.79	0.0029	0.072
16	4.31	0.0020	0.050
25	4.89	0.0013	0.034
40	5.64	0.0008	0.020
50	6.08	0.0006	0.015
60	6.52	0.0004	0.011
75	7.28	0.0003	0.006
84	7.92	0.0002	0.004
90	8.56	0.0001	0.003
95	9.23	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	6.08	6.08	6.08
Median, in.	0.0006	0.0006	0.0006
Median, mm	0.015	0.015	0.015
Mean, phi	5.64	6.12	6.11
Mean, in.	0.0008	0.0006	0.0006
Mean, mm	0.020	0.014	0.015
Sorting	2.283	1.805	1.832
Skewness	0.999	0.018	0.023
Kurtosis	0.195	0.698	1.055

Grain Size Description	Silt
(ASTM-USCS Scale)	(based on Mean from Trask)

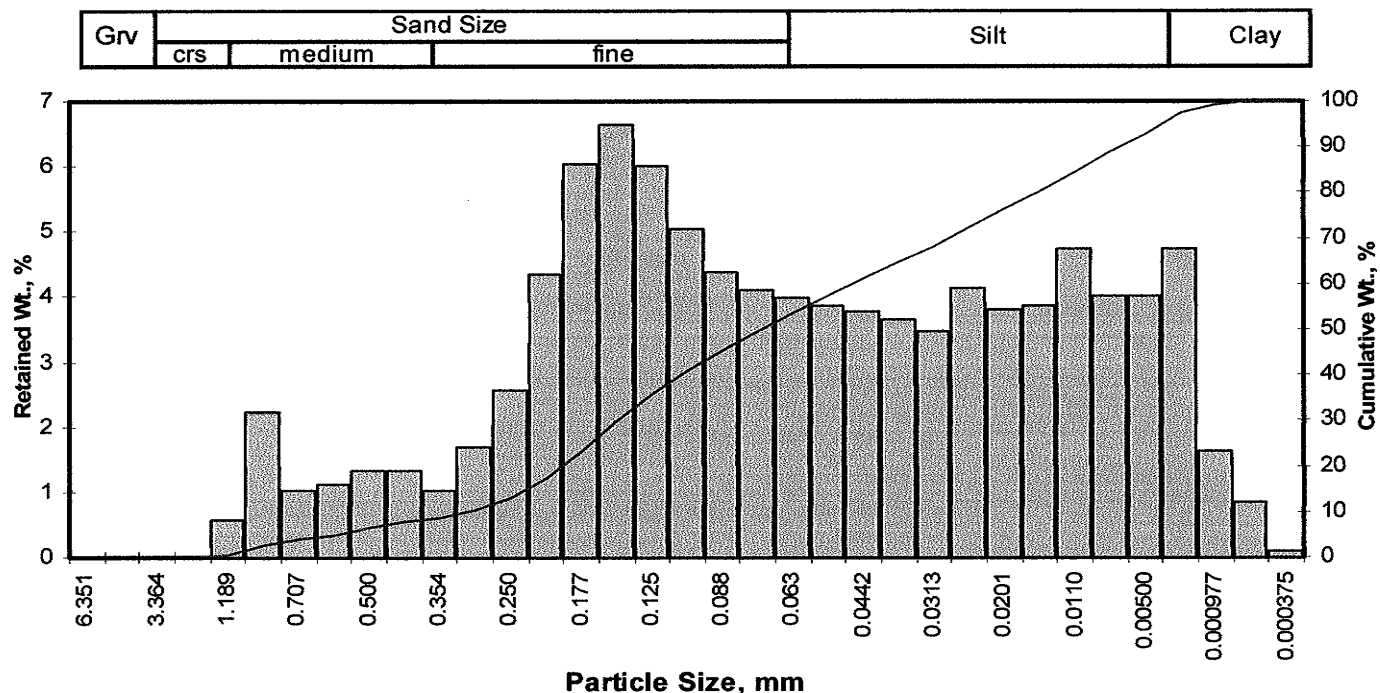
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.01
Fine Sand	200	9.61
Silt	>0.005 mm	71.79
Clay	<0.005 mm	18.59
Total		100

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Calscience
Project: N/A
Project No: 08-10-2479

PTS File No: 38981
Sample ID: R6-102808 (dup)
Depth, ft: N/A



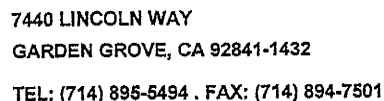
Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.57	0.57	0.57
0.0331	0.841	0.25	20	2.22	2.22	2.79
0.0278	0.707	0.50	25	1.03	1.03	3.82
0.0234	0.595	0.75	30	1.12	1.12	4.94
0.0197	0.500	1.00	35	1.33	1.33	6.27
0.0166	0.420	1.25	40	1.34	1.34	7.61
0.0139	0.354	1.50	45	1.04	1.04	8.65
0.0117	0.297	1.75	50	1.70	1.70	10.35
0.0098	0.250	2.00	60	2.55	2.55	12.90
0.0083	0.210	2.25	70	4.36	4.36	17.26
0.0070	0.177	2.50	80	6.04	6.04	23.30
0.0059	0.149	2.75	100	6.64	6.64	29.94
0.0049	0.125	3.00	120	6.00	6.00	35.94
0.0041	0.105	3.25	140	5.03	5.03	40.97
0.0035	0.088	3.50	170	4.38	4.38	45.35
0.0029	0.074	3.75	200	4.10	4.10	49.45
0.0025	0.063	4.00	230	3.98	3.98	53.43
0.0021	0.053	4.25	270	3.86	3.86	57.29
0.00174	0.0442	4.50	325	3.77	3.77	61.06
0.00146	0.0372	4.75	400	3.65	3.65	64.70
0.00123	0.0313	5.00	450	3.48	3.48	68.18
0.000986	0.0250	5.32	500	4.12	4.12	72.30
0.000790	0.0201	5.64	635	3.80	3.80	76.10
0.000615	0.0156	6.00		3.86	3.86	79.96
0.000435	0.0110	6.50		4.73	4.73	84.69
0.000308	0.00781	7.00		4.00	4.00	88.69
0.000197	0.00500	7.65		4.02	4.02	92.71
0.000077	0.00195	9.00		4.74	4.74	97.45
0.000038	0.000977	10.00		1.62	1.62	99.07
0.000019	0.000488	11.00		0.84	0.84	99.91
0.000015	0.000375	11.38		0.09	0.09	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	0.76	0.0232	0.590
10	1.70	0.0121	0.308
16	2.18	0.0087	0.221
25	2.56	0.0067	0.169
40	3.20	0.0043	0.109
50	3.78	0.0029	0.073
60	4.43	0.0018	0.046
75	5.55	0.0008	0.021
84	6.43	0.0005	0.012
90	7.21	0.0003	0.007
95	8.30	0.0001	0.003

Measure	Trask	Inman	Folk-Ward
Median, phi	3.78	3.78	3.78
Median, in.	0.0029	0.0029	0.0029
Median, mm	0.073	0.073	0.073
Mean, phi	3.39	4.30	4.13
Mean, in.	0.0037	0.0020	0.0022
Mean, mm	0.095	0.051	0.057
Sorting	2.812	2.124	2.204
Skewness	0.829	0.244	0.221
Kurtosis	0.245	0.774	1.036

Grain Size Description	Fine sand
(ASTM-USCS Scale)	(based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	7.61
Fine Sand	200	41.84
Silt	>0.005 mm	43.27
Clay	<0.005 mm	7.29
Total		100



CHAIN OF CUSTODY RECORD

DATE: 10/29/08

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