Section 5.0

Application Sampling and Analysis Laboratory Report

1788年1月,1988年1986年1月1日,1987年1月1日 - 1988年1月1日 - 1988年1月1日 - 1988年1月1日 - 1988年1月1日 - 1988年1月1日 - 1988年1月1日 - 198

# Existing Operations 24 Hour Composite Sampling June 2005

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An EDISON INTERNATIONAL Company

## **ANALYTICAL REPORT**

Laboratory Name:

Address:

Power Production Chemical

7301 Fenwick Lane, 2nd Floor

Westminster, CA 92683-5202

Telephone:

Facsimile:

(714) 895-0525

(714) 895-0515

Laboratory Certification (ELAP) No.:

1949

Expires 11/30/05

Laboratory Director's Name:

Shawn S. Simmons

Laboratory Director's Signature:

Date

CLIENT:

ADDRESS:

Long Beach Generation, L.L.C.

2665 West Seaside Blvd.

Long Beach, CA 90813

DATE(S) SAMPLED:

DATE(S) RECEIVED:

07/18/05 and 07/19/05

07/18/05 and 07/19/05

Chain of Custody(ies) Received:

Yes



An EDISON INTERNATIONAL Company

## **ANALYTICAL REPORT**

## **Cover Page 2**

The state of the s	4 Te	4 8 7 1	ž.	
Inorganic Analyses	# of Samples		# of Samples Subcont	racted
Residual Chlorine, in field	9		0	
pH	9		0	
Temperature, in field	9		0	
Oil and Grease	9	·.	0	
TSS	. 1		0	
Nitrite-Nitrate-N	1		0	
Color	1		7 × 7 × 10	
Sulfate	1		. 0	•
Sulfide	1		. 0	
Sulfite	1		0	
Magnesium	I		0	
BOD	1		1	
COD	1		. 1	
TOC	1		$(p_{ij}, p_{ij}) \in \{0, \dots, p_{ij}\}$	
Ammonia-N	1		1	-
Bromide	1		1	
Total/Fecal Coliform	9		9	47
Fluoride	1		1	
Nitrogen, Total Organic	1		1	
Phosphorus, Total	1		1	
Radioactivity, Total Alpha	· 1		1	
Radioactivity, Total Beta	1		1	
Radioactivity, Total Radium	1		1	
Radioactivity, Radium 226	1		1	
Surfactants	1		1	
Trace Metals in Seawater	1		. 1	
Cyanide	9		9	
Phenols	9		9	
Organic Analyses	# of Samples		# of Complex Subsent	rn atad
VOCs	# of Samples	•	# of Samples Subcont	iacteu
SVOCs	ر 1		<i>J</i> 1	
Dioxin	1		1 1	
Pesticides/PCBs	1		1 1	
Sample Condition:	Acceptable	•	1	
SAURUE CAMUIUMI.	Accemanie			

	DATE PIME	DATE			RL	RESULT
SAMPLE POINT	-COLLECTED	ANALYZED	PARAMETER	METHOD -	r(c)	(C)
LB-Outfall	7/18/05 12:20	07/18/05	Temperature	SM 2550B	0.1	23.0
LB-Outfall	7/18/05 15:06	07/18/05	Temperature	SM 2550B	0.1	23.3
LB-Outfall	7/18/05 18:30	07/18/05	Temperature	SM 2550B	0.1	23.8
LB-Outfall	7/18/05 21:15	07/18/05	Temperature	SM 2550B	0.1	22.5
LB-Outfali	7/19/05 0:10	07/19/05	Temperature	SM 2550B	0.1	23.7
LB-Outfall	7/19/05 3:10	07/19/05	Temperature	SM 2550B	0.1	23.3
LB-Outfall	7/19/05 6:00	07/19/05	Temperature	SM 2550B	0.1	23.0
LB-Outfall	7/19/05 9:10	07/19/05	Temperature	SM 2550B	0.1	23.3
LB-Outfall	7/19/05 12:00	07/19/05	Temperature	SM 2550B	0.1	23.4
, , , , , , , , , , , , , , , , , , , ,						

	DATE TIME	DATE			RL	Total Chlorine
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	метнор	(mg/L)	(mg/L)
LB-Outfall	7/18/05 12:20	07/18/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	7/18/05 15:06	07/18/05	Chlorine Residual	SM 4500-C1 G	0.03	ND
LB-Outfall	7/18/05 18:30	07/18/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	7/18/05 21:15	07/18/05	Chlorine Residual	SM 4500-C1 G	0.03	ND
LB-Outfall	7/19/05 0:10	07/19/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	7/19/05 3:10	07/19/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	7/19/05 6:00	07/19/05	Chlorine Residual	SM 4500-CI G	0.03	ND
LB-Outfall	7/19/05 9:10	07/19/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	7/19/05 12:00	07/19/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
, , , , , , , , , , , , , , , , , , , ,						

	DATE TIME	DATE			MDL	RESULT
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD	(pH unit)	(pH at t°C)
LB-Outfall	7/18/05 12:20	07/18/05	Electrometric pH	EPA 150.1	0.01	7.78 at 23°C
LB-Outfall	7/18/05 15:06	07/18/05	Electrometric pH	EPA 150.1	0.01	7.79 at 23°C
LB-Outfall	7/18/05 18:30	07/18/05	Electrometric pH	EPA 150.1	0.01	7.81 at 24°C
LB-Outfall	7/18/05 21:15	07/18/05	Electrometric pH	EPA 150.1	0.01	7.84 at 23°C
LB-Outfall	7/19/05 0:10	07/19/05	Electrometric pH	EPA 150.1	0.01	7.93 at 24°C
LB-Outfall	7/19/05 3:10	07/19/05	Electrometric pH	EPA 150.1	0.01	7.90 at 23°C
LB-Outfall	7/19/05 6:00	07/19/05	Electrometric pH	EPA 150.1	0.01	7.83 at 23°C
LB-Outfall	7/19/05 9:10	07/19/05	Electrometric pH	EPA 150.1	0.01	7.88 at 23°C
LB-Outfall	7/19/05 12:00	07/19/05	Electrometric pH	EPA 150.1	0.01	7.76 at 23°C
		<u> </u>				

	DATE TIME:	DATE			MDL	RESULT
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD -	- (mg/L)-	(mg/L)
LB-Outfall	7/18/05 12:20	07/21/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	7/18/05 15:06	07/21/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfail	7/18/05 18:30	07/21/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	7/18/05 21:15	07/21/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	7/19/05 0:10	07/26/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	7/19/05 3:10	07/26/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	7/19/05 6:00	07/26/05	Oil and Grease	EPA 1664A LLE	1.4	1.5
LB-Outfall	7/19/05 9:10	07/26/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	7/19/05 12:00	07/29/05	Oil and Grease	EPA 1664A LLE	1.4	ND
Method Blank		07/21/05	Oil and Grease	EPA 1664A LLE	1.4	ND
Method Blank		07/26/05	Oil and Grease	EPA 1664A LLE	1.4	ND
Method Blank		07/29/05	Oil and Grease	EPA 1664A LLE	1.4	ND

	DATE COLUMNIED		PARAMETER .	МЕТНОВ	RL (mg/L)	RESULT
LB-Outfall Composite	7/18-7/19/05			SM 2540 D	1	48.4
Method Blank		07/22/05	Total Susp. Solids	SM 2540 D	1	ND

SAMPLE POINT 52	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL ⇒(mg/L)	RESULT (mg/L)
LB-Outfall Composite	7/18-7/19/05	07/21/05	Color	SM 2120 B	5	40

	DATE.	- DATE			C. RE	RESULT
SAMPISTROINL	ECOLOR EMNIE	ANALYZED	PARAMETERS	METHOD TO SE	* (mg/L)-	(109/1)
LB-Outfall Composite	7/18-7/19/05	07/21/05	Nitrite-Nitrate-N	EPA 300.0	1	ND
Method Blank		07/21/05	Nitrite-Nitrate-N	EPA 300.0	1	ND

	##DATE	SET DATE 20			RI	RESULT
LB-Outfall Composite	7/18-7/19/05	Manager Control of the Control of th		METHOD EPA 300.0	(mg/L) 200	(mg/L) 1480
Method Blank		07/20/05	Sulfate	EPA 300.0	2	ND

SAMPLE POINT	DATE COLLECTED		The state of the s	метной	RL (mg/L)	RESULT (mg/I)
LB-Outfall Composite	7/18-7/19/05	07/21/05	Sulfite	SM 4500-SO <sub>3</sub> <sup>2</sup> ·B	1	ND

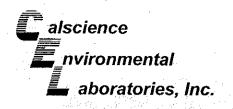
SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	метнор	·RL (mg/L)	RESULT (mg/L)
LB-Outfall	7/18-7/19/05	07/21/05	Sulfide	SM 4500-S <sup>2</sup> -D	0.02	ND
Method Blank		07/21/05	Sulfide	SM 4500-S <sup>2</sup> D	0.02	ND

	DATÉ	SDATE	er door in a		Ri	RESELL
LB-Outfall	7/18-7/19/05	A THE STREET HE ARE THE STREET, THE STREET	PARAMITER Total Magnesium	SM 3111B	(mg/L) 40	864
Method Blank		07/21/05	Total Magnesium	SM 3111B	0.02	ND

	DATE TIME	DATE			RL	RESULT
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD	(mg/L)	(mg/L)
LB-Retention Basin	7/18/05 12:35	07/22/05	Salinity	SM 210/ 325.3	500	24,300
LB-Retention Basin	7/18/05 15:30	07/22/05	Salinity	SM 210/ 325.3	500	24,200
LB-Retention Basin	7/18/05 18:30	07/22/05	Salinity	SM 210/325.3	500	23,500
LB-Retention Basin	7/18/05 21:27	07/22/05	Salinity	SM 210/ 325.3	500	23,600
LB-Retention Basin	7/19/05 0:00	07/22/05	Salinity	SM 210/325.3	500	24,000
LB-Retention Basin	7/19/05 3:00	07/22/05	Salinity	SM 210/ 325.3	500	23,800
LB-Retention Basin	7/19/05 16:10	07/22/05	Salinity	SM 210/ 325.3	500	23,500
LB-Retention Basin	7/19/05 9:00	07/22/05	Salinity	SM 210/325.3	500	23,600
LB-Retention Basin	7/19/05 12:20	07/22/05	Salinity	SM 210/ 325.3	500	23,600
				·		

Date Analyzed		LCS Conc. (mg/L)	Result (mg/L)	LCS	Accept.
		Darman and Article 🦠 Article (1997) 🕶 Article (1997)	(mg/c)	Recovery	Range
07/21/05		20.0	20.7	104%	88-112%
07/20/05		10.0	10.0	100%	88-112%
07/20/05		3.89	3.86	99%	88-112%
07/29/05		40.0	36.7	92%	78-114%
	07/20/05 07/20/05	07/20/05 07/20/05	07/20/05 10.0 07/20/05 3.89	07/20/05         10.0         10.0           07/20/05         3.89         3.86	07/20/05         10.0         10.0         100%           07/20/05         3.89         3.86         99%

		Matrix Spike				
Analyte	Date Analyzed	Sample Spiked	Spike Conc. (mg/L)	MS (mg/L)	MS Recovery	Accept. Range
Sulfate	07/20/05	LB-Outfall	4.00	4.08	102%	80-120%
Nitrate-N	07/20/05	LB-Outfall	2.00	1.92	96%	80-120%
			·			





August 18, 2005

Shawn Simmons
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Subject:

Calscience Work Order No.:

05-07-1140

Client Reference:

Long Beach Permit

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 7/20/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

**Laboratory Director** 





#### ANALYTICAL REPORT

Southern California Edison Company	Date Sampled:	07/19/05
Edison Chemical Services	Date Received:	07/20/05
7301 Fenwick Lane, 2nd Floor	Date Analyzed:	07/26/05
Westminster, CA 92683-5202	and the state of	
	Work Order No.: 0	5-07-1140
Attn: Shawn Simmons	Method: SM	4500 Br-B
RE: Long Beach Permit	Page 1 of 1	
· · · · · · · · · · · · · · · · · · ·		and the second second

All concentrations are reported in mg/L (ppm).

Sample Number		Bromide Concentration	ार्थिक है। अभिक्षाकृष्ट के देव क	Reporting <u>Limit</u>
Outfall Composite	jewije	1.03 ***		0.20
Method Blank	Namalj	ND		0.10





#### **QUALITY ASSURANCE SUMMARY**

Method SM4500 Br-B

Southern California Edison Company Work Order No.: 05-07-1140 Page 1 of 1 Date Analyzed: 07/26/05 Matrix Spike/Matrix Spike Duplicate Sample Spiked: Outfall Composite Control Control <u>Analyte</u> MS%REC MSD%REC **Limits Limits Bromide** 123 123 70 - 130 0 - 25**Laboratory Control Sample** 

 Analyte
 Conc. Added
 Conc. Rec. MREC
 Control Limits

 Bromide
 0.400
 0.400
 100
 80 - 120

Alternate Discharge Operations 24 Hour Composite Sampling
July 2005



#### **Analytical Report**



Southern California Edison Company

**Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received:

Work Order No:

Preparation: Method:

Units:

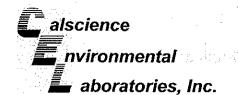
07/20/05

05-07-1140

**EPA 3510B** EPA 8081A/8082

ug/L

Client Sample Number		****		ab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC B	atch ID
Outfall Composite	r de la companya de Companya de la companya de la compa		97 T 1971, 13	7-1140-1	07/19/05	Aqueous	07/20/05	07/25/05	05072	0L01
Parameter	Result	RL	<u>DF</u>	Qual	Parameter		Resu	it <u>RL</u>	DF	Qual
Alpha-BHC	ND	0.10	1		4,4'-DDT		ND	0.10	1	
Gamma-BHC	ND	0.10	1		Endosulfan Su	lfate .	ND	0.10	1	
Beta-BHC	ND	0.10	1		Methoxychlor		ND	0.10	1	
Heptachlor	ND.	0.10	1		Chlordane		ND	1.0	1	
Delta-BHC	ND	0.10	1		Toxaphene		ND	2.0	1	
Aldrin	ND	0.10	1		Endrin Ketone		ND	0.10	1	
Heptachlor Epoxide	ND	0.10	1		Aroclor-1016		ND	1.0	1	
Endosulfan I	ND -	0.10	1		Aroclor-1221		ND	1.0	. 1	
Dieldrin	ND	0.10	1		Aroclor-1232		ND	1.0	1	
4,4'-DDE	ND	0.10	1		Aroclor-1242		МD	1.0	1.	
Endrin	ND	0.10	1		Aroclor-1248		ND	1.0	1	
Endrin Aldehyde	NĐ	0.10	1		Aroclor-1254		ND	1.0	1	
4,4'-DDD	ND	0.10	1		Aroclor-1260		ND	1.0	1	•
Endosulfan II	ND	0.10	1		Aroclor-1262		ND	1.0	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:		REC (S		•	Qual
Decachlorobiphenyl	78	50-135			2,4,5,6-Tetracl	nloro-m-Xylene	66	50-135		
Method Blank			095-0	1-015-1,36	64 N/A	Aqueous	07/20/05	07/20/05	05072	0L01
Parameter	Result	<u>RL</u>	DF	Qual	<u>Parameter</u>	•	Resu	t RL	DF	Qual
Alpha-BHC	ND	0.10	1		4,4'-DDT		ND	0.10	1	
Gamma-BHC	ND	0.10	1		Endosulfan Su	lfate	ND	0.10	1	
Beta-BHC	ND	0.10	1		Methoxychlor		ND	0.10	1	
Heptachlor	ND	0.10	1		Chlordane		ND	1.0	1	
Delta-BHC	ND	0.10	1		Toxaphene		ND	2.0	1	
Aldrin	ND	0.10	1	- N	Endrin Ketone		ND	0.10	1	
Heptachlor Epoxide	ND	0.10	1		Aroclor-1016	•	ND	1.0	1	
Endosulfan i	ND	0.10	1		Aroclor-1221		ND	1.0	1	
Dieldrin	ND	0.10	1		Aroclor-1232		ND	1.0	1	
4,4'-DDE	ND	0.10	1		Aroclor-1242		ND	1.0	1	
Endrin	ND	0.10	-1		Aroclor-1248		ND	1.0	1	
Endrin Aldehyde	ND	0.10	1		Aroclor-1254		ND	1.0	1	
4,4'-DDD	ND	0.10	1		Aroclor-1260		ND	1.0	1	
Endosulfan II	NĐ	0.10	1		Aroclor-1262		ND	1.0	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:		REC (%	6) Control	•	Qual .
Decachlorobiphenyl	92	50-135			2,4,5,6-Tetrach	lloro-m-Xylene	72	<u>Limits</u> 50-135	٠	



#### **Analytical Report**



Southern California Edison Company **Edison Chemical Services** 

Date Received: Work Order No: 07/20/05

05-07-1140

7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Project: Long Beach Permit

Fluoride

Ammonia

Surfactants

Total Kjeldahl Nitrogen

Carbon, Total Organic

Chemical Oxygen Demand

Phosphorus, Total

Page 1 of 1

				Collected	Matrix			
Outfall Composite		054	07-1140-1	07/19/05	Aqueous			2 12 26 3
<u>arameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual Unit	<u>Date Prepared</u>	Date Analyzed	<u>Method</u>	
uoride	0.79	0.1	1.0	mg/	L N/A	07/25/05	EPA 340.2	
mmonia	1.9	0.1	1	mg/	L N/A	07/25/05	EPA 350.2	
otal Kjeldahl Nitrogen	3.8	0.5	1	mg/		07/26/05	EPA 351.3	
hosphorus, Total	0.55	0.1	1	· mg/	L 07/28/05	07/28/05	EPA 365.3	
hemical Oxygen Demand	230	5	1	mg/	L N/A	07/22/05	EPA 410.4	
		5	10	mg/	L N/A	07/20/05	EPA 415.1	
urfactants	0.23	0.1	1	mg/	L N/A	07/20/05	EPA 425.1	
arbon, Total Organic urfactants Method Blank	22 0.23		10 1	_				

ND

ND

ND

ND

ND

ND

ND

0.10

0.10

0.50

0.10

5.0

0.50

0.10

N/A

N/A

N/A

N/A

N/A

N/A

07/28/05

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

07/25/05

07/25/05

07/26/05

07/28/05

07/22/05

07/20/05

07/20/05

EPA 340.2

EPA 350.2

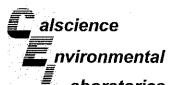
EPA 351.3

EPA 365.3

EPA 410.4

EPA 415.1

EPA 425:1



#### Quality Control - Spike/Spike Duplicate



aboratories, Inc.

Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Date Received: Work Order No:

....

05-07-1140

Project: Long Beach Permit

Aqueous

Matrix:

	the second second		V 1	••		ere i severe i e		
<u>Parameter</u> <u>Method</u>	Quality Control Sample ID	<u>Date</u> <u>Analyzed</u>	<u>Date</u> Extracted	MS% REC	MSD % REC	%REC CL	<u>RPD</u>	RPD Qualifiers
Phosphorus, Total EPA 365.3	Outfall Composite	07/28/05	7/28/2005	111	112	70-130	1	0-25
Fluoride EPA 340.2	05-07-1352-2	07/25/05	N/A	92	92	70-130	0	0-25
Carbon, Total Organic EPA 415.1	05-07-1132-1	07/20/05	N/A	92	82	70-130	5	0-25



### **Quality Control - Duplicate**



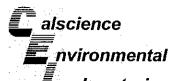
Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

N/A

05-07-1140

Project: Long Beach Permit

Matrix: Aqueous										2 7 W
<u>Parameter</u>	Method		QC Sample ID		Date Analyzed	Sample Conc	DUP Conc	<u>RPD</u>	RPD CL	Qualifiers
Chemical Oxygen Demand	EPA 410.4	, alest	05-07-1289-1	•	07/22/05	1800	1800	0	0-25	1.3
Ammonia	EPA 350.2	r produce	05-07-0837-22		07/25/05	21	21	1	0-25	10
Total Kjeldahl Nitrogen	EPA 351.3		05-07-1132-1		07/26/05	0.84	0.84	0	0-25	4.15



### **Quality Control - LCS/LCS Duplicate**



aboratories, Inc.

Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method:

N/A 05-07-1140 EPA 3510B EPA 8081A/8082

Project: Long Beach Permit

Quality Control Sample II	) D <u>.</u> .	<b>M</b>	latrix Insti	ument P	Date repared	Date Analyzed	LCS/LCSD Bate Number	<b>h</b>
095-01-015-1,364		Aqu	eous G(	C 16 0	7/20/05	07/20/05	050720L01	
Parameter			LCS %REC	LCSD %REC	%REC C	CL RPD	RPD CL	Qualifiers
Gamma-BHC			105	108	50-135	3	0-25	
Heptachlor		1.	93	91	50-135	2	0-25	
Endosulfan I			93	93	50-135	0	0-25	
Dieldrin			72	70	50-135	3	0-25	
Endrin			86	79	50-135	9	0-25	
4,4'-DDT			105	107	50-135	2	0-25	
Aroclor-1260			113	109	50-135	4	0-25	•



## nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor

Date Received: Work Order No:

N/A

05-07-1140

Project: Long Beach Permit

Westminster, CA 92683-5202

Matrix: Aqueous							
<u>Parameter</u>	<u>Method</u>	Quality Control Sample ID	<u>Date</u> Extracted	Date LCS 9 Analyzed REC	<u>6 LCSD % %REC</u> REC CL	RPD	RPD CL Qual
Surfactants	EPA 425.1	099-05-093-1,497	N/A	07/20/05 99	93 80-120	6	0-20



## nvironmental Quality Control - Laboratory Control Sample aboratories, Inc.



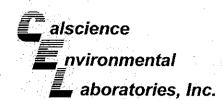
Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

N/A 25 07 4440

05-07-1140

Project: Long Beach Permit

Matrix : Aqueous					ar o sa sa garan Garangan				
<u>Parameter</u>	<u>Method</u>	Quality Control Sample ID	<u>Date</u> <u>Analyzed</u>	<u>Date</u> Extracted	Conc Added	Conc Recovered	LCS %Rec	<u>%Rec</u> <u>CL</u>	Qualifiers
Phosphorus, Total	EPA 365.3	099-05-098-1,633	07/28/05	7/28/2005	0.40	0.41	. 103	80-120	ien etwat
Fluoride	EPA 340.2	097-01-022-223,	07/25/05	N/A	0.50	0.54	108	80-120	
Carbon, Total Organic	EPA 415.1	099-05-097-1,948	07/20/05	N/A	10	8.9	89	80-120	



## **Glossary of Terms and Qualifiers**



Work Order Number: 05-07-1140

Qualifier	<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 or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
· ' <b>H</b>	Sample received and/or analyzed past the recommended holding time.
<b>J</b>	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane; 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Southern Calif. Edison P.O. Nu Please return and direct inquire In all correspondence refer to p Sample(s) are submitted for tre	es to:  roject:  Lo	<del></del>		Email: shawn.simmons@sce.com		
Sample ID	Date Collected	Time Collected	Descrip	tion/Analytes		
Outfall Composite	7/18 to 7/19		Kjedah	l Nitrogen, EPA 345.1	351.3	
Outfall Composite	7/18 to 7/19		Chemic	cal Oxygen Demand, EPA	A 410.4	
Outfall Composite	7/18 to 7/19		Total C	Organic Carbon, EPA 415	5.1	
Outfall Composite	7/18 to 7/19		Ammo	nia-N, EPA 350.2		
Outfall Composite	7/18 to 7/19		Fluorid	le, Bromide, MBAS		
Special Instructions:	Matrix	is seawater.				
Chain of Custody Relinquished By	— Dat	e: 7/20/05 ne: 305	-	( Received By	Date:	
Relinguished By	Dat Tin		W	chat CC Received By	Date: 1. W-l	



(1140) RI

RESULTS TO:
Facsimile: (714) 895-0515
Power Production Chemical
Southern California Edison
7301 Fenwick Lane, 2<sup>nd</sup> floor
Westminster, CA 92683

INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories
7440 Lincoln Way
Garden Grove, CA 92841

Please return and direct inquires In all correspondence refer to pro Sample(s) are submitted for trea	oject: Lo		ermit	Tel: (714) 895-0525 Email: shawn.simmons	
	Date Collected	Time Collected	Descrip	tion/Analytes	
Outfall Composite	7/18 to 7/19		Total F	hosphorus, EPA 365.3	
1					
Outfall Composite	7/18 to 7/19		Pestici	des/PCBs, EPA 8081/80	82
Outfall Composite	7/18 to 7/19		Radioc	hemistry, Total Alpha ar	nd Total Beta
Outfall Composite	7/18 to 7/19	_	Radioc	hemistry, Total Radium,	Radium 226
	· 				
Special Instructions:		A CONTRACTOR OF THE PARTY OF TH			
Pesticides: Aldrin, Chlordane, l sulfan, Endosulfan sulfate, Endo					
BHC, gamma-BHC, delta BHC					
Matrix is seawater.	,		, , , , , , , , ,	., 1202, 12 12, 12 (0, 120	1, 414 1200.
Chain of Custody				•	
XUm		e:7/20/05			Date:
Relinquished By	Tin	ne: 1305		Received By	Time:
Relinquished By	Dat Tim		l	Wordt Co. Received By	Date: 7 - 70-1
incomunica Dy	1 1 1 1 1	10	i	ACCUIVED BY	// ) / :9mii i



**WORK ORDER #:** 

05-07-1140

Cooler \_\_\_ of \_\_

## SAMPLE RECEIPT FORM

CLIENTS. Ca. Edison	DATE: 7/20/05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  C Temperature blank.	LABORATORY (Other than Calscience Courier): °C Temperature blank. °C IR thermometer.  Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact	Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples.  Sample container label(s) consistent with custody papers.  Sample container(s) intact and good condition.  Correct containers for analyses requested.  Proper preservation noted on sample label(s).  VOA vial(s) free of headspace.  Tedlar bag(s) free of condensation.	
COMMENTS:	



## Paragon Analytics

## Radiochemistry Case Narrative Gross Alpha/Beta

## CalScience Environmental Laboratories

05-07-1140 PA WO 0507214

- This report consists of the analytical results for one water sample received by Paragon on 7/23/05.
- This sample was prepared according to Paragon Analytics procedure SOP702R17.
- The sample analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytics procedure SOP724R8. The analyses were completed on 8/3/05. Gross alpha results are referenced to 241 Am. Gross beta results are referenced to 90 Sr/Y.
- 4. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
- 5. The requested MDC for gross alpha/beta for sample Outfall Composite (PA ID 0507214-1) was not achieved due to the presence of elevated levels of dissolved / suspended solids native to the sample. The requested method limits the amount of sample solids residue taken for analysis to 5 my/cm2. If desired, alternative methodologies for gross alpha are available which can generally address solids interference in water samples. These samples were counted for a maximum count time of 1000 minutes and results are reported without further qualification. This sample is identified with an "M" or "M3" flag on the final reports. The reported gross alpha/beta activity for samples with an "M3" flag exceeds the achieved MDC.
- No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician

## Gross Alpha/Beta Analysis by GFPC

PAI 724 Rev 8
Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: AB050727-2MB

Sample Matrix: WATER

Prop SOP: PAI 702 Rev 17

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 02-Aug-05

Prep Batch: AB050727-2

QCBatchID: AB050727-2-3

Run ID: AB050727-2A

Count Time: 1000 minutes

Final Allquot: 200 ml Result Units: pCl/i

File Name: ABB0802

						1 -
	CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier	
		1				
- 1		GROSS ALPHA	0.18 +/- 0.26	0.42	U U	ĺ
	12587-46-1	GRUSS ALFIN		1.00	1 u	ı
	12587-47-2	GROSS BETA	-0.03 +/- 0.60	L		ļ

#### Comments:

OmitionalEnger

U - Rosult is tors than the cample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT Reputits loss than Requested MDC, greater than sample specific MDC.

Apprevations

TPU - Total Propagated Uncortainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 769)

BDL - Bridge Detection Limit

M. Ringuested MDC not met

B - Analyte concongration greater than MCC.

R3 - Analyto concentration ground than MDC but less than Requested MDC.

Data Package ID: AB0507214-1

Paragon Analytics
LIMS Version: 5.213A

Page 1 of 1

Date Printed: Thursday, August 19, 2005

## Gross Alpha/Beta Analysis by GFPC

**PAI 724 Rev 8** Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: AD050727-2LCS

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Final Aliquot: 200 ml

Prop Batch: AB050727-2 QCBatchID: AB050727-2-3

Result Units: pCl/l File Name: ABA0802

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05 Date Analyzed: 02-Aug-05 Count Time: 90 minutes

Run ID: AB050727-2A

Lab % Rec Control Spike Added MDC **CASNO** Target Qualifier Limits Results +/- 2s TPU Nuclide Р 70 - 130 70.2 248 2 174 +/- 29 GROSS ALPHA 12587-40-1 P,M3 70 - 130 80.5 234 **GROSS BETA** 188 +/- 31 12507-47-2

#### Comments:

#### QualificrofFlags:

- U Result is less than the sample specific MDC.
- LT Result is 'ess than Requested MDC, greater than sample specific MDC.
- Y1 Chamical Yield is in control of 100-110% Quantitative Yold is assumed.
- yy Chemical Yield outside default limits
- L . LCS Pecovery below tower control lamb
- H LCS Recovery above upper control limit
- P . LCS Recovery within control limit's
- M The requested MDC was not met.
- M3 The requested MDC was not mot, but the expended activity is greater than the reported MDC.

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOF 709)

Data Package ID: AB0507214-1

Paragon Analytics LIMS Version: 5.213A

Page 1 of 1

Date Printed: Thursday, August 18, 2005

### **Gross Alpha/Beta Analysis by GFPC**

**PAI 724 Rev 8** Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Field ID: Outfull Composite

1.3b ID: 0507214-1

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 19-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 02-Aug-05

Prep Batch: AB050727-2

QCBatchID: AB050727-2-3

Run ID: AB050727-2A Count Time: 1000 minutes

Report Basis: Unfiltered

Final Aliquot: 3.00 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: ABB0802

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-2 +/- 19	35	U,M
12587-47-2	GROSS BETA	224 +/- 50	65	М3

#### Comments:

#### Qualific of Flags:

- U Result is liver fluin the sample specific MDC
- Y1 Chamical Yield is in control at 100-110%, "Organitative Yield is assumed
- v. Chemical Yield cultide default limits.
- 1.7 Result is less than Requested MDC, greater than sample specific MDC.
- Ms The requireled MDC was not mot, but the reported notivity is greater than the reported MDC.
- Mi-The requested MDC was not met.

- 1Put Total Proprieted Uncertainty (see PAI SOP 743)
- MDC Minimum Defenieble Concentration (soo PAI SOP 709)
- RDL Botow Dotection Unit

#### Data Package ID: AB0507214-1



## Paragon Analytics

# Radiochemistry Case Narrative <sup>226</sup>Radium by EPA Method 903.1(m)

### CalScience Environmental Laboratories

05-07-1140 Paragon WO 0507214

- 1. This report consists of the analytical results for 1 water sample received by Paragon on 7/23/2005.
- 2. This sample was prepared and analyzed according to Paragon Analytics procedures SOP783R5. The analysis was completed on 8/4/2005.
- 3. The analysis result for this sample is reported in units of pCi/L. The sample was not filtered prior to analysis.
- Sample volume was insufficient to allow preparation of a duplicate. A Laboratory Control Sample Duplicate (LCSD) was prepared in lieu of a client sample duplicate.
- 5. Paragon Analytics follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.
- No further anomalous situations were encountered during the preparation or analysis of this sample. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician

Radiochemistry Final Data Review

Date

#### PAI 783 Rev 5 Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

L55 (D: RE050726-1MB

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 26-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13952-63-3	Ra-226	0.02 +/- 0.19	0.36	U

#### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	13740	12710	ug	92.5	40 - 110 %	

#### Comments:

Ocalities/Flags:

U - Heault is less than the sample specific MDC.

Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

V2 - Chamical Yield quisido default limits.

L1 - Result is test, then Requested MDC, greater than compte specific MDC.

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOF 709)

RDL - Below Detection Limit

M - Requested MUC not mpt.

ft - Analysis condecision product than MDC.

D3. Analyte concentration greater than MDC but loss than Requested MDC.

Data Package ID: REM0507214-1

Paragon Analytics LIMS Version: 5.207A

Page 1 of 1

Date Printed: Monday, August 08, 2005

PAI 783 Rev 5 Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: RE050726-1LCS

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 26-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Namo: Manual Entry

	CASNO	Target		MDC	Spike Added	% Rec	Control	
		Nuclide	Results +/- 2s TPU		HEROLET CO.		Limits	Qualifier
!	13982-63-3	Ra-226	43 +/- 11	0	48.1	90.2	80 - 120	Р

#### **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
į	BARIUM	13740	13670	υg	99.5	40 - 110 %	

#### Comments:

#### QualifierdFlags:

- () Result is took than the sample specific MDC.
- (1) Reput to loss than Requested MDC, greater than sample specific MDC.
- Vit. Chamical Vield in in control at 100 110%. Quantilitative Yield is assumed
- ye Chemical Yield outside default holls.
- 1 1 CS Recovery below lower contro limit.
- 11 LCS Processing above upper control limit.
- this LCS Recovery within control firmits.
- Min fine region and MDC was not med
- M3 The requipmed MDC was not mat, but thereported notivity is greater than the reported MDC.

TPU - Total Propagated Uncortainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (sec PAI SOF 700)

Data Package ID: REM0507214-1

Paragon Analytics LIMS Version: 5,207A

Page 1 of 2

Data Printed: Monday, August 08, 2005

**PAI 783 Rev 5** Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: RE050725-1LCSD

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collectod: 26-Jul-05 Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Result Units: pCl/l

File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13093-63-3	Ra-226	Results 7/- 25 1FU	0	48.1	88.3	80 - 120	р

#### **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
7	BARIUM	13740	13280	υg	96.7	40 - 110 %	

#### Comments:

#### Qualifiera/Flags:

- U Right to less than the stumple specific MDC.
- 1.7 Result is tess than Reginered MDC, greater than sample specific MDC.
- Y1 Chamical Yield is in control of 100-110%. Quantitative Yield is assumed
- v2 Chemical Yield misside definit firths.
- LCS Recovery below tower control limit.
- is LCS Repovery above upper central limit
- P LCS Recovery within confroi limits
- Mi. The resposited MDC was not met.
- M.i. The requestion MDC was not met, but thereported activity to provider than the reported MDC.

Data Package ID: REM0507214-1

TPU - Total Propagated Uncortainty (one PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Paragon Analytics LIMS Version; 5.207A

PAI 783 Rev 5 Duplicate Sample Results (DER)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

CilentProject ID: 05-07-1140

Field to:

Lab ID: RE050726-ILCSD

Sample Matrix: WATER

Prep SOP: PAI 763 Rev 5

Date Collected: 26-Jul-05 Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A Count Time: 15 minutes Final Aliquot: 995 ml

Prep Basis: Unfiltored

Moisture(%): NA Result Units: pCi/l

File Name: Manual Entry

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers	
13982-63-3	Ra-226	43 +/- 11	43 +/- 17	0.02	2.13	Р	

#### Comments:

Deplicate Outlifiers/Flags:

- U Result Iz less than the complet positio MDC.
- Y1 Chumical Yield to in control at 100-130%. Quantitative yield is assumed.
- VC Char unis Vieta outpide default limits
- W. DER econolist their Warning Land of 1/32
- D. DER eit genöter Beim Control Limit of 2,13
- c.f. Result is less than Request MDC, greater than sample specific MDC
- M Requested MDC not met.
- M3 The requested MDC were not mot, but the reported activity is goe that than the reported MDC.
- LCS Firstovery below lower control limit.
- H LCS Recevery above upper central limit
- P LCS, Miles Seake Recovery willing control limits.
- N Million Sollte Rectivery outside control limits

Data Package ID: REM0507214-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOF 743)

DER - Duplinale Error Ratio (see PAI SOP 715)

**BOL - Below Detection Limit** 

NR - Not Reported

PAI 783 Rev 5 Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Ctient Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Field ID: Outfall Composite

Lab ID: 0507214-1

Sample Matrix: WATER

Prep SOP; PAI 783 Rev 5

Date Collected: 19-Jul-05 Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A Count Time: 15 minutes

Report Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered Maisture(%): NA

Result Units: pCi/l

File Name: Manual Entry

			<u> </u>			
CASNO		Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier	
1						
	13002-63-3	Ra-226	0.10 +/- 0.18	0.31	U	

### **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
ļ	BARIUM	13860	13450	ug ug	97.1	40 - 110 %	

#### Comments:

#### Qualifiers/Flage:

- U -Placett is less than the stample specific MDC.
- rt Channest Weld is in control at 100-110%. Oppolitative Yield is assumed.
- Y2 Chancel Yield outside default limits
- 1.1 Recuit is iters than Requisited MOC, greater than sample specific MOC.
- titl: The requested MDC was not mot, but the reported inclinity is greater than the reported MDC.
- Mil-The requested MUC was not met.

TPU - Total Propagated Uncertainty (See PAI SOP 743)

MDC - Minimum Detectable Concentration (see PA' SOP 709)

(VOI, - Finlew Delection Limit

Data Package ID: REM0507214-1

Paragon Analytics LIMS Version: 5.207A

Page 1 of 1



## Paragon Analytics

## Radiochemistry Case Narrative Total Alpha Emitting Radium (Ra-226)

#### CalScience Environmental Laboratories

05-07-1140 PA WO 0507214

- 1. This report consists of the analytical results for one water sample received by Paragon on 7/23/05.
- 2. This sample was prepared according to Paragon Analytics procedure SOP712R12.
- 3. The sample was analyzed for the presence of Total Alpha Emitting Radium Isotopes according to Paragon Analytics procedure SOP724R8. The analyses were completed on 7/31/05.
- 4. This test is a screen for Radium-226 and could show high bias in sample results if other alpha emitting isotopes of radium are contained in the sample (esp. Ra-224 and Ra-223).
- 5. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
- 6. The tracer recovery of 101% and 102% for the method blank (MB) and laboratory control sample (LCS), respectively, associated with batch TR050727-1 are within the requested 30-110% limit. However, in such cases PAI assumes a 100% quantitative recovery in the calculations. While the 'Tracer Yield' on the report form shows the observed recovery (101% and 102%), a 'Y1' flag signifies this calculation convention. Results are submitted without further qualification.
- 7. Paragon Analytics follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.
- 8. No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

P. 13

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

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and Characteristics and the original English for a continuous cont

Rathochemistry Instrument Technician

8/18/05

Rachochemistry Final Data Review

8/18/27 Date

## **Total Radium Analysis by GFPC**

## **PAI 724 Rev 8 Method Blank Results**

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalSclenco Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: TR050727-1MB

Sample Matrix: WATER

Prop SOP: PAI 712 Rev 12

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 31-Jul-05

Prep Batch: TR050727-1

QCBatchID: TR050727-1-1

Run ID: TR050727-1A

Count Time: 400 minutes

Final Aliquot: 995 ml

Result Units: pCi/l File Name: TRB0731

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7440-14-4	TOTAL RADIUM	0.012 +/- 0.028	0.057	Y1.U

## **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	13850	14030	пд	101	40 - 110 %	Y1

## Comments:

Qualifiers/Flags:

U - Detail is less than the sample specific MDC.

Y1 Chain ont Yield is in control at 100-110%. Quantitative Yield is assumed

Y2 - Chemical Yadd outside default limits

LT - Result is less than Requested MDC, greater than sample specific MDC,

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MOC - Minimum Detectable Concentration (see PAI SOP 709)

**BDL - Relow Detection Limit** 

M. Requesting MDC not mal.

B - Analyte concontration greater than MUC.

03 - Analysic concentration greater than MDC but less than Requested MDC.

Data Package ID: TR0507214-1

Paragon Analytics LIMS Version: 5.205A

Page 1 of 1

Date Printed: Thursday, August 04, 2005

## **Total Radium Analysis by GFPC**

**PAI 724 Rev 8 Laboratory Control Sample(s)** 

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: TR050727-1LC\$

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05

Date Analyzod: 31-Jul-05

Prep Batch: TR050727-1

QCBatchID: TR050727-1-1

Run ID: TR050727-1A

Count Time: 400 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: TRB0731

1	CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
	7440-14-4	TOTAL RADIUM	44 +1- 11	0	50.2	87.8	75 - 125	P,Y1

## **Chemical Yield Summary**

Car	rier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
1	BARIUM	13850	14100	ug .	102	40 - 110 %	Y1

## Comments:

U Remains less than the principle specific MOC.

LT - Result or less than Requested MDC, greater than sample specific MDC.

Y1. Channel Yield is in control of 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Viold mitoide default finits.

L - LCS Randway tadow lower control limit.

H I.CS Recovery above upper control timit.

P - LCS Rucquery within control fimilis

M. The requested MDC was not mist.

\$3 - The requested MDC was not met, but increpened activity is greater than the reported MDC.

Data Package ID: TR0507214-1

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detrictable Concentration (see PAI SOI\* 709)

Page 1 of 1

## **Total Radium Analysis by GFPC**

PAI 724 Rev 8 Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Field ID: Octial Composite

Sample Matrix: WATER

Prep Batch: TR050727-1

Final Aliquot: 995 ml

Prop SOP: PAI 712 Rev 12

QCBatchID: TR050727-1-1

Prep Basis: Unfiltered

Lab ID: 0507214-1

Date Collected: 19-Jul-05

Run ID: TR050727-1A

Moisture(%): NA

Date Propared: 27-Jul-05

Count Time: 400 minutes

Result Units: pCi/l

Date Analyzed: 31-Jul-05

Report Basis: Unfiltered

File Name: TRB0731

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7440-14-4	TOTAL RADIUM	0.64 +/- 0.18	0.06	LT

## **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
DARIUM	13970	13380	ug/	95.7	40 - 110 %	

## Comments:

QualifieralFlags:

- ti Result is less than the sample specific MOC.
- Y1 Chenzoa, Yield is in control at 100-11054. Quantitative Yield is assumed
- Y2 Onemica! Yield outside default limits
- 1.7 Routh is less than Poquested MDC, greater than sample specific MDC.
- Mis The requested MDC was not met, but the reported activity is greater than the reported MDC.
- Mi- The requested MDC was not met.

Abhrevations

This - Total Propagated Uncommitty (see PAI SOP 743)

MICC - Mailman Daluciable Concentration (see PAI SOP 709)

NOL - Below Detection Limit

Data Package ID; TR0507214-1

7440 LINCOLN WAY nhonmental

rebonstaries, Inc.

**GARDEN GROVE, CA 92841-1432** 

FedEx to: Paragon Analytics 225 Commerce Drive TEL: (714) 895-5494 . FAX: (714) 894-7501

Fort Collins, CO 80524

CHAIN OF CUSTODY RECORD

PO

PAGE:

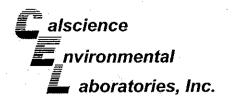
Calscience Environmer Address: 7440 Lincoln Way	Calscience Environmental Laboratories, Inc. Address: 7440 Lincoln Way					Steve	05-07-1140 PROJECT CONTACT: Steven L. Lane	ane							<b>05-07-1140</b> avote no.:	1140		
Garden Grove, CA 92841-1427	41-1427				ŝ	MPLER	S): (SIGN	ATURE)				2			TAB USE ONLY	, 1 N	· · · · · · · · · · · · · · · · · · ·	
	FAX:		E-MAIL	-								Ì	. : ,					1
TURNAROUND TIME	18HB 72 HB	_	SVAO	10.04%						8	EQU	ESTE	REQUESTED ANALYSIS	/LYSI			:	
SAWE DAT 14 TH 15 SECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)	٠,		2 (	2	†			$\vdash$			1 1	-				-		
RWQCB REPORTING	3   ARCHIVE SAMPLES UNTIL	S UNTIL	_	1	006		1											
aLinstructions quested TAT ≕ Rad	ресил Instructions Requested TAT = Radiochemistry Standard (21 calendar days)	calendar	days)		Phalbeta, EPA	dium, EPA 932	226, EPA 903.1	· · · · · · · · · · · · · · · · · · ·		U	X	<u> </u>				:		
i i	LOCATION	SAME	SAMPLING				muib				* * * * * *					<u>-</u>	<del></del>	
SAMPLEID	DESCRIPTION	DATE	TIME	krit.	Our NO		Ra							$\dashv$		1	4	
Outfall Composite		07/19/05		۸M	3 X	×	×						•				_	
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Relinquished by: (Signature)				Received	Received by: (Signature)	ature)								Date:			Time:	
		Ref: SL		Date:	Date: 07/22/2005	3005	35	SHIPPING	ير	99.25	38							

Dep: SUBCONTRACT

Wet: 30.6 LBS

SPECIAL: HANDLING: 0.00 TOTAL:

Sves: PRIORITY SATURDAY





July 27, 2005

Shawn Simmons
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Subject:

Calscience Work Order No.:

05-07-1142

Client Reference:

Long Beach Permit

## Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 7/20/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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.

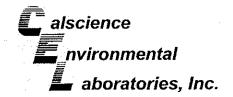
Sincerely,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

Laboratory Director



## **Analytical Report**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

07/20/05 05-07-1142

Project: Long Beach Permit

Page 1 of 3

Client Sample Number		Lab Sa	mple Nur		ate ected	Matrix	÷		
Outfall (12:20)		05-07	-1142-1		ji leji Saliei N	queous			
								•	
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1	
Outfall (15:10)		05-07	7-1142-2	07/	18/05 A	queous			
\					· <u>-</u> -				
<u>Parameter</u>	Result	· · <u>RL</u>	DF	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1 1	* \$1.	mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1	
Outfall (18:30)		05-07	7-1142-3	07/	18/05 A	queous			
<u>Den i de idea de l'acceptat de l'adri de le de le della del</u>					· · · · · · · · · · · · · · · · · · ·				
Parameter	Result	RL	DF	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1	
Outfall (21:15)		05-07	7-1142-4	07/	18/05 A	queous			
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1	

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers



## **Analytical Report**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

07/20/05 05-07-1142

Project: Long Beach Permit

Page 2 of 3

Client Sample Number		Lab Sa	ample Nun	iber Da Colle		Matrix			
Outfall (00:10)		05-0	7-1142-5	07/19	7077 3 38 section 10	queous			
<u> Prings of magnific filters with the series</u>	Restauration of the second second	<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>		<u> </u>				
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1 1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1	
Herioaco, Foldi	·;-								
Outfall (03:10)		05-0	7-1142-6	07/1	9/05 A	queous			
Parameter	Result	RL	DF	Qual	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>	
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	· 1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1	
, 113.1,3.1,3.5, 7.5.1				1				<del></del>	
Outfall (06:00)		05-0	7-1142-7	07/1	9/05 A	queous			
		D.	DE	Overt	1 Inita	Date Prepared	Date Analyzed	Method	
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>		07/25/05	EPA 335.2	,
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1		mg/L mg/L	N/A N/A	07/27/05	EPA 420.1	
Outfall (09:10)		05-0	07-1142-8	07/1	9/05 <i>A</i>	\queous			
,		<u> </u>		<u> </u>	<u> </u>	<u>a militar yang salah salah s</u>	<u> </u>		
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2	

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifier



## **Analytical Report**



Southern California Edison Company **Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor

Date Received: Work Order No: 07/20/05

05-07-1142

Westminster, CA 92683-5202

Project: Long Beach Permit

Page 3 of 3

Client Sample Number		Lab Sa	imple Nur	nber Da Colle		Matrix		
Outfall (12:00)		05-0	7-1142-9	07/1	9/05 A	queous		
<u>Parameter</u>	Result	RL	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1 1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1
Method Blank				N	A A	queous	1405 1400 14 100 3. N. O. H. N. N.	
							•	<del>.</del>
Parameter 1997 (1997) 25 (1997)	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method
Cyanide, Total Phenolics, Total	ND ND	0.050 0.10	1 1		mg/L mg/L	N/A N/A	07/25/05 07/27/05	EPA 335.2 EPA 420.1



## **Quality Control - LCS/LCS Duplicate**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received:

N/A

Work Order No:

05-07-1142

Project: Long Beach Permit

					7 : :7:					<del></del>
<u>Parameter</u>	<u>Method</u>	Quality Control Sample ID	<u>Date</u> Extracted	<u>Date</u> Analyzed	LCS % LO	CSD % REC	<u>%REC</u> CL	RPD	RPD CL	Qual
Occaside Total	20 mil	200 05 004 4 070	44 1 45.1	07/05/05	94	00	00.400		2.00	
Cyanide, Total		99-05-061-1,676	N/A	07725705	94	92	80-120	3	0-20	

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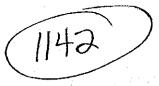


## **Glossary of Terms and Qualifiers**



Work Order Number: 05-07-1142

Qualifier	<u>Definition</u>	eli geli delle Rije i Sili delle	on year akkiri San aktobasa
*	See applicable analysis comment.		
* * <b>1</b> * * * * * * * * * * * * * * * * * * *	Surrogate compound recovery was out of control due to a therefore, the sample data was reported without further c		nple dilution,
2	Surrogate compound recovery was out of control due to rassociated method blank surrogate spike compound was sample data was reported without further clarification.		
3 . <b>3</b>	Recovery of the Matrix Spike or Matrix Spike Duplicate of to matrix interference. The associated LCS and/or LCSD the sample data was reported without further clarification	was in contro	
4 :	The MS/MSD RPD was out of control due to matrix interferwas in control and, therefore, the sample data was report		
5	The PDS/PDSD associated with this batch of samples was interference effect. The associated batch LCS/LCSD was associated sample data was reported with no further corr	s in control an	d, hence, the
Α	Result is the average of all dilutions, as defined by the m	ethod.	•
В	Analyte was present in the associated method blank.		4
С	Analyte presence was not confirmed on primary column.		
E	Concentration exceeds the calibration range.		~
Н	Sample received and/or analyzed past the recommended	d holding time	•
J .	Analyte was detected at a concentration below the report laboratory method detection limit. Reported value is estimated to the concentration below the reported value is estimated.		above the
N	Nontarget Analyte.		
ND	Parameter not detected at the indicated reporting limit.		
Q	Spike recovery and RPD control limits do not apply result concentration in the sample exceeding the spike concent 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 of	or GC/MS ana	lysis.





## RESULTS TO: Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor

Westminster, CA 92683

## INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

## SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Southern Calif. Edison P.O. Num	ber:	Q1033917	<u>'</u> .	R	elease Number	: A002	and the state of the state of
Please return and direct inquires	****	Shawn Simm	опѕ	Tel:	(714) 895-0525	Fax:	(714) 895-0515
In all correspondence refer to pro	oject: Lo	ong Beach Pe	ermit	Email:	shawn.simmor	is@sce.co	m
Sample(s) are submitted for trea	tment/disposi	ition as descr	ibed belo	w.	and the second		
Sample ID	Date	Time	Descrip	tion/Ana	lytes		
	Collected	Collected					
Outfall	7/18/05	12:20	Total P	henolics	EPA 420.1		
Outfall	7/18/05	15:10	Total P	henolics	EPA 420.1		
Outfall	7/18/05	18:30	Total P	henolics	EPA 420.1	·	. 4
Outfall	7/18/05	21:15	Total P	henolics	EPA 420.1		
Outfall	7/19/05	00:10	Total P	henolics	EPA 420.1		
Outfall	7/19/05	03:10			, EPA 420.1		
Outfall	7/19/05	06:00			EPA 420.1	:	
Outfall	7/19/05	09:10	Total P	henolics	EPA 420.1		
Outfall	7/19/05	12:00	Total P	henolics	EPA 420.1		
				•			······································
Outfall	7/18/05	12:20	Total C	yanide, l	EPA 335.2	***************************************	
Outfall	7/18/05	15:10	Total C	yanide, l	EPA 335.2	·	
Outfall	7/18/05	18:30	Total C	yanide, l	EPA 335.2		12
Outfall	7/18/05	21:15	Total C	yanide, l	EPA 335.2		
Outfall	7/19/05	00:10	Total C	yanide, l	EPA 335.2		
Outfall	7/19/05	03:10	Total C	yanide, l	EPA 335.2		
Outfall	7/19/05	06:00	Total C	yanide, l	EPA 335.2		
Outfall	7/19/05	09:10	Total C	yanide, l	EPA 335.2		
Outfall	7/19/05	12:00	Total C	yanide, l	EPA 335.2	··············	
	<del></del>						· · · · · · · · · · · · · · · · · · ·
Special Instructions:							
	Matrix	is seawater.					

Chain of Custode			
XI Imm	Date: 7/20/05		Date:
Relinquished By	Time: 305	, Received By	Time:
1 0	Date:	Wodat Ca	Date: 7-10-0
Relinquished By	Time	Received By	Time:   SOS



**WORK ORDER #:** 

05 - 07 - 11 11 4 2

Cooler \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_

## **SAMPLE RECEIPT FORM**

CLIENTS. Ca. Edison	DATE: 7/20/05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided.  Chilled, cooler without temperature blank.  Chilled and placed in cooler with wet ice.  Ambient and placed in cooler with wet ice.  Ambient temperature.  °C Temperature blank.	ABORATORY (Other than Calscience Courier):  C Temperature blank.  C IR thermometer.  Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact) :	Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples Sample container label(s) consistent with custody papers. Sample container(s) intact and good condition. Correct containers for analyses requested. Proper preservation noted on sample label(s). VOA vial(s) free of headspace. Tedlar bag(s) free of condensation.	
COMMENTS:	
	, d



2020 Del Amo Blvd. Suite 200, Torrance, CA 90501 • (310) 533-5190 • FAX (310) 533-5003 • mmercier@crglabs.com

August 15, 2005

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683

Re:

CRG Project ID:

P2557b

SCE Project:

Long Beach Permit

ATTN: Mr. Shawn Simmons

CRG Marine Laboratories is pleased to provide you with the enclosed analytical data report for your Long Beach Permit Project. According to the chain-of-custody, 1 water sample was received intact and cool at CRG on July 25, 2005. Per your instructions, the sample was analyzed for:

Total Metals By ICPMS Using EPA Method 1640 & 200.8

Please don't hesitate to call if you have any questions and thank you very much for using our laboratory for your analytical needs.

Regards, Misty B. Mercier Project Manager

Misty B. Mercier Digitally signed by Misty B. Mercier, C = US, O = CRG Marine Laboratories, Inc. Date: 2005.08.15 12:20:50 -07'00'

Reviewed and Approved

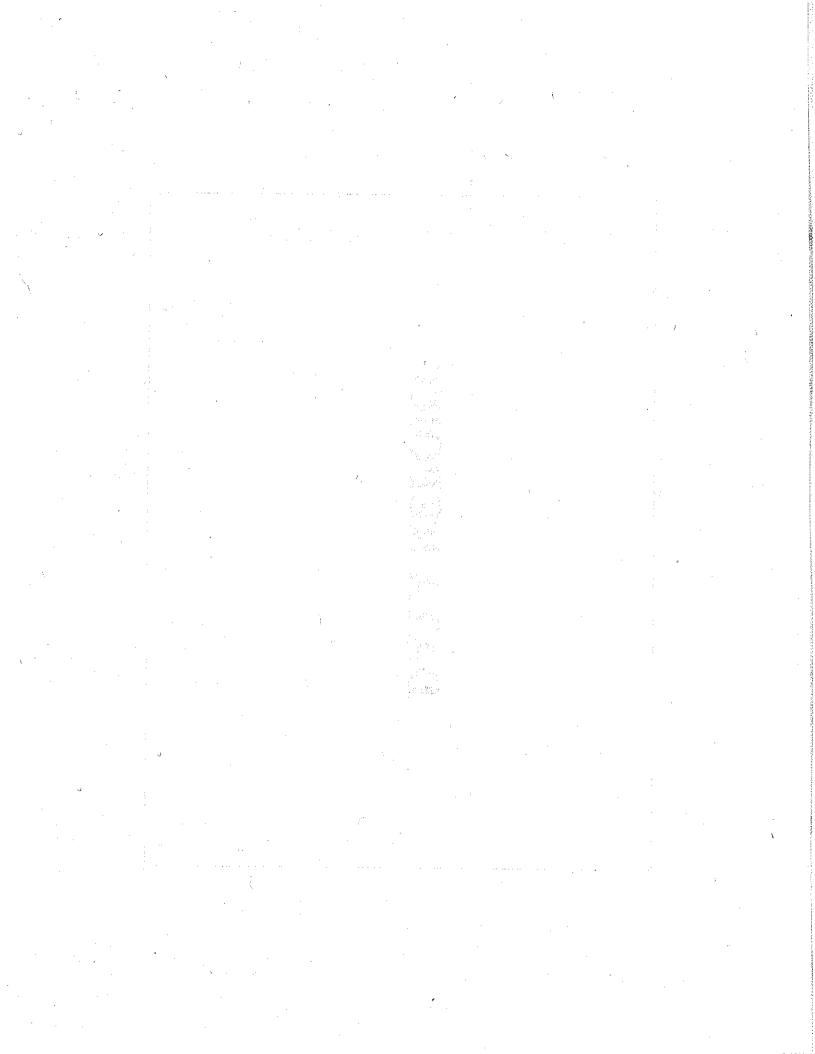
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## DATA REPORT



Client: Southern California Edi	ifornia Edison			:	ပ	CRG Project ID:	ect ID:	2557d
CRG ID#: 26613	Sample	Outfall	COMPOSITE		۵	Date Sampled:	: 19-Jul-05	
Replicate #: R1	Description:	Long Beach Permit			Õ	Date Received:		
Batch ID: 2557-12053	Matrix:	Seawater			D	Date Processed:		
Instrument: ICPMS #1 HP 4500	Analyst:	P. Hershelman			D	Date Analyzed:	: 04-Aug-05	
CONSTITUENT	FRACTION	метнор	RESULT	UNITS	MDL	RL	DILUTION	ACCEPTANCE
		The second secon		,			FACTOR	KANGE
Aluminum (Al)	Total	EPA 1640	9,59	hg/L	0.01	0.125	<del>. '</del>	V
Antimony (Sb)	Total	EPA 1640	0.061	hg/L	0.01	0.015	· -	Ą
Arsenic (As)	Total	EPA 1640	5.2	µg/L	0.01	0.015	÷	Υ Y
·Barium (Ba)	Total	EPA 200.8	. 9	mg/L	0.1	0.5	<b>-</b> -	¥.
Beryllium (Be)	Total	EPA 1640	Q	µg/L	0.005	0.01	-	Ą
Boron (B)	Total	EPA 200,8	5.54	mg/L	·	5	۲-	¥.
Cadmium (Cd)	Total	EPA 1640	0.059	hg/L	0.005	0.01	ζ-	Y Y
Chromium (Cr)	Total	EPA 1640	0.255	hg/L	0.005	0.01	₹**	Ą
Cobalt (Co)	Totaí	EPA 1640	N Q	hg/L	0.005	0.01	·	NA
Copper (Cu)	Total	EPA 1640	2,69	μg/L	0.005	0.01	-	NA N
Iron (Fe)	Total	EPA 1640	326	ng/L	0.01	0.025	<del>-</del>	NA
Lead (Pb)	Total	EPA 1640	0.196	µg/L	0.005	0.01		A A
Manganese (Mn)	Total	EPA 1640	675	hg/L	0.005	0.01	_	NA
Mercury (Hg)	Total	EPA 1631E	0.00849	hg/L	0.00005	0.0001	_	ΝΑ
Molybdenum (Mo)	Total	EPA 1640	3.49	hg/L	0.005	0.01	_	NA V
Nickel (Ni)	Total	EPA 1640	0.707	hg/⊾	0.005	0.01		ΑN
Selenium (Se)	Total	EPA 1640	9	µg/L	0.01	0.015		Ą
Silver (Ag)	Total	EPA 1640	9	hg/L	0.005	0.01	# # # # # # # # # # # # # # # # # # #	<b>A</b> N
Thallium (TI)	Total	EPA 1640	9	µg/t	0,005	0.01		Ϋ́
Tin (Sn)	Total	EPA 1640	0.043	µg/L	0.005	0.01	; ; ;	Ϋ́
Titanium (Ti)	Total	EPA 1640.	0.733	µg/L	0.005	0.01	· · · · · · · · · · · · · · · · · · ·	ΑN
Vanadium (V)	Total	EPA 1640	4.7	hg/L	0.005	0.01		V V
Zinc (Zn)	Total	EPA 1640	11.6	hg/L	0.005	0.01		NA N

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); B= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

26613

Client: South	Southern California Ed	rnia Edison				)	CRG Project ID:		2557d
CRG ID#: 26613		Sample	Outfall	COMPOSITE	i.	-	Date Sampled:	19-Jul-05	1
Replicate #: R2		Description:				-	Date Received:	25-Jul-05	
	12053	Matrix:	Seawater		a.e	<u>.</u>	Date Processed:		
Instrument: ICPMS	ICPMS #1 HP 4500	Analyst:	P. Hershelman			-	Date Analyzed:	04-Aug-05	
CONSTITUENT		FRACTION	МЕТНОВ	RESULT	UNITS	MDL	RL D	DILUTION / FACTOR	ACCEPTANCE RANGE
Aluminum (AI)		Total	EPA 1640	9.27	'hg/L	0.01		-	Ą.
Antimony (Sb)		Tota∤	EPA 1640	0.085	µg/L	0.01	0.015	-	¥ X
Arsenic (As)		Total	EPA 1640	5.03	hg/L	0.01		-	AN
Barium (Ba)		Total	EPA 200.8	N ON	mg/L	0.1	0.5	-	AN
Beryllium (Be)	٠	Total	EPA 1640	ON.	л∂/г г	0.005			NA V
Boron (B)		Total	EPA 200.8	5.68	mg/L	·~~		<del>-</del>	Ϋ́
Cadmium (Cd)		Total	EPA 1640	0.047	hg/L	0.005		۲	Ϋ́
Chromium (Cr)		Total	EPA 1640	0,255	µg/L	0,005		į.	₹ Z
Cobalt (Co)		Total	EPA 1640	Q.	hg/L	0.005	0.01	<b>4</b>	Ϋ́Z
Copper (Cu)		Total	EPA 1640	2.63	hg/L	0.005		γ-	Ϋ́
fron (Fe)		Total	EPA 1640	354	ng/L	0.01		÷-	Ϋ́
Lead (Pb)		Total	: EPA 1640	0.197	μg/L	0.005			ΝΑ
Manganese (Mn)		Total	EPA 1640	687	ng/L	0.005			Ϋ́
Mercury (Hg)		Total	EPA 1631E	0.00887	hg∕L	0.00005		-	N N
Molybdenum (Mo)		Total	EPA 1640	3.97	hg/L	0.005		·	٩
Nickel (Ni)		Total	EPA 1640	0,753	1/6rl	0.005		÷	ď.
Selenium (Se)		Total	EPA 1640	S	hg/L	0.01		-	Ϋ́ A
Silver (Ag)		Total	EPA 1640	S O S	hg∕L	0.005			ΑN
Thallium (TI)		Total	EPA 1640	- Q	j√L	0.005			ΑN
Tin (Sn)		Total	EPA 1640	Ω	hg/L	0.005	0.01	ω' . 	Ϋ́
Titanium (Ti)		Total	EPA 1640	0.726	hg/L	0.005	0.01	-	ΑN
Vanadium (V)		Total	EPA 1640	4,69	hg/L	0.005	0.01	÷	Ϋ́Α
Zinc (Zn)	.*	Total	EPA 1640		hg/L	0.005	0.01		NA
			-						2 tu

MDL=Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261
26613 R2

Client:	Southern California Edis	ornia Edison		~		່ວ	CRG Project ID:	ect ID:	2557d
CRG ID#:	26614	Sample	QAQC	LCM-CRG Seawater	awater	Da	Date Sampled	#	
Replicate #:	LCM1	Description:	Long Beach Permit			Da	Date Received:	<del>;</del>	~
Batch ID:	2557-12053	Matrix:	Seawater		٨.	Da	Date Processed:	ed: 02-Aug-05	-05
Instrument:	ICPMS #1 HP 4500	Analyst:	P. Hersheiman			Ü	Date Analyzed:		-05
CONSTITUENT	LA	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	<b>(</b> }	Total	EPA 1640	ND	µg/L	0.01	0.125	_	AN AN
Antimony (Sb)	6	Total		0.095	µg/L	0.01	0.015	<del>-</del>	A Z
Arsenic (As)		Total	EPA 1640	1,34	µg/L	0.01	0.015	_	Ϋ́
Beryllium (Be)	· (6)	Total	EPA 1640	<u>N</u>	µg/L	0.005	0.01		Ϋ́
Cadminm (Cd)	· (p	Total	EPA 1640	0,115	hg/L	0.005	0.01	, •-	N A
Chromium (Cr)	£	Total	EPA 1640	0.255	µg/L	0.005	0.01		Ą
Cobatt (Co)	-	Totai	EPA 1640	Q.	hg/L	0.005	0.01	τ-	Ϋ́Ν
Copper (Cu)		Total	EPA 1640	0.829	pg/L	0.005	0,01	~	A A
Iron (Fe)		Total	EPA 1640	0.462	ng/L	0,01	0.025	*	ĄZ
Lead (Pb)		Total	EPA 1640	0,029	µg/L	0.005	0.01	<del>V</del>	A A
Manganese (Mn)	(Mn)	Total	EPA 1640	0.136	hg/L	0.005	0.01	<b>-</b>	NA V
Mercury (Hg)	· .	Total	EPA 1631E	0.00021	µg/L	0.00005	0.0001	₩	Y A
Molybdenum (Mo)	(Mo)	Total	EPA 1640	9.66	µg/L	0.005	0,01	· -	ĄN
Nickel (Ni)		Total	EPA 1640	0.302	µg/L	0.005	0.01	<del>`</del>	Ϋ́
Selenium (Se)	·	Total	EPA 1640	0.084	µg/L	0.01	0.015	· .	AN A
Silver (Ag)		Total	EPA 1640	g	µg/L	0.005	0.01	-	Ϋ́
Thallium (TI)		Total	EPA 1640	0.019	µg/L	0.005	0.01	1	ΝΑ
Tin (Sn)		Total	EPA 1640	9	µg/L	0.005	0.01	i. -	¥Z
Titanium (Ti)		Total	EPA 1640	0.251	µg/L	0.005	0.01		Ą
Vanadium (V)		Total	EPA 1640	2.01	µg/L	0.005	0.01	<b>-</b>	Ϋ́
Zinc (Zn)	: :	Total	EPA 1640	1,41	µg/L	0.005	0.01	-	V N

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

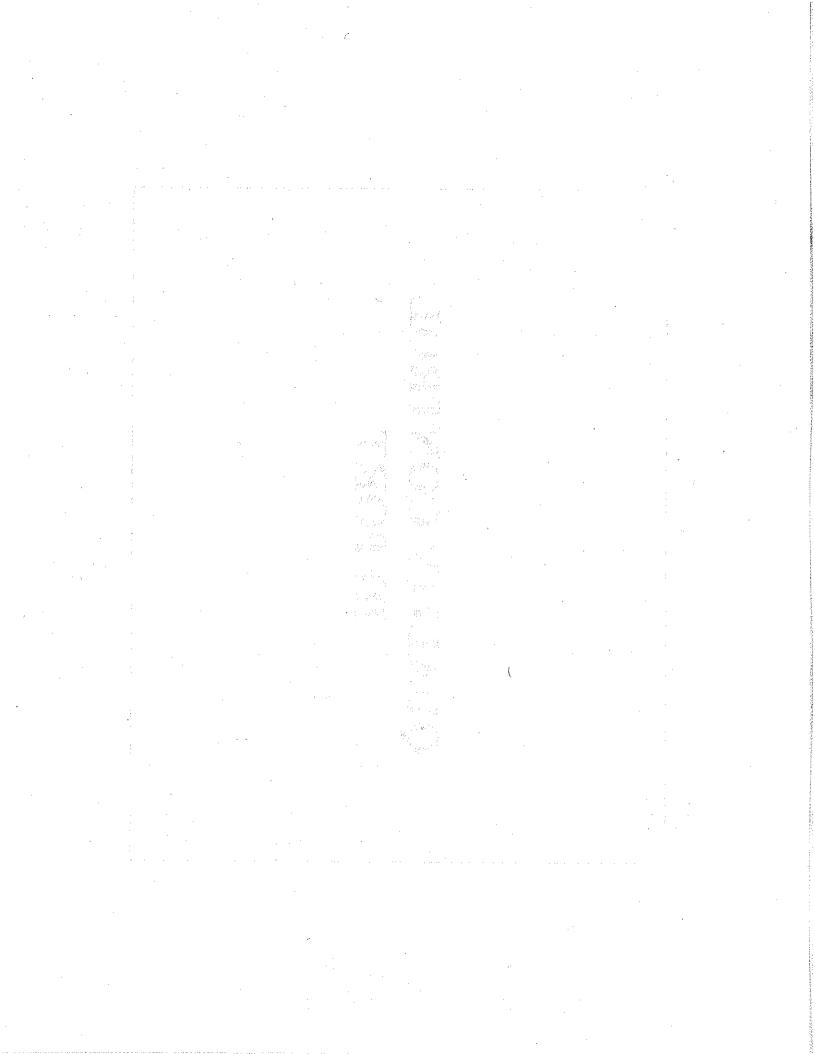
California ELAP Certificate # 2261 LCM1 26614

Client: Southern California Ed	ornia Edi	dison			`		CRG Project ID:	ect ID:	2557d
CRG ID#: 26614		Sample	aAac	LCM-CRG Seawater	eawater		Date Sampled	<u>.</u>	
Replicate #: LCM2		Description;	n: Long Beach Permit				Date Received:	¨	
Batch ID: 2557-12053	:	Matrix:	Seawater	. 1			Date Processed:	ed: 02-Aug-05	;
Instrument: ICPMS #1 HP 4500		Analyst:	P. Hershelman		W. 1		Date Analyzed:		:- 10
CONSTITUENT	FRACTION	ION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (AI)	Totai		EPA 1640	QN	µg/L	0.01			NA
Antimony (Sb)	Total		EPA 1640	0.134	hg/L	0.01	0.015	~	ΑN
Arsenic (As)	Tota		EPA 1640	1.51	µg/L	0.01		<u>.</u>	A
Beryllium (Be)	Total		EPA 1640	ΩN	hg/L	0.005		_	Ϋ́
Cadmium (Cd)	Total		EPA 1640	0.113	J/6r	0.005		-	Ϋ́
Chromium (Cr)	Total		EPA 1640	0.285	hg/L	0.005		_	Ϋ́
Cobalt (Co)	Total		EPA 1640	Q	ng/L	0.005		₩.	Ϋ́
Copper (Cu)	Total		EPA 1640	0.856	µg/L	0.005		-	Š
fron (Fe)	Total		EPA 1640	0.32	hg/L	0.01		<del>-</del>	¥ Y
Lead (Pb)	Total		EPA 1640	0,011	Hg/L	0.005		<b>~</b>	N.
Manganese (Mn)	Total		EPA 1640	0.164	µg/L	0.005		_	NA A
Mercury (Hg)	Total	_	EPA 1631E	0.00015	J/gr	0.00005	_		N.
Molybdenum (Mo)	Total		EPA 1640	9.67	µg/L	0.005			NA
Nickel (Ni)	Total		EPA 1640	0.286	µg/L	0,005	4	-	NA A
Selenium (Se)	Total		EPA 1640	9	hg/L	0.01		_	AN
Silver (Ag)	Total		EPA 1640	2	hg/L	0.005	0.01	. <del></del>	Ą
Thallium (TI)	Total		EPA 1640	0.016	µg/L	0.005	0.01	· ·	NA
Tin (Sn)	Total	: T	EPA 1640	- Q	hg/L	0,005	0.01		NA
Titanium (TI)	Total		EPA 1640	0,425	hg/L	0.005	0.01	· <del>C</del>	N A N
Vanadium (V)	Total		EPA 1640	2.12	hg/L	0.005	0.01	-,	NA
Zinc (Zn)	Total	; ;	EPA 1640	1.38	hg/L	0.005	0.01	- :	NA
							: "		

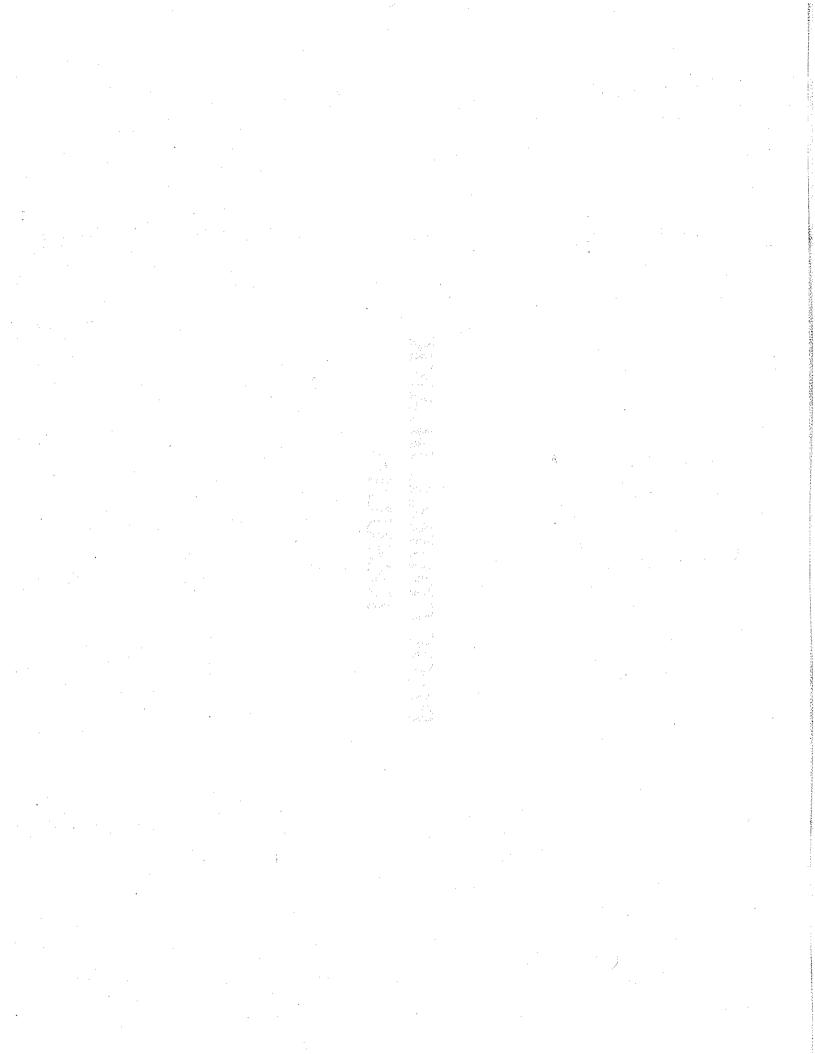
MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable,

California ELAP Certificate # 2261 LCM2 26614

## QUALITY CONTROL REPORT



## PROCEDURAL BLANK RESULTS



## ORG Marine Laboratories, Juc. 114, 200 Torrance CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 or

		Tisioe Meials	90671						
Client: Sou	Southern Calit	ifornia Edison				S	CRG Project ID	ct ID:	25
CRG ID#: 26612	12	Sample Description:	QAQC Long Beach Permit	Procedural Blank	al Blank	Daf	Date Sampled: Date Received:		
Batch ID: 2557	2557-12053 ICPMS #1 HP 4500	Matrix: Analyst:			·	Dai a	Date Analyzed:	d: 02-Aug-05 04-Aug-05	25
CONSTITUENT		FRACTION	METHOD	RESULT	UNITS	MDL	RL I	DILUTION	AC.
Aluminum (Al)		Total	EPA 1640	9	µg/L	0.01	0.125	1	
Antimony (Sb)	•	Total	EPA 1640	9	µg/L	0.01	0,015		
Arsenic (As)		Total	EPA 1640	g	· µg/L	0.01	0.015	_	
Barium (Ba)		Total	EPA 200.8	Q	mg/L	0.1	0.5		
Beryllium (Be)		Totaí	EPA 1640	NO	hg/L	0.005	0.01	_	
Boron (B)		Total	EPA 200.8	<u>8</u>	mg/L	<b>-</b>	ഹ	-	
Cadmium (Cd)		Total	EPA 1640	9	μg/L	0.005	0.01	—	
Chromium (Cr)		Total	EPA 1640	Q	hg/L	0.005	0.01	<del>-</del>	
Cobalt (Co)		Total	EPA 1640	Q	μg/L	0.005	0.01	· —	
Copper (Cu)		Total	EPA 1640	O.	μg/L	0.005	0.01	<b>~~</b>	
Iron (Fe)		Total	EPA 1640	Q	μg/L	0.01	0.025	<del>-</del>	
Lead (Pb)		Total	EPA 1640	2	7/6п ⊹	0.005	0.01	<del>-</del>	
Manganese (Mn)		Total	EPA 1640	Q	μg/L	0.005	0.01	-	
Mercury (Hg)		Total	EPA 1631E	O.	ng/L	0.00005	0.0001	Ť.	
Molybdenum (Mo)		Total	EPA 1640	DZ DZ	1/6rl	0.005	0.01	<b>-</b>	
Nickel (Ni)		Total	EPA 1640	P	hg/L	0.005	0.01	—	
Selenium (Se)		Total	EPA 1640	Q.	hg/L	0.01	0.015	←′	
Silver (Ag)		Total	EPA 1640	Q	⊓/6n	0.005	0.01	<del></del>	
Thallium (TI)	-	Totai	EPA 1640	Q N	T/6rl	0.005	0.0	<b>-</b>	•
Tin (Sn)		Total	EPA 1640	N Q	J/Brl	0.005	0,01	-	
Titanium (Ti)		Total	EPA 1640	Q	hg/L	0.005	0.01	<del>-</del>	
Vanadium (V)		Total	EPA 1640	2	hg/L	0.005	0.01	٠	
Zinc (Zn)		Total	EPA 1640	2	hg/L	0.005	0.01	<del>4</del>	

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ACCEPTANCE RANGE ∢ Z

2557d

MDL=Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26612

· 1000年1月1日 - 1000年1日 - 1

## ACCURACY DATA

## CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

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Client:	Southern California Edison	alifornia	Edison				CRG Project ID:	: 2557d	
CRG ID#:	26614		Sample	QAQC	LCM-CF	LCM-CRG Seawater	Date Sampled:		
Replicate #:	LCS1		Description:	Long Beach Permit			Date Received:		
Batch ID:	2557-12053		Matrix:	Seawater			÷	02-400-05	
Instrument:	Instrument: ICPMS #1 HP 4500	. 00	Analyst:	P, Hershelman				04-Aug-05	
CONSTITUENT	. LN	FRACTION	MET	МЕТНОD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT	
Aluminum (AI)	(-	Total	EPA	EPA 1640	. 02	20 µg/L	52 - 149%	PASS	
Antimony (Sb)	<b>•</b>	Totai	EPA 1640	1640	74	25 µg/L	44 - 107%	PASS	
Arsenic (As)		Total	EPA 1640	1640	. 75	20 µg/L	71 - 114%	PASS	
Beryllium (Be)	(n)	Total	EPA 1640	1640	78	20 µg/L	62 - 113%	PASS	
Cadmium (Cd)	<del>Q</del>	Total	EPA 1640	1640	102	25 µg/L	69 - 120%	PASS	
Chromium (Cr)	<del>,</del>	Total	EPA 1640	1640	94	20 µg/L	85 - 133%	PASS	
Cobalt (Co)		Total	EPA 1640	1640	24	20 µg/L	75 - 124%	PASS	
Copper (Cu)		Total	EPA 1640	1640	97	25 µg/L	72 - 128%	PASS	٠
Iron (Fe)		Total	EPA 1640	1640	85	25 µg/L	35 - 97%	PASS	
Lead (Pb)		Tota	EPA 1640	1640	115	25 µg/L	56 - 116%	PASS	
Manganese (Mn)	(Mn)	Total	EPA 1640	1640	92	20 µg/L	64 - 120%	PASS	
Mercury (Hg)	_	Total	EPA 1631E	631E	100	0.0125 µg/L	68 - 117%	PASS	
Molybdenum (Mo)	(Mo)	Total	EPA 1640	1640	. 88	25 µg/L	59 - 125%	PASS	
Nickel (Ni)		Total	EPA 1640	1640	96	25 µg/L	68 - 118%	PASS	
Selenium (Se)	(e	Total	EPA 1640	1640	83	25 µg/L	55 - 110%	PASS	
Silver (Ag)		Total	EPA 1640	1640	. 82	20 µg/L	66 - 125%	PASS	
Thallium (TI)		Total	EPA 1640	1640		20 µg/L	66 - 110%	PASS	
·Tin (Sn)		Total	EPA 1640	1640	102	25 µg/L	68 - 110%	PASS	
Titanium (Ti)		Total	EPA 1640	1640	96	20 µg/L	85 - 133%	PASS	
Vanadium (V)	(	Total	EPA 1640	1640	102	20 µg/L	85 - 133%	PASS	
Zinc (Zn)		Total	EPA 1640	1640	7.1	20 µg/L	62 - 108%	PASS	
			j.						

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable,

California ELAP Certificate # 2261
26614 LCS1

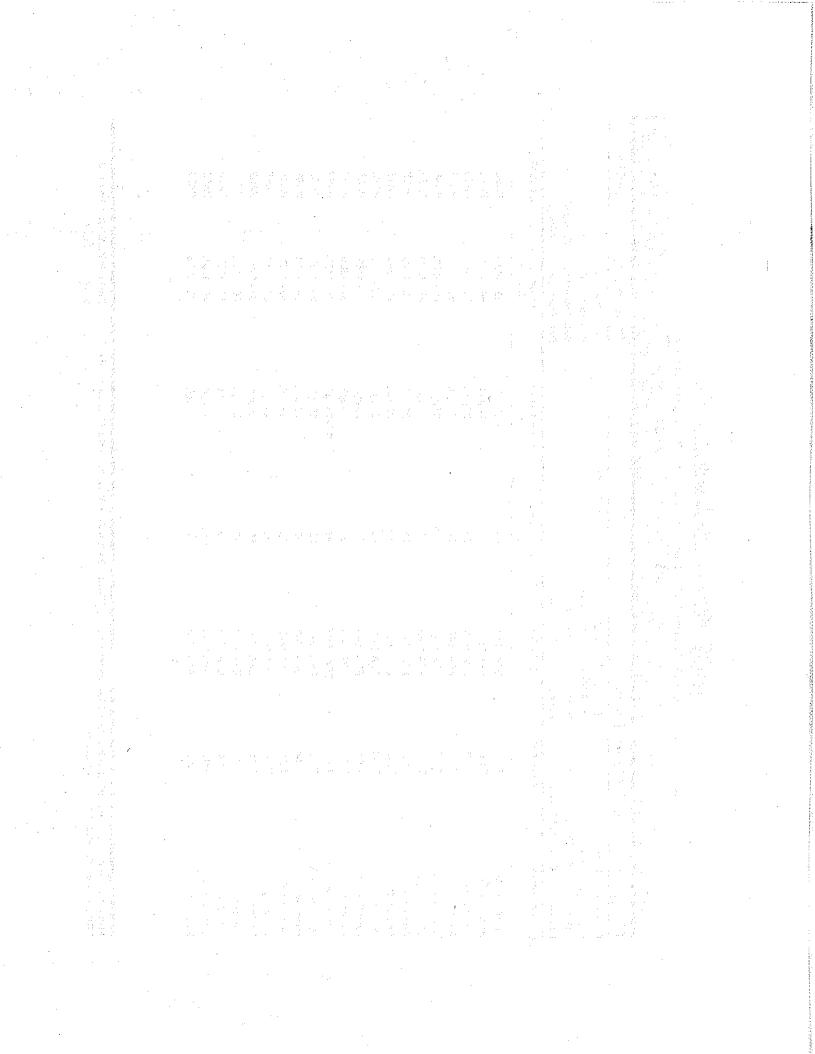
## CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sboglobal.net

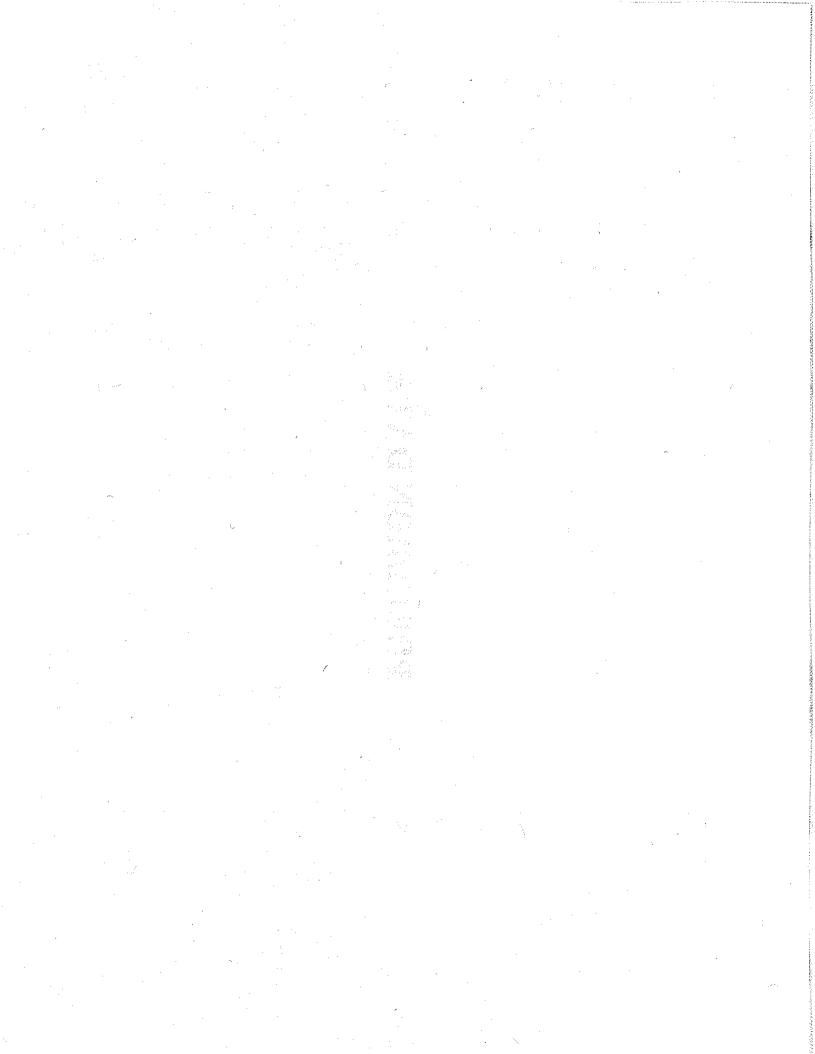
Client:	Southern California Ed	ilifornia E	dison				CRG Project ID:	2557d	
CRG ID#:	26614		Sample	QAQC	LCM-CR	LCM-CRG Seawater	Date Sampled:		
Replicate #:	LCS2		Description:	Long Beach Permit	ərmit		Date Received:		
Batch ID:	2557-12053		Matrix:	Seawater			ë	02-Aug-05	
Instrument:	Instrument: ICPMS #1 HP 4500		Analyst:	P. Hershelman	_	-		04-Aug-05	* 1
CONSTITUENT		FRACTION	MET	метнор	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT	
Aluminum (AI)	· · · · · · · · · · · · · · · · · · ·	Total	EPA	EPA 1640	89	20 µg/L	52 - 149%	PASS	
Antimony (Sb)	(c	Total	EPA	EPA 1640	74	25 µg/L	44 - 107%	PASS	
Arsenic (As)		Total	EPA	EPA 1640	73	20 µg/L	71 - 114%	PASS	
Beryllium (Be)	(8	Total	EPA	EPA 1640	74	20 µg/L	62 - 113%	PASS	-
Cadminm (Cd)	(p	Total	EPA	EPA 1640	104	25 µg/L	69 - 120%	PASS	
Chromium (Cr)	<del>(</del> F	Total	EPA	EPA 1640	95	20 µg/L	85 - 133%	PASS	
Cobalt (Co)		Total	EPA	EPA 1640	75	20 µg/L	75 - 124%	PASS	
Copper (Cu)		Total	EPA	EPA 1640	100	25 µg/L	72 - 128%	PASS	
Iron (Fe)		Total	EPA	EPA 1640	85	25 µg/L	35 - 97%	PASS	
Lead (Pb)		Total	EPA	EPA 1640	114	25 µg/L	56 - 116%	PASS	
Manganese (Mn)	'Mn)	Total	EPA	EPA 1640	91	20 µg/L	64 - 120%	PASS	
Mercury (Hg)		Total	EPA	EPA 1631E	96	0.0125 µg/L	68 - 117%	PASS	
Molybdenum (Mo)	(Mo)	Total	EPA	EPA 1640	95	25 µg/L	59 - 125%	PASS	*
Nickel (Ni)		Total	EPA	EPA 1640	. 26	25 µg/L	68 - 118%	PASS	
Selenium (Se)	(£	Total	EPA	EPA 1640	. 88	25 µg/L	55 - 110%	PASS	
Silver (Ag)	-	Total	EPA	EPA 1640	06	20 µg/L	66 - 125%	PASS	
Thallium (TI)		Total	EPA	EPA 1640	06	20 µg/L	66 - 110%	PASS	٠
Tin (Sn)		Total	EPA	EPA 1640	109	25 µg/L	68 - 110%	PASS	
Titanium (Ti)		Total	EPA	EPA 1640	66	20 µg/L	85 - 133%	PASS	
Vanadium (V)	•	Total	EPA	EPA 1640	100	20 µg/L	85 - 133%	PASS	
Zinc (Zn)		Total	EPA	EPA 1640	. 29	20 µg/L	62 - 108%	PASS	

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable,

California ELAP Certificate # 2261
26614 LCS2



## PRECISION DATA



## CRG Marine Laboratories, Inc.

2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Client:	Client: Southern California Edison	ornia Edison					CRG Project ID:	ID: 2557d	
CRG ID#:	26613	Sample Description:	Outfall Long Beach Permit	COMPOSITE	SITE		Date Sampled: Date Received:	19-Jul-05 25-Jul-05	
Batch ID: Instrument:	Batch ID: 2557-12053 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershefman				Date Processed: Date Analyzed:	02-Aug-05 04-Aug-05	
CONSTITUENT	1-7	FRACTION	METHOD	R1 µg/L	R2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT	
Aluminum (AI)	()	Total	EPA 1640	9.59	9.27	က	0 - 30%	PASS	
Antimony (Sb)		Total	EPA 1640	0.061	0.085	33	0 - 30%	FAIL	
Arsenic (As)	•	Total	EPA 1640	5.2	5.03	o.	0 - 30%	PASS	
Boron (B)		Total	EPA 200.8	5.54	5.68	7	0 - 30%	PASS	
Cadmium (Cd)	7	Total	EPA 1640	0.059	0.047	23	0 - 30%	PASS	
Chromium (Cr)	Ê	Total	EPA 1640	0,255	0.255	<b>0</b>	0 - 30%	PASS	
Copper (Cu)		Total	EPA 1640	2.69	. 2.63	2	0 - 30%	PASS	
Iron (Fe)	-	Total	EPA 1640	326	354	œ	0 - 30%	PASS	
Lead (Pb)		Total	EPA 1640	0.196	0.197	<del>-</del>	0 - 30%	PASS	
Manganese (Mn)	'Mu)	Total	EPA 1640	675	.687	8	0 - 30%	PASS	
Mercury (Hg)		Total	EPA 1631E	0.00849	0.00887	4	0 - 30%	PASS	
Molybdenum (Mo)	(Mo)	Total	EPA 1640	3.49	3.97	13	0 - 30%	PASS	
Nickel (NI)		Total	EPA 1640	0.707	0.753	9	%06-0	PASS	
Titanium (Ti)		Total	EPA 1640	0.733	0.726	. <del></del> .;	0 - 30%	PASS	
Vanadium (V)		Total	EPA 1640	4.7	4.69	0	0 - 30%	PASS	-
Zinc (Zn)		Total	EPA 1640	11.6	11.7	-	0 - 30%	PASS	5

California ELAP Certificate # 2261 26613 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

# 0**EG Marine Laboratories, 9uc,** 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 orglabs@sbcglobal.net

Client:	Client: Southern California Edi	fornia Edison					CRG Project ID:	2557d
CRG ID#:	26614	Sample Description:	QAQC Long Beach Permit	LCM-CR	LCM-CRG Seawater		Date Sampled:	
Batch ID: Instrument:	Batch ID: 2557-12053 Instrument: ICPMS #1 HP 4500	Matrix:	Seawater P Hershelman				<i></i>	02-Aug-05
		Alialyst.	i i i ci si i ci i i ci i				Date Analyzed: 04-Au	04-Aug-05
CONSTITUENT	LN	FRACTION	METHOD	LCM1	LCM2	%RPD	ACCEPTANCE	COMMENT
-				μg/L	µg/L		RANGE	
Antimony (Sb)	(q.	Total	EPA 1640	0.095	0,134	84	0 - 30%	FAIL
Arsenic (As)		Total	EPA 1640	1.34	1,51	12	0-30%	PASS
Cadminm (Cd)	( <del>)</del>	Total	EPA 1640	0.115	0.113	2	0 - 30%	PASS
Chromium (Cr)	ર્હે -	Total	EPA 1640	0.255	0,285	Ξ	0 - 30%	PASS
Copper (Cu)		Total	EPA 1640	0.829	0.856	ო	0 - 30%	PASS
Iron (Fe)		Total	EPA 1640	0.462	0.32	98	0 - 30%	FAIL
Lead (Pb)		Total	EPA 1640	0.029	0.011	06	0 - 30%	FAIL
Manganese (Mn)	(Mn)	Total	EPA 1640	0.136	0.164	19	0 - 30%	PASS
Mercury (Hg)		Total	EPA 1631E	0.00021	0.00015	33	0 - 30%	FAIL
Molybdenum (Mo)	(Mo)	Total	EPA 1640	9.66	29.67	0	0 - 30%	PASS
Nickel (Ni)			EPA 1640	0.302	0.286	2	0 - 30%	PASS
Thallium (TI)		Total	EPA 1640	0.019	0.016	17	0 - 30%	PASS
Titanium (Ti)		Total	EPA 1640	0.251	0.425		0 - 30%	FAIL
Vanadium (V)	-	Total	EPA 1640	2.01	2.12	ιO	0 - 30%	PASS
Zinc (Zn)		Total	EPA 1640	1.41	1,38	. 2	0 - 30%	PASS

MDL.= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

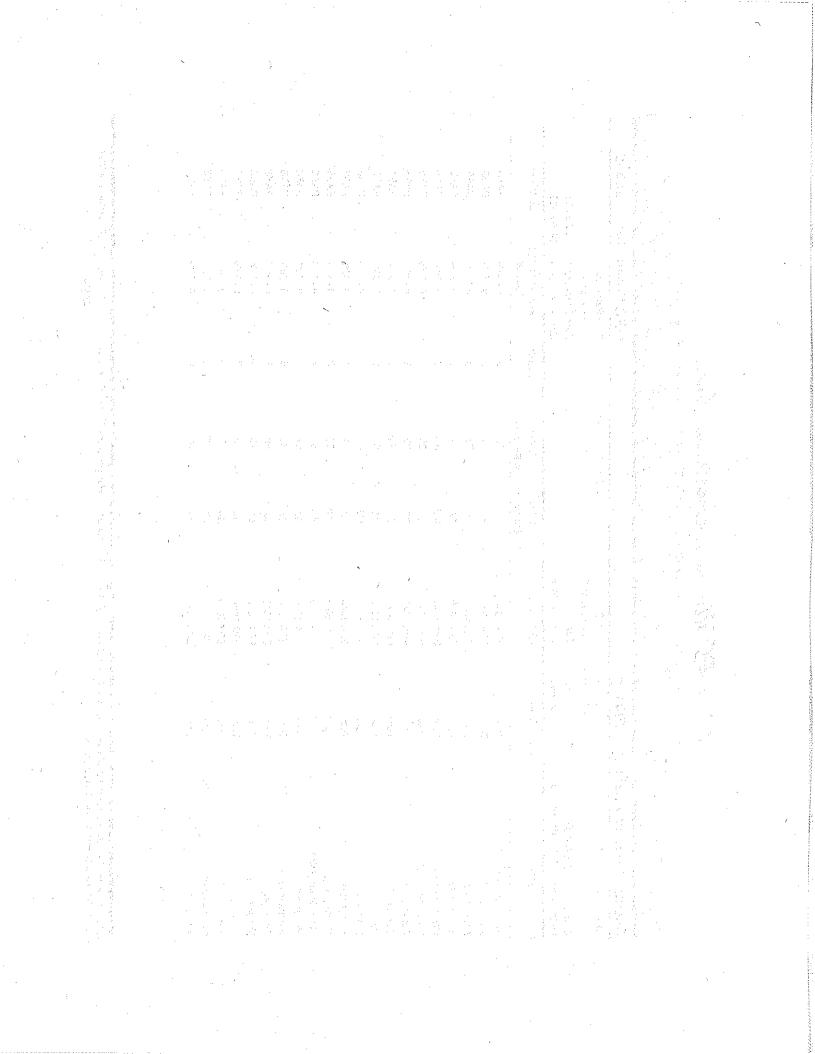
California ELAP Certificate # 2261 26614

# CRG Marine Laboratories, 9uc. 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

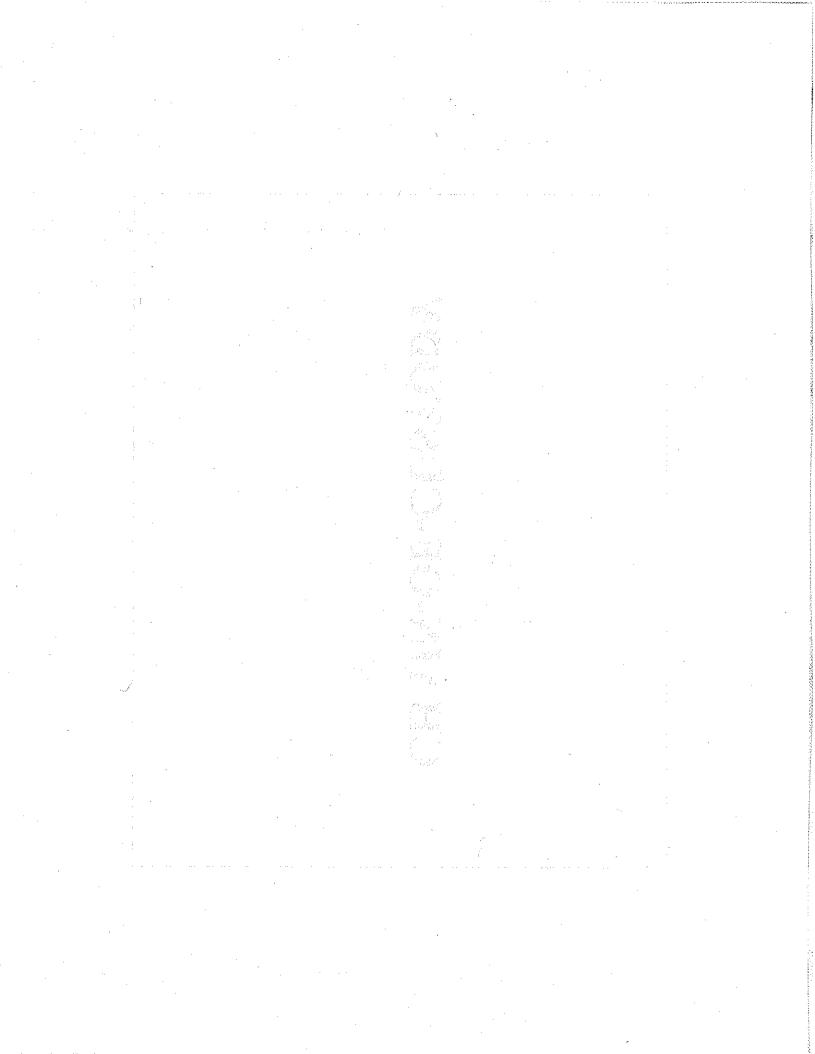
Client:	Southern California	nia Edison				·	CRG Project ID:		2557d
CRG ID#:	26614	Sample Description:	QAQC Long Beach Permit	CCM-C	LCM-CRG Seawater		Date Sampled: Date Received:		
Batch ID: Instrument:	2557-12053 ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P, Hershelman				Date Processed: Date Analyzed:	02-Aug-05 04-Aug-05	
CONSTITUENT		FRACTION	МЕТНОВ	LCS1 % Recovery	LCS2 % Recovery	% RPD	ACCEPTANCE RANGE		COMMENT
Aluminum (AI)	()	Total	EPA 1640	70	68	က	0 - 30%		PASS
Antimony (Sb)	(6	Total	EPA 1640	74	74	0	0 - 30%	_	PASS
Arsenic (As)		Total .	EPA 1640	75	73	ო	0 - 30%	_	PASS
Beryllium (Be)	(*	Total	EPA 1640	78	74	9	0 - 30%	_	PASS
Cadmium (Cd)	3	Total	EPA 1640	102	104	7	0 - 30%	_	PASS
Chromium (Cr)		Total	EPA 1640	94	95	<del>-</del>	0 - 30%	_	PASS
Cobalt (Co)	-	Total	EPA 1640	7.7	75	თ	0 - 30%	_	PASS
Copper (Cu)		Total	EPA 1640	26	.100	က	0 - 30%		PASS
Iron (Fe)		Total	EPA 1640	85	85	0	0 - 30%	_	PASS
Lead (Pb)	-	Total	EPA 1640	115	114	<del>-</del>	0 - 30%		PASS
Manganese (Mn)	Mn)	Total	EPA 1640	×92	91	-	0 - 30%		PASS
Mercury (Hg)		Total	EPA 1631E	100	86	<b>7</b>	0 - 30%	-	PASS
Molybdenum (Mo)	(Mo)	Total	EPA 1640	88	. 35	4	. 0 - 30%		PASS
Nickel (NI)		Total	EPA 1640	96	26	<del></del>	%0£ - 0		PASS
Selenium (Se)	(2)	Total	EPA 1640	83	88	9	0 - 30%	-	PASS
Silver (Ag)		Total	EPA 1640	82	06	ത	0 - 30%	-	PASS
Thalium (TI)		Total	EPA 1640	91	90	<del>-</del>	0 - 30%	-	PASS
Tin (Sn)	~	Total	EPA 1640	102	109	. 7	0 - 30%		PASS
Titanium (Ti)		Total	EPA 1640	96	66	ო	0 - 30%	_	PASS
Vanadium (V)		Total	EPA 1640	102	100	7	0 - 30%	_	PASS
Zinc (Zn)		Total	EPA 1640	7.1	67	ဖ	0 - 30%		PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26614



# CHAIN-OF-CUSTODY





### RESULTS TO:

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> Floor Westminster, CA 92683

### INVOICE TO

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

CRG Marine Laboratories, Inc. 2020 Del Amo Blvd., Suite 200 Torrance, CA 90503

-	P25574	
	26613	

Date:

Time:

Received By

Southern Calif. Edison P.O. Number:	V2024904, R	telease A001	SCE Accounting: 1220-6358-097.099				
Please return and direct inquires to:	Shawn S		Tel: (714) 895-0525 Fax: (714) 895-0515				
In all correspondence refer to project:	Long Bea	ch Permit	Email: shawn.simmons@sce.com				
Sample(s) are submitted for treatment.	disposition as d	escribed bel	ow.				
Sample ID	Date Collected	Time Collected	Description/Analytes				
Outfall Composite	7/18-7/19/05		Al, Ba, B, Co. Fe, Mo, Mn, Sn, Ti, Sb, As, Be,				
			Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn				
			EPA 1640				
C - in I Y - t mation on							
Special Instructions:							
· · · · · · · · · · · · · · · · · · ·		A	<b>A</b>				
Chain of Custody:	<del>1-1</del>		A A A A State of the state of t				
Julius	Date: 17.2	0)	Date: 13405				
. Relinguished By	Time:	)	Received By Time: 17 30				

Date:

Time

Relinquished By



CRG Project ID
P2557d

CLIENT NAME	Edison		DATE RECEIVED	7/25/05
·				7
		OURIERINEOR	MATION	
□ CRG	☐ FEDEX ER* ☐ UPS	TRACKING NUMBER		
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	the second secon	
TEN	PERATURE:		-Custody	SAMPLEMATRIX
0-	☐ BLUE ICE	MINCL	1	☑ LIQUID
26	°C ☐ WET ICE	☑ SIGN	ED INCLUDED	☐ SOLID☐ OTHER*
L	ZZ NO IOL		NOLODED	L DINEK
CONDIT	iovioe ovusie			
e ndi	ION OF SAMPLI	=57UBUN/ARRI	VAL YEŞ	<u>NO</u> * NA
	e containers intact a		<u>.</u>	
	es listed on COC are on containers cons		··········· <b>\</b> Z_*····	
Correct co	ntainers used for ar	nalyses requested		
Ali sample	s received within me	ethod holding time.	······································	· · · · · · · · · · · · · · · · · · ·
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<del></del>	<u>and the state of </u>			
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July 26, 2005

Shawn Simmons
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Subject: C

**Calscience Work Order No.:** 

05-07-1038

Client Reference:

Long Beach Permit

### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 7/19/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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.

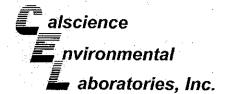
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane Laboratory Director



# **Analytical Report**



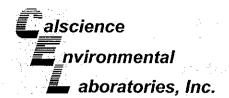
Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received: Work Order No: Preparation: Method: 07/19/05 05-07-1038 N/A EPA 405.1

Project: Long Beach Permit

Page 1 of 1

						<u> </u>	raye i oi i
Client Sample Number		Lab Sample Number	Date Collected	Matrix	Date Started	Date Ended	QC Batch ID
Intake Composite		05-07-1038-1	07/19/05	Aqueous	07/19/05	07/24/05	50719BODB1
Parameter Parameter	Result	RL	<u>DF</u>	Qual	<u>Units</u>		
Biochemical Oxygen Demand	2.5	1.0	1		mg/L	and the second s	
Outfall Composite		05-07-1038-2	07/19/05	Àqueous	07/19/05	07/24/05	50719BQDB1
<u>'arameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
iochemical Oxygen Demand	12	1	.1		mg/L		tage of
Method Blank		099-05-054-1,817	/ N/A	Aqueous	07/19/05	07/24/05	50719BODB1
<u>'arameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	n talah evi Samerakan	
Biochemical Oxygen Demand	ND	1,0	_	•	mg/L	e de la companya de l	



### **Quality Control - Duplicate**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method:

10、1924年1月8日前

07/19/05 05-07-1038 N/A EPA 405.1

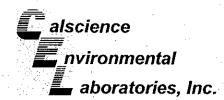
Project: Long Beach Permit

Quality Control Sample ID			Date Started:	Date Ended:	Duplicate Batch Number
Intake Composite	Aqueous	N/A	07/19/05	07/24/05	50719BODD1
Parameter Sampl Biochemical Oxygen Demand 2.5	le Conc		RPD	RPD CL	<u>Qualifiers</u>

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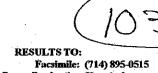


# **Glossary of Terms and Qualifiers**



Work Order Number: 05-07-1038

Qualifier	<u>Definition</u>
· *	See applicable analysis comment.
and o <mark>f</mark> salabases.	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
<b>2</b>	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 or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	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.
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.





Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

In all correspondence refer to project:  Sample (s) are submitted for treatment/disposition as described below.  Sample ID  Date Collected Time Collected Collected Time Time Time Time Time Time Time Time	Southern Calif. Edison P.O. N		Q1033917	Release Number: A002				
Sample ID  Date Collected Collected Intake Composite 7/18-7/19/05 Biochemical Oxygen Demand, EPA 405.1 Outfall Composite 7/18-7/19/05 Biochemical Oxygen Demand, EPA 405.1 Biochemical Oxygen Demand, EPA 405.1  Biochemical O								
Sample ID  Date Collected Collected Collected Collected Collected Collected Collected Collected Duffall Composite 7/18-7/19/05  Duffall Composite 7/18-7/19/05  Biochemical Oxygen Demand, EPA 405.1  Biochemical Oxygen Demand, EPA 405.1  Biochemical Oxygen Demand, EPA 405.1  Special Instructions:  Matrix is seawater.  Chairpof Custody:  Date: 1205  Received By Date: 1506  Date:	<del>-</del>	<u> </u>		<del></del>				
Intake Composite 7/18-7/19/05 Biochemical Oxygen Demand, EPA 405.1 Outfall Composite 7/18-7/19/05 Biochemical Oxygen Demand, EPA 405.1  Special Instructions:  Matrix is scawater.  Chairglof Custody:  Reliaquished By  Date:  Da	Sample(s) are submitted for t	treatment/disposit	ion as descril	ed below.				
Outfall Composite  7/18-7/19/05  Biochemical Oxygen Demand, EPA 405.1	Sample ID	Date Collected		Description/Analytes				
Outfall Composite  7/18-7/19/05  Biochemical Oxygen Demand, EPA 405.1	Intake Composite	7/18-7/19/05		Biochemical Oxygen Demand, EPA 405.1				
Special Instructions:  Matrix is scawater.  Chain of Custody:  Part 1905  Date: 1205  Relinquished By Time:  Date: 1705  Date: 1706  Date:	Outfall Composite	7/18-7/19/05		Biochemical Oxygen Demand, EPA 405.1				
Special Instructions:  Matrix is scawater.  Chairlof Custody:  Particular Special Instructions:  Matrix is scawater.  Date: 1205  Relinquished By Time:  Date: 1205  Received By Time:  Date: 1205  Date: 1206  Da								
Chain of Custody:  Date: 130  Refinquished By  Time:  Date: 140  Date: 150  Received By  Time:  Date: 160  Date: 170  Dat								
Chain of Custody:  Date: 130  Refinquished By  Time:  Date: 140  Date: 150  Received By  Time:  Date: 160  Date: 170  Dat								
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Date: Date: 19	Then	Date:	1-19-05	Date:				
Date: Date: // Q/	Relinquished By	Time	<del>: 1 2 0 )  </del>	Received By Time:				
		Date:						
Reinquished By Time Received By Time: / \/	Relinquished By	Time		Received By Time:				



**WORK ORDER #:** 

05-07-7038

Cooler Ø of Ø

# SAMPLE RECEIPT FORM

CLIENT: Longer	DATE: 7/19/05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided.  Chilled, cooler without temperature blank.  Chilled and placed in cooler with wet ice.  Ambient and placed in cooler with wet ice.  Ambient temperature.  °C Temperature blank.	LABORATORY (Other than Calscience Courier):  C Temperature blank.  C IR thermometer.  Ambient temperature.
	Initial:
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact)	Not Applicable (N/A): Initial:
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples	
COMMENTS:	

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myanya@crglabs.com

# **MICROBIOLOGY RESULTS**

CRG ID#: 26479

Project ID: M0524b

Matrix:

Sample. Description:

Procedural Blank

Client Name:

Southern California Edison

Shawn Simmons

Date Sampled:

Date Recieved:

19-Jul-05

Time Collected:

Time Analyzed:

13:15

<u>a servicio de la casa de la casa</u>	en en la severe de la companya de l	a see the	- 1 1 m		A STATE OF THE STA
CONSTITUENT	METHOD		RESULT	UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E	<u>,</u>	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	1.17	< 20	MPN/100 mL	20

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

	mortobi	OLOG1 ILL	OOLIO		
CRG ID#: 26480 Replicate	#PC1 Project	t ID: M0524b Bate	<b>th ID</b> 0719	Matrix: Cultures	
Sample QAQC Description: Positive Control		Client Na	Southern C Shawn Sim		
Date Sampled: Time Collected:	dyara at la		te Recieved: ne Analyzed:	19-Jul-05 13:15	
CONSTITUENT	METHOD	RESULT	UNIT	MDL	
Fecal Coliform / MTF 20	SM 9221E	PASS	MPN/100 mL	20	
Total Coliform / MTF 20	SM 9221B	PASS	MPN/100 mL	20	

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

### MICROBIOLOGY RESULTS

CRG ID#: 26461

Project ID: M0524b

Batch ID 0718

Matrix:

Seawater

Sample Description: Intake

**Client Name:** 

Southern California Edison

Shawn Simmons

Date Sampled:

Replicate #R1

**Date Recieved:** 

18-Jul-05

Time Collected:

18-Jul-05 12:20

Time Analyzed:

17:30

CONSTITUENT **METHOD** RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E MPN/100 mL 20 Total Coliform / MTF 20 SM 9221B 20 MPN/100 mL 20

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

CRG ID#: 26462 Replicate	RI Project ID:	M0524b Batch I	<b>D</b> 0718	Matrix: Seawater				
Sample Outfall Description:	and the second s	Client Namo	e: Southern Ca Shawn Simi	alifornia Edison mons				
Date Sampled: 18-Jul-05 Time Collected: 12:20	Sport of the		Recieved: Analyzed:	18-Jul-05 17:30				
CONSTITUENT		RESULT	UNIT	MDL				
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL					
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20				

CRG ID#: 26463	Replicate	RI Projec	et ID: Mo	)524b <b>Batch</b>	ID 0718	Matrix: Seav	vater
Sample Intake Description:	r falete √			Client Nan	ne: Southern Ca Shawn Simi	alifornia Edison mons	ingerer Standard (1997)
Date Sampled: Time Collected:	18-Jul-05 15:00	State State State This well state This well state The state state Th	****		Recieved: Analyzed:	18-Jul-05 17:30	1.6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CONSTITUENT		METHOD		RESULT	UNIT	MDL	
Fecal Coliform / MTF	20	SM 9221E		< 20	MPN/100 mL	20	
· Total Coliform / MTF	20	SM 9221B		< 20	MPN/100 mL	20	. 4

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

CRG ID#: 26464 Replicate	#R1 Project ID: N	/10524b Bat	ch ID 0718	Matrix: Seawater
Sample Outfall Description:	And the second second	Client N	ame: Southern Ca Shawn Simi	alifornia Edison mons
Date Sampled: 18-Jul-05 Time Collected: 15:06	HANG SINGAGA HANG SINGAGA		ite Recieved: ne Analyzed:	18-Jul-05 17:30
CONSTITUENT	METHOD	RESULT	UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

CRG ID#: 26465 Replicate	#RI Project ID: N	10524b Batch	<b>ID</b> 0718	Matrix: Seawater	
Sample Intake Description:		Client Nam	Southern Ca	difornia Edison nons	
Date Sampled: 18-Jul-05 Time Collected: 18:00	Burnalis and State (Communication of the Communication of the Communicat		Recieved: Analyzed:	18-Jul-05 22:30	
CONSTITUENT	METHOD	RESULT	UNIT	MDL	
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20	
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20 20	:

MIONOPIOLOGI RESULTS								
CRG ID#: 26466 Replicat	e #R1 Project ID: M	10524b Batch ID 0718	Matrix: Seawater					
Description:	e Salar de Grande de La grande de Grande d La grande de	Client Name: Southern C Shawn Sim	alifornia Edison mons					
Date Sampled: 18-Jul-05 Time Collected: 18:30	A Constitution of the Cons	Date Recieved: Time Analyzed:	18-Jul-05 22:30					
CONSTITUENT	METHOD	RESULT UNIT	MDL					
Fecal Coliform / MTF 20	SM 9221E	< 20 MPN/100 mL	20					
Total Coliform / MTF 20	SM 9221B	< 20 MPN/100 mL	20					

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CRG ID#: 26467 Replicate	RI Project ID: M	0524b Batch	1 <b>ID</b> 0718	Matrix: Seawater	1 - y4+2
Sample Intake Description:	e de la composición del composición de la composición de la composición del composición de la composic	Client Nar	ne: Southern Ca Shawn Simi	alifornia Edison mons	16 (2 72.85 e 14 14
Date Sampled: 18-Jul-05 Time Collected: 21:00	Constanting and Automotive Constanting of the Const		Recieved:	18-Jul-05 22:30	
CONSTITUENT	METHOD	RESULT	UNIT	MDL	* ***
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20	4.7
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20	٠

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		IVIICI	KODIOLO	JGT I	<b>KESI</b>	)L12			
CRG ID#: 26468	Replicate	#R1	Project ID: M	0524b	Batch I	D 0718	Matrix:	Seawater	
Sample Out Description:	िक्षित्र अस्तर्गः		en er en	Clie	nt Name	Southern Ca	alifornia Edisc mons	on .	
Date Sampled:	18-Jul-05		et year		Date F	Recieved:	18-Jul-05	t Erreg Ji	
Time Collected:	21:15	1	1:		Time /	Analyzed:	22:30	in the set of second	:
CONSTITUENT		METHO		RESU		UNIT	I	MDL	
Fecal Coliform / M7	TF 20	SM 9221	E, ,,	<	20	MPN/100 mL·		20	
Total Coliform / MT	F 20	SM 9221	В	. <	20	MPN/100 mt		20	

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and the second of the second o		YEAA'I IVEC	OLIO .	e uzere in la sue res
CRG ID#: 26469 Replicat	e #R1 Project	ID: M0524b Batch	ID 0719	Matrix: Seawater
Sample Intake Description:		Client Nar	ne: Southern Cali Shawn Simmo	
Date Sampled: 19-Jul-05		Date	Recieved:	19-Jul-05
Time Collected: 00:00	tand Marana	Time	e Analyzed:	04:30
CONSTITUENT	METHOD	RESULT	UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	20</td <td>MPN/100 mL</td> <td><b>20</b></td>	MPN/100 mL	<b>20</b>

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CRG ID#: 26470 Replicate	R1 Project ID:	M0524b Batch	ID 0719	Matrix: Seawater
Sample Outfall Description:		Client Nan	ne: Southern Cali Shawn Simmo	fornia Edison ns
Date Sampled: 19-Jul-05 Time Collected: 00:10	i kana sa kata sa kata Kata sa kata s		Recieved: Analyzed:	19-Jul-05 04:30
CONSTITUENT	METHOD	RESULT	UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

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### MICROBIOLOGY RESULTS

CRG ID#: 26471 Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater Sample Intake Client Name: Southern California Edison Description: Shawn Simmons Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05 Time Collected: 03:00 Time Analyzed: 04:30 CONSTITUENT **METHOD** RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20

MPN/100 mL

20

SM 9221B

Total Coliform / MTF 20

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### **MICROBIOLOGY RESULTS** CRG ID#: 26472 Replicate #R1 Project ID: M0524b Batch ID 0719 Sample Description: Outfall Client Name: Southern California Edison Shawn Simmons Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05 Time Collected: 03:10 Time Analyzed: 04:30

CONSTITUENT	METHOD	RESULT UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E	< 20 MPN/100 mL	20.
Total Coliform / MTF 20	SM 9221B	< 20 MPN/100 mL	20

CRG ID#: 26473	Replicate	#RI Pro	oject ID: M	0524b Bato	h ID 0719	Matrix: Seawa	ter
Sample Intal Description:	ke		1. 1.5 A. F.	Client Na	Shawn Sim	alifornia Edison mons	e e e e e e e e e e e e e e e e e e e
Date Sampled: Time Collected:	19-Jul-05 06:10				te Recieved: ne Analyzed:	19-Jul-05 10:30	
CONSTITUENT		METHOD		RESULT	UNIT	MDL	: .
Fecal Coliform / MT	F 20	SM 9221E		< 20	MPN/100 mL	20	declared a
Total Coliform / MT	F 20	SM 9221B	£ 1	< 20	MPN/100 mL	20	

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				<u> </u>	·
CRG ID#: 2647	4 Replicate	#RI Project I	D: M0524b Batcl	<b>1D</b> 0719	Matrix: Seawater
Sample Ou Description:	tfall	er ere er	Client Na	me: Southern C Shawn Sim	alifornia Edison
Date Sampled: Time Collected:	19-Jul-05 06:00			Recieved:	19-Jul-05 10:30
CONSTITUENT		METHOD	RESULT	UNIT	MÐL
Fecal Coliform / M	TF 20	SM 9221E	< 20	MPN/100 mL	20
Total Coliform / MT	F 20	SM 9221B	< 20	MDN//100	20.

CRG ID#: 26475	Replicate #	RI [	Project ID:	M0524b	Batch I	<b>D</b> 0719	Matrix: Seawater	
Sample Intake Description:	•	vs fay or the s		Clie	ent Name	Southern Ca Shawn Simu	alifornia Edison mons	
Date Sampled:	19-Jul-05	2000			Date F	Recieved:	19-Jul-05	
Time Collected:	09:00	i studing" ki eni iz Salada kaj ji jala			Time	Analyzed:	10:30	r de de la companya della companya de la companya de la companya della companya d
CONSTITUENT		METHOD		RESU	LT	UNIT	MDL	
Fecal Coliform / MTF	20	SM 9221E		<	20	MPN/100 mL	20	
Total Coliform / MTF	20	SM 9221B		<	20	MPN/100 mL	20	

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WICKOBIOLOGY RESULTS									
CRG ID#: 2647	6 Replicate #RI	Project ID: M0524	b Batch ID 0719	Matrix:	Seawater				
Sample Our Description:	<b>Ifall</b>		Client Name: Southern Shawn Si	California Edis	on				
Date Sampled:	19-Jul-05		Date Recieved:	19-Jul-05					
Time Collected:	09:10		Time Analyzed:	10:30	and the second second				

L	A Chapter of the Co	MIGITODICE	OOT ILL	JULIO	etern a ch	*
CRG ID#: 26477	Replicate #F	Project ID:	M0524b Batc	h ID 0719	Matrix:	Seawater
Sample Intal Description:	ce transfer de la distriction de la constantion		Client Na	me: Southern C Shawn Sim	alifornia Edis mons	on
Date Sampled: Time Collected:	19-Jul-05 12:02	Parkers of the second of the s		e Recieved: le Analyzed:	19-Jul-05 13:15	
CONSTITUENT		METHOD	RESULT	UNIT		MDL
Fecal Coliform / MT	F 20	SM 9221E	< 20	MPN/100 mL		20
Total Coliform / MTI	- 20	SM 9221B	~ 20	MDN/400 msl	-	2 1 No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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		MICKOBIOLO	JUT RES	ULIS			
CRG ID#: 26478	Replicate	#R1 Project ID: N	10524b <b>Batc</b> l	ID 0719	Matrix:	Seawater	
Sample Outfall Description:			Client Name: Southern California Edison Shawn Simmons				
Date Sampled:	19-Jul-05	No. diskl		Recieved:	19-Jul-05	. 180 180 18	
Time Collected:	12:00	<u> </u>	Time	e Analyzed:	13:15		
CONSTITUENT		METHOD	RESULT	UNIT		MDL	
Fecal Coliform / M1	F 20	SM 9221E	20	MPN/100 mL		20	
Total Coliform / MTF 20		SM 9221B	20	MPN/100 ml		20	

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	, a sa s	KODIOLOG	INLOG	LIO.	100000	The state of the s
CRG ID#: 26461	Replicate #R2	Project ID: M0524	b Batch ID	0718	Matrix:	Seawater
Sample Intak Description:	е	(	Client Name:	Southern Ca Shawn Simi	alifornia Edise mons	on
Date Sampled: Time Collected:	18-Jul-05 12:20			ecieved: nalyzed:	18-Jul-05 17:30	du samikiju ma€ Jamania
CONSTITUENT	METHO	D RE	SULT	UNIT		MDL
Fecal Coliform / MTF	- 20 SM 9221	E	< 20	MPN/100 mL	41.5	20
Total Coliform / MTF	20 SM 9221	В	< 20	MPN/100 mL	• • • • •	20

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### **MICROBIOLOGY RESULTS** CRG ID#: 26478 Replicate #R2 Batch ID 0719 Project ID: M0524b Matrix: Seawater Sample **Client Name:** Southern California Edison Description: Shawn Simmons Date Sampled: 19-Jul-05 **Date Recieved:** . 19-Jนโ-05 Time Collected: 12:00 Time Analyzed: 13:15 CONSTITUENT **METHOD** RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20

20

MPN/100 mL

SM 9221B

Total Coliform / MTF 20



STL Los Angeles 1721 South Grand Avenue Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921 www.stl-inc.com

August 9, 2005

STL LOT NUMBER: **E5G200307**PO/CONTRACT: V2033901

Shawn Simmons
Southern California Edison Com
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683

Dear Mr. Simmons,

This report contains the analytical results for the seven samples received under chain of custody by STL Los Angeles on July 20, 2005. These samples are associated with your Long Beach Permit Renew project.

STL Los Angeles certifies that the test results provided in this laboratory meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the cooler received for this project can be found on the Project Receipt Checklist. Historical control limits for the LCS are used to define the estimate of uncertainty for a method. All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

Preliminary results were sent via facsimile on August 9, 2005.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000044 pages.



### **CASE NARRATIVE**

- 1) Method EPA 8290 was performed at STL Sacramento. Located at 880 Riverside Parkway, West Sacramento, CA 95605. Telephone No.: 916-373-5600.
- There was insufficient sample volume provided to prepare a project-specific MS/MSD for the 8270C analysis. A duplicate LCS has been prepared to provide accuracy and precision measurement for the sample in this project.
- 3) For 8270C analysis, the RPDs in the LCS/LCSD for analytes 1,4-Dichlorobenzene and 1,2,4-Trichlorobenzene were out high. No sample left for re-extraction. The analytes are not detected in the sample. No impact on data quality is expected. Data are reported as is.

Janual Toleran

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If you have any questions, please feel free to call me at (714) 258-8610.

Sincerely,

Marisol Tabirara Project Manager

cc: Project File





MAIL REPORT AND ONE COPY OF INVOICE TO:

Attn.: Shawn Simmons Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 MAIL ORIGINAL AND ONE COPY OF INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

E56200307

### SAMPLE ANALYSIS MEMORANDUM TO:

Severn Trent Laboratories (STL) 1721 South Grand Avenue Santa Ana, CA 92705

			· ·
Southern Calif. Edison P.O. Number:	V2033901	SCE Accounting:	1220-6358-097.097
Please return and direct inquires to:	S. Simmons	Tel: (714) 895-0525	Fax: (714) 895-0515
In all correspondence refer to project:	Long Beach Permit Renew	Email: shawn.simmons	@sce.com

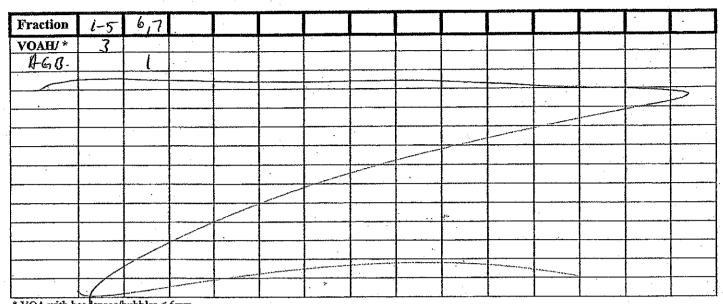
Sample(s) are submitted for treatment/disposition as described below.

Sample ID	Date Collected	Time Collected	Description/Analytes
Outfall	7/18/05	12:20	EPA 8260B, see attached list for required cpds.
Outfall	7/18/05	18:30	EPA 8260B, see attached list for required cpds.
Outfall	7/19/05	00:10	EPA 8260B, see attached list for required cpds.
Outfall	7/19/05	06:00	EPA 8260B, see attached list for required cpds.
Outfall	7/19/05	12:00	EPA 8260B, see attached list for required cpds.
Outfall Composite	7/18-7/19/05		EPA 8270C, see attached list for required cpds.
Outfall Composite	7/18-7/19/05		TCDD Full-Screen by EPA 8290
The second secon			
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		-	
			The state of the s
The second secon			
And the second s			
		*	

Chain of Custoday		1		/		
- Clim	Date:7/30	105 MAL	Muss		Date: 7	.20-05
Relinquishe U	Time:	8	Received By		Time:	2.15
	Date:				Date:	
Relinguished By	Time		Received By		Time:	

Temp= 6.1 tc+-.4 = 5.7

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 7-20-05
LIMS Lot #:
Client Name: Southern California Edison Project: Long Bead Pernit Renew
Client Name: Southern California Edison Project: Long Bead Permit Renew Received by: Date/Time Received: 7-2005 12:15
Delivered by: Gelient STL DHL Fed Ex UPS Other
**************************************
Custody Seal-Status Cooler: Intact Broken None
Custody Seal Status Samples:
Custody Seal #(s):
Sampler Signature on COC Yes Who
IR Gun # 1 Correction Factor -4 °C IR passed daily verification 4 Yes No
Temperature - BLANK 6-1 °C +/- 4 CF = 5.7 °C
Temperature - COOLER (°C°C°C°C) =avg °C +/CF =°C
Samples outside temperature criteria but received within 6 hours of final sampling Yes YN/A
Sample Container(s): STL-LA Client
One COC/Multiple coolers: Yes-# coolers All within temp criteria Yes No UN/A
One or more coolers with an anomaly: Yes - (fill out PRC for each)
Samples: Dintact Broken Other
pH measured: Yes Anomaly (if checked, notify lab and file NCM)
Anomalies: No Zes - complete CUR and Create NCM NCM #
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. Yes
Labeled by: Labeling checked
春春春中中于中华中华中华中华中华中华中华中华中华中华中华中华中华中华中华中华中华
Turn Around Time: RUSH-24HR RUSH-48HR RUSH-72HR PNORMAL
Short-Hold Notification: pH Wet Chem Metals (Filter/Pres) Encore 172 HT expired.
Outside Analysis(es) (Test/Lab/Date Sent Out)
**************************************
Headspace Anomaly  Lab ID Container(s) # Headspace Lab ID Container(s) # Headspace
□ > 6mm □ > 6mm
□ > 6mm         □ > 6mm           □ > 6mm         □ > 6mm
> 6mm

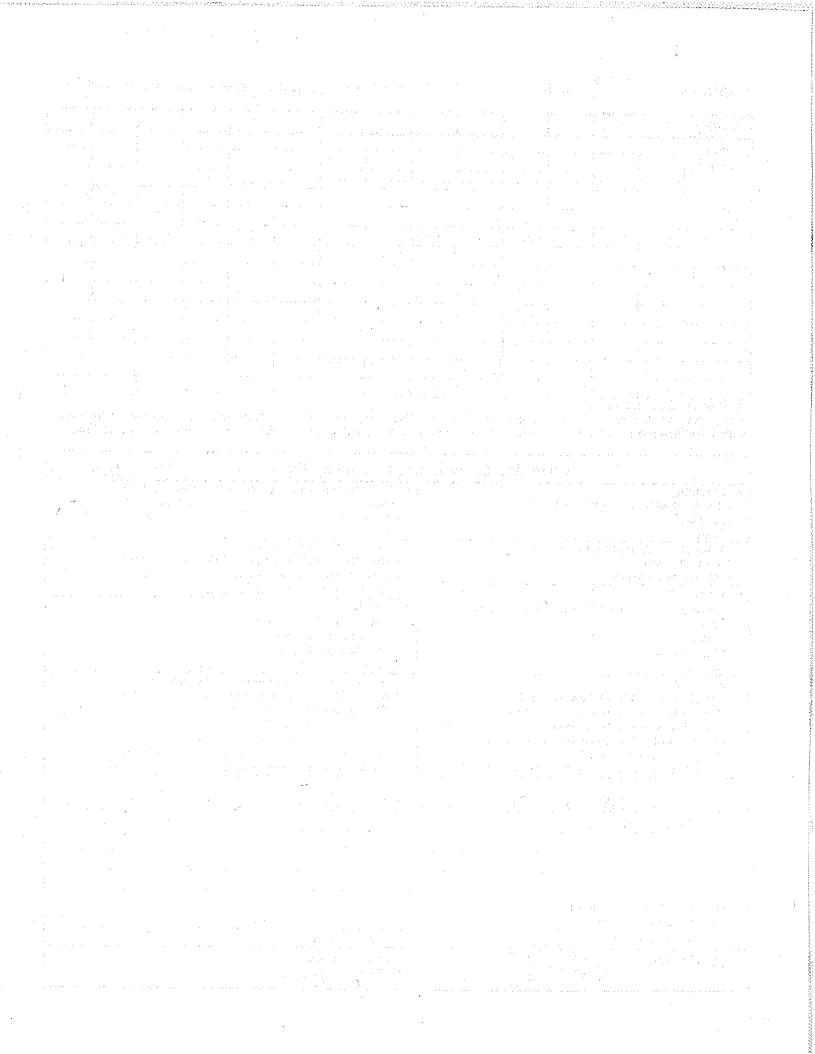


\* VOA with headspace/bubbles < 6mm

H: HCL, 'S: H2SO4, 'N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore

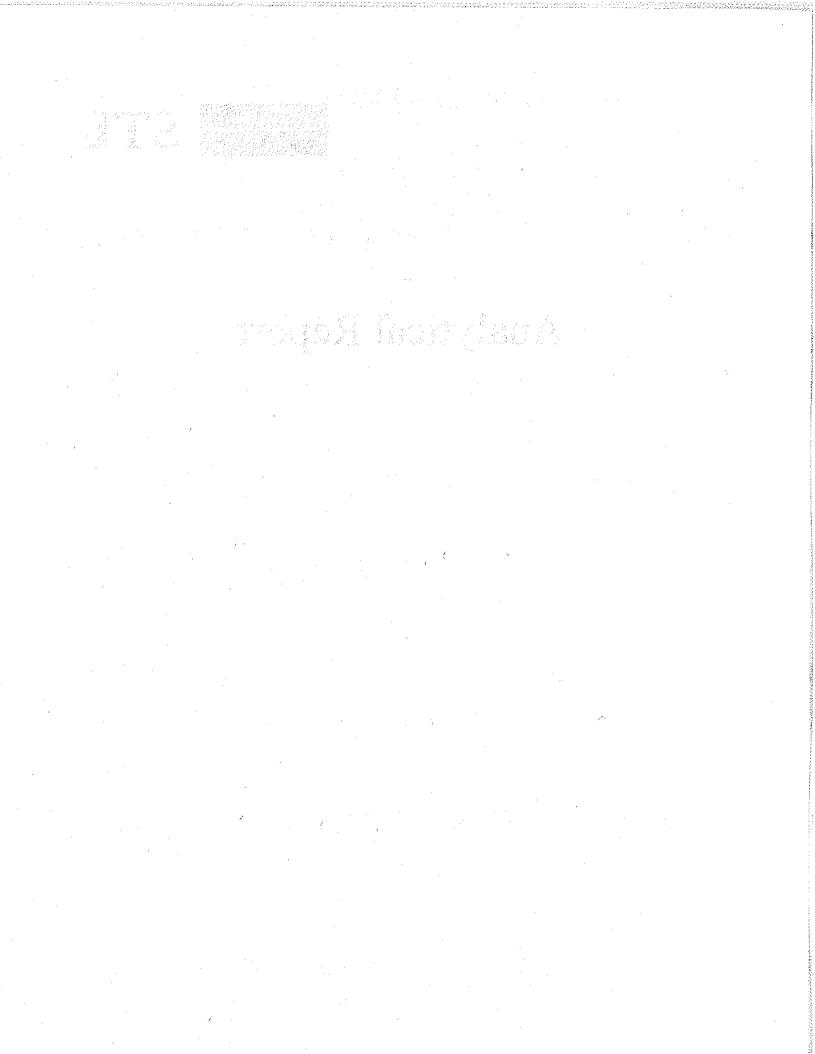
AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Re	ceipt Anomaly Form N/A 7-20-91 R
- COOLERS  □ Not Received (received COC only)  □ Leaking □ Other:	CUSTODY SEALS (COOLER(S) CONTAINER(S)  None Not Intact Other  CONTAINER(S)
TEMPERATURE (SPECS 4 ± 2°C)  ☐ Cooler Temp(s) ☐ Temperature Blank(s)  CONTAINERS	- CHAIN OF CUSTODY (COC)  □ Not relinquished by Client; No date/time relinquished  □ Incomplete information provided  □ Other □ COC not received — notify PM
<ul> <li>☐ Leaking</li> <li>☐ Voa Vials with Bubbles &gt; 6mm</li> <li>☐ Broken</li> <li>☐ Extra</li> <li>☐ Without Labels</li> <li>☐ Other:</li> </ul>	■ LABELS  ☐ Not the same ID/info as in COC  ☐ Incomplete Information  ☐ Markings/Info illegible  ☐ Torn
- SAMPLES  □ Samples NOT RECEIVED but listed on COC  □ Samples received but NOT LISTED on COC  □ Logged based on Label Information  □ Logged based on info from other samples on COC  □ Logged according to Work Plan  □ Logged on HOLD UNTIL FURTHER NOTICE	☐ Will be noted on COCClient to send samples with new COC  ☐ Mislabeled as to tests, preservatives, etc.  ☐ Holding time expired — list sample ID and test  ☐ Improper container used  ☐ Not preserved/Improper preservative used  ☐ Improper pH Lab to preserve sample and document  ☐ Insufficient quantities for analysis
Comments	noted as having NauSz Dz , but
☐ Corrective Action Implemented: ☐ Client Informed: verbally on	/: U In writing on By: Sample(s) processed "as is."
Logged by/Date: Wher largar	PM Review/Date: Wwc //21/05





# **Analytical Report**



# ANALYTICAL REPORT

Long Beach Permit Renew

Lot #: E5G200307

Shawn Simmons

Southern California Edison Com

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara Project Manager

August 9, 2005

一次对位的证据 医克雷勒 医水大不利

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CAMPANA START

British Digital Bayes

九天,在朱铁铁,张大大大,广告,自由1997

# **EXECUTIVE SUMMARY - Detection Highlights**

# E5G200307

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
		. A second	in die eer van die eer	en e
OUTFALL 07/18/05 12:20 001				
production of the control of the con			~ /T	SW846 8260B
Chloroform	0.58 ปั	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.32 J	1.0	ug/L	
Bromoform	0.72 J	1.0	ug/L	SW846 8260B
	ar a sauf a	eri op de ela gali de	in the second	and an
OUTFALL 07/18/05 18:30 002	Sittle British is	1 30 18 18 18	ti.	
Chloroform	0.69 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.38 J	1.0	ug/L	SW846 8260B
Bromoform	0.65 J	1.0	ug/L	SW846 8260B
OUTFALL 07/19/05 00:10 003	,			
Chloroform	0.45 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.32 J	1.0	ug/L	SW846 8260B
Bromoform	0.38 ປັ	1.0	ug/L	SW846 8260B
OUTFALL 07/19/05 06:00 004				
Chloroform	0.62 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.44 J	1.0	ug/L	SW846 8260B
Bromoform	0.52 J	1.0	ug/L	SW846 8260B
OUTFALL 07/19/05 12:00 005			•	
Chloroform	0.71 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.46 J	1.0	ug/L	SW846 8260B
Bromoform	0.33 J	1.0	ug/L	SW846 8260B
- The state of the				•

# METHODS SUMMARY

#### E5G200307

PARAMETER:	ANALYTICAL METHOD	PREPARATION METHOD
Dibenzodioxins and Dibenzofurans, HRGC/HRMS	SW846 8290	SW846 8290
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3510C
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
Deference:	AND THE RESERVE OF THE PARTY OF	and the second second

#### References:

SW846

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

#### E5G200307

ACCEPTANCE

WO # 5	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
<del></del>				•
HFW7J	001	OUTFALL	07/18/05	
HFW7Q	002	OUTFALL	07/18/05	
HFW7R	003	OUTFALL	07/19/05	
HFW7V	004	OUTFALL	07/19/05	
HFW7W	005	OUTFALL	07/19/05	
HFW71	006	OUTFALL COMPOSITE	07/18/05	
HFW76	007	OUTFALL COMPOSITE	07/18/05	• .
ILL W. O	007		The state of the s	

#### NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

#### Client Sample ID: OUTFALL

#### GC/MS Volatiles

Date Sampled...: 07/18/05 12:20 Date Received..: 07/20/05 12:15 MS Run #...... 5203316

Matrix..... W

Lot-Sample #...: E5G200307-001 Work Order #...: HFW7J1AA

	Dare Dampicor 01/10/02 12:20	Duce Mederica	0,,20,00 =				
	Prep Date: 07/22/05	Analysis Date:			as the		
	Prep Batch #: 5203515	Analysis Time:	13:47			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Dilution Factor: 1	·			en de la Companya de La Companya de la Companya de	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	f
٠	Analyst ID: 015590	Instrument ID:	MSQ		and the second	4.75	
		Method:	SW846 8260	В			
				ran ever over the		14 P.	
	A CONTRACTOR OF THE CONTRACTOR	•	REPORTING		***		
	PARAMETER	RESULT	LIMIT	UNITS	MDL_		
	Chloromethane	ND	2.0	ug/L	0.30		
	Chloroethane	ND	2.0	ug/L	0.30	:	
	Bromomethane	ND	2.0	ug/L	1.0		est prop
	1,1-Dichloroethene	ND	1.0	ug/L	0.30	- 1 Table	Att of the state of
	Methylene chloride	ND	1.0	ug/L	0.30		1 -
	trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30	4.4	1 1
	1,1-Dichloroethane	ND	1.0	ug/L	0.20	, este of t	er per livel
	Chloroform	0.58 J	1.0	ug/L	0.30		3 B 1961
	1,1,1-Trichloroethane	ND	1.0	ug/L	0.20		
	Carbon tetrachloride	ND	1.0	ug/L	0.30		-
	Benzene	ND	1.0	ug/L	0.30		
	Trichloroethene	ND	1.0	ug/L	0.30		*
	1,2-Dichloropropane	ND	1.0	ug/L	0.30		
	Bromodichloromethane	0.32 J	1.0	ug/L	0.30	-	
	cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30		
	Toluene	ND	1.0	ug/L	0.30		
1	1,1,2-Trichloroethane	ND	1.0	ug/L	0.30		
	1,2-Dichloroethane	ND	1.0	ug/L	0.40		
	Tetrachloroethene	ND	1.0	ug/L	0.30		
	Dibromochloromethane	ND	1.0	ug/L	0.40		
	Chlorobenzene	ND	1.0	ug/L	0.30		
	Ethylbenzene	ND	1.0	ug/L	0.20		
	trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50		
	Xylenes (total)	ND	1.0	ug/L	0.80	:	
	Vinyl chloride	ND	1.0	ug/L	0.30	•	
	Bromoform	0.72 Ј	1.0	ug/L	0.30		
				_			

'	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Bromofluorobenzene	106	(75 ~ 130)
1,2-Dichloroethane-d4	114	(65 - 135)
Toluene-d8	103	(80 - 130)

ND

ND

ND

ND

#### NOTE(S):

Acrolein

Acrylonitrile

1,1,2,2-Tetrachloroethane

2-Chloroethyl vinyl ether

1.0

20

20

5.0

ug/L

ug/L

ug/L

ug/L

0.40

12

10

I Estimated result. Result is less than RL.

#### OUTFALL

#### GC/MS Volatiles

Lot-Sample #: E5G200307-001

Work Order #: HFW7J1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

ESTIMATED PARAMETER CAS #

RETENTION

UNITS

bis(chloromethyl) ether

ug/L

NOTE(S):

M. Result was measured against nearest internal standard assuming a response factor of 1.

# Client Sample ID: OUTFALL

### GC/MS Volatiles

Lot-Sample #: E5G200307-002	Work Order # .	<u> </u>	Matr	ix	. W
Date Sampled: 07/18/05 18:3	O Date Received:	07/20/05 1			
Prep Date: 07/22/05	Analysis Date:	07/22/05		· · ·	
Prep Batch #: 5203515	Analysis Time:				
Dilution Factor: 1	maryone indicit				
Analyst ID: 015590	Instrument ID:	MSO	Maria San Ca	Tally the specific terms	
Analyse ID 015550	Method	**	80 80		
e de la companya de La companya de la co				ν.	
		REPORTING			
PARAMETER	RESULT	LIMIT	UNITS	MDL	
Chloromethane	ND	2.0	ug/L	0.30	
Chloroethane	ND	2.0	ug/L	0.30	
Bromomethane	ND	2.0	ug/L	1.0	1. 1. 1. 1. 1.
1,1-Dichloroethene	ND	1.0	ug/L	0.30	
Methylene chloride	ND	1.0	ug/L	0.30	
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30	
1,1-Dichloroethane	ND	1.0	ug/L	0.20	
Chloroform	0.69 J	1.0	ug/L	0.30	
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20	
Carbon tetrachloride	ND	1.0	ug/L	0.30	
Benzene	ND	1.0	ug/L	0.30	
Trichloroethene	ND	1.0	ug/L	0.30	
1,2-Dichloropropane	ND	1.0	ug/L	0.30	•
Bromodichloromethane	0.38 J	1.0	ug/L	0.30	
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30	
	ND	1.0	ug/L	0.30	
Toluene	ND	1.0	ug/L	0.30	
1,1,2-Trichloroethane	ND	1.0	ug/L	0.40	
1,2-Dichloroethane	ND	1.0	ug/L ug/L	0.30	
Tetrachloroethene	ND	1.0	ug/L	0.40	
Dibromochloromethane	ND	1.0	ug/L	0.30	
Chlorobenzene		1.0	ug/L	0.20	
Ethylbenzene	ND `ND	1.0	ug/L	0.50	
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.80	
Xylenes (total)	ND		ug/L	0.30	
Vinyl chloride	ND	1.0	սց/ <b>L</b>	0.30	
Bromoform	0.65 J	1.0		0.40	
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L		
Acrolein	ND	20	ug/L	12	
Acrylonitrile	ND	20	ug/L	10	
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0	
•	PERCENT	RECOVERY			• • •
arron can ele		LIMITS			
SURROGATE	RECOVERY	$\frac{11M115}{(75 - 130)}$	<u>,,</u>		
Bromofluorobenzene	105				
1,2-Dichloroethane-d4	111	(65 - 135 (80 - 130			r ,
Toluene-d8	104	180 - 130			

J Estimated result. Result is less than RL.

NOTE(S):

#### OUTFALL

#### GC/MS Volatiles

Lot-Sample #: E5G200307-002

Work Order #: HFW7Q1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER

CAS # RESULT TIME UNITS
bis (chloromethyl) ether ND - M ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

# Client Sample ID: OUTFALL

# GC/MS Volatiles

Lot-Sample #: E5G200307-003	Work Order # :	HFW7R1AA	Matrix	W
Date Sampled: 07/19/05 00:10	Date Received.:	07/20/05 1	and the second second	
Prep Date: 07/22/05	Analysis Date:		_,	
Prep Batch #: 5203515	Analysis Time:		•	
Dilution Factor: 1				
Analyst ID: 015590	Instrument ID:	MSO	and the state of the	Additional Control of the Control of
American de la companya de la compan	Method:		В	
			•	•
		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
Chloromethane	ND	2.0	ug/L	0.30
Chloroethane	ND	2.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
1,1-Dichloroethene	ND	1.0	ug/L	0.30
Methylene chloride	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
Chloroform	0.45 J	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
Carbon tetrachloride	ND	1.0	ug/L	0.30
Benzene	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
Bromodichloromethane	0.32 J	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
1,2-Dichloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chlorobenzene	ND	1.0	ug/L	0.30
Ethylbenzene	ND	1.0	ug/L	0.20
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Xylenes (total)	ND	1.0	ug/L	0.80
Vinyl chloride	ND	1.0	'ug/L	0.30
Bromoform	0.38 J	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Acrolein	ND /	20	ug/L	12
Acrylonitrile	ND	20	ug/L	10
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS	_	•
Bromofluorobenzene	106	(75 - 130)		
1,2-Dichloroethane-d4	114	(65 - 135)		
Toluene-d8	106	(80 - 130)		

J Estimated result. Result is less than RL.

NOTE(S):

#### OUTFALL

#### GC/MS Volatiles

Lot-Sample #: E5G200307-003

Work Order #: HFW7R1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER CAS # RESULT TIME UNITS ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

#### Client Sample ID: OUTFALL

#### GC/MS Volatiles

Lot-Sample #:						
Date Sampled:	07/19/05 06:00	Date Received:	07/20/05	12:15	MS Run	# 5203316
Prep Date:	07/22/05	Analysis Date:	07/22/05			*
Prep Batch #:		Analysis Time:			•	
Dilution Factor:	1 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	And the second second	*		55 338	en e
Analyst ID:	015590	Instrument ID:	MSQ			

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL	~ .
Chloromethane	ND	2.0	ug/L	0.30	<del> </del>
Chloroethane	ND	2.0	ug/L ug/L	0.30	
Bromomethane	ND	2.0	ug/L ug/L	1.0	i da iya bayra
1,1-Dichloroethene	ND	1.0	ug/L	0.30	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Methylene chloride	ND	1.0	ug/L ug/L	0.30	
trans-1,2-Dichloroethene	ND	1.0	ug/L ug/L	0.30	
· · · · · · · · · · · · · · · · · · ·	ND	1.0	ug/L	0.20	
1,1-Dichloroethane Chloroform	0.62 J	1.0	ug/L	0.30	
	' '	1.0	ug/L	0.20	
1,1,1-Trichloroethane	ND		ug/L ug/L	0.20	
Carbon tetrachloride	ND	1.0	ug/L ug/L	0.30	
Benzene	ND	1.0	-	0.30	
Trichloroethene	ND	1.0	ug/L	0.30	
1,2-Dichloropropane	ND	1.0	ug/L	0.30	
Bromodichloromethane	0.44 J	1.0	ug/L	0.30	
cis-1,3-Dichloropropene	ND	1.0	ug/L		
Toluene	ND	1.0	ug/L	0.30	
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30	
1,2-Dichloroethane	ND	1.0	ug/L	0.40	
Tetrachloroethene	ND	1.0	ug/L	0.30	
Dibromochloromethane	ND	1.0	ug/L	0.40	
Chlorobenzene	ND	1.0	ug/L	0.30	,
Ethylbenzene	ND	1.0	ug/L	0.20	
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50	
Xylenes (total)	ND	1.0	ug/L	0.80	
Vinyl chloride	ND	1.0	ug/L	0.30	
Bromoform	0.52 J	1.0	ug/L	0.30	
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40	
Acrolein	ND	20	ug/L	12	
Acrylonitrile	ND	20	ug/L	10	
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0	
	PERCENT	RECOVERY			
SURROGATE	RECOVERY	LIMITS			
Bromofluorobenzene	105	(75 - 130			
1,2-Dichloroethane-d4	116	(65 - 13	5)		
Toluene-d8	105	(80 - 130	) .		

#### NOTE(S):

J Estimated result. Result is less than RL.

#### OUTFALL

#### GC/MS Volatiles

Lot-Sample #: E5G200307-004

Work Order #: HFW7V1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER CAS # RESULT TIME UNITS Ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

### Client Sample ID: OUTFALL

### GC/MS Volatiles

Lot-Sample #:	E5G200307-005	Work Order #: HFW7W1AA Matrix W
Date Sampled:	07/19/05 12:00	Date Received: 07/20/05 12:15 MS Run # 5203316
Prep Date:	07/22/05	Analysis Date: 07/22/05
Prep Batch #:	5203515	Analysis Time: 15:23
Dilution Factor:	1	the control of the co
Analyst ID:	015590	Instrument ID: MSQ

Method.....: SW846 8260B

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
Chloromethane	ND	2.0	ug/L	0.30
Chloroethane	ND	2.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
1,1-Dichloroethene	ND	1.0	ug/L	0.30
Methylene chloride	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
Chloroform	0.71 J	1.0	սց/ե	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
Carbon tetrachloride	ND	' <b>1.0</b>	ug/L	0.30
Benzene	NID	1.0	ug/L	0.30
Trichloroethene	· ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
Bromodichloromethane	0.46 J	1.0	սց/հ	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
1,2-Dichloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chlorobenzene	ND	1.0	ug/L	0.30
Ethylbenzene	ND	1.0	ug/L	0.20
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Xylenes (total)	ND	1.0	ug/L	0.80
Vinyl chloride	ND	1.0	ug/L	0.30
Bromoform	0.33 J	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND ·	1.0	ug/L	0.40
Acrolein	ND	20	ug/L	12
Acrylonitrile	ND	20	ug/L	10
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0
	PERCENT	RECOVERY		•
SURROGATE	RECOVERY	LIMITS		
Bromofluorobenzene	106	(75 - 130	))	
1,2-Dichloroethane-d4	114	(65 - 135	5)	
Toluene-d8	105	(80 - 130	))	•

#### NOTE(S):

J Estimated result. Result is less than RL.

#### OUTFALL

### GC/MS Volatiles

Lot-Sample #: E5G200307-005

Work Order #: HFW7W1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER CAS # RESULT TIME UNITS bis(chloromethyl) ether ND -- M ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

## Client Sample ID: OUTFALL COMPOSITE

#### GC/MS Semivolatiles

Lot-Sample #...: B5G200307-006 Work Order #...: HFW711AA Matrix.....: W
Date Sampled...: 07/18/05 Date Received..: 07/20/05 12:15 MS Run #.....:

Prep Date....: 07/21/05 Analysis Date..: 07/22/05
Prep Batch #...: 5202500 Analysis Time..: 13:36

Dilution Factor: 1

Analyst ID....: 007050 Instrument ID..: MSS

Method....: SW846 8270C

	REPORT			· 经基础的	
PARAMETER	RESULT	LIMIT	UNITS	MDL	
N-Nitrosodimethylamine	ND	20	ug/L	7.0	
Benzidine	ND	20	ug/L	13	
1,2-Diphenylhydrazine	ND "	10	ug/L	2.0	
(as Azobenzene)					
Acenaphthene	ND	10 -	ug/L	3.0	
Acenaphthylene	ND	10	ug/L	2.0	
Anthracene	ND	10	ug/L	2.0	
Benzo (a) anthracene	ND	10	ug/L	2.0	
Benzo(b) fluoranthene	ND %	10	ug/L	5.0	
Benzo(k) fluoranthene	ND	10	ug/L	5.0	
Benzo(ghi)perylene	ND	10	ug/L	2.0	
Benzo (a) pyrene	ИD	10	ug/L	2.0	
Benzoic acid	ND	50	ug/L	20	
Benzyl alcohol	ND	10	ug/L	5.0	
bis(2-Chloroethoxy)	ND .	10	ug/L	2.0	
methane					
bis(2-Chloroethyl)-	ND	10	ug/L	3.0	
ether	•				
bis(2-Chloroisopropyl)	ND	10	ug/L	4.0	
ether	•				
bis(2-Ethylhexyl)	ND	10	ug/L	4.0	
phthalate			•		
4-Bromophenyl phenyl	ND	10	ug/L	2.0	
ether			•		
Butyl benzyl phthalate	ND	10	<b>→</b> ·	4.0	
Carbazole	ND	10	ug/L	2.0	
4-Chloroaniline	ND	10	ug/L	3.0	
4-Chloro-3-methylphenol	ND	10	ug/L	2.0	
2-Chloronaphthalene	ND	10	ug/L	3.0	
2-Chlorophenol	ND	10	ug/L	3.0	
4-Chlorophenyl phenyl	ND	10	ug/L	2.0	
ether	•				
Chrysene	ND	10	ug/L	2.0	
Dibenz(a,h)anthracene	ND	10	ug/L	5.0	
Dibenzofuran	ND	10	ug/L	2.0	
Di-n-butyl phthalate	ND	10	ug/L	2.0	
1,2-Dichlorobenzene	ND	10	ug/L	3.0	

(Continued on next page)

# Client Sample ID: OUTFALL COMPOSITE

#### GC/MS Semivolatiles

Lot-Sample #...: E5G200307-006 Work Order #...: HFW711AA Matrix.....: W

		THE POST OF A STATE OF THE STAT	REPORTING		
PARAMETER		RESULT	LIMIT	UNITS	MDL
1,3-Dichlorobenzene	17 19	ND	10	ug/L	2.0
1,4-Dichlorobenzene		ND	10	ug/L	3.0
3,3'-Dichlorobenzidine		ND	50	ug/L	5.0
2,4-Dichlorophenol		ND	10	ug/L	5.0
Diethyl phthalate		ND	10	ug/L	2.0
2,4-Dimethylphenol		ND	10	ug/L	5.0
Dimethyl phthalate		ND	10	ug/L	2.0
4,6-Dinitro-		ND	50	ug/L	<b>10</b> / / ////
2-methylphenol	. /			-3, -	na ni Pilipinasan iang baharan m
2,4-Dinitrophenol		ND	50	ug/L	<b>15</b>
2,4-Dinitrotoluene		ND	10	ug/L	2.0
2,6-Dinitrotoluene		ND	10	ug/L	2.0
Di-n-octyl phthalate		ND	10	ug/L	4.0
Fluoranthene		ND	10	ug/L	2.0
		ND	10	ug/L	2.0
Fluorene			10	ug/L ug/L	5.0
Hexachlorobenzene		ND	10	ug/L	2.0
Hexachlorobutadiene	•	ND	50	ug/L ug/L	6.0
Hexachlorocyclopenta-	-	ND	50	ug/1	010
diene					3.0
Hexachloroethane		ND	10	ug/L	•
Indeno (1,2,3-cd) pyrene		ND	10	ug/L	2.0
Isophorone		ND	10	ug/L	3.0
2-Methylnaphthalene		ND	10	ug/L	3.0
2-Methylphenol		ND	10	ug/L	5.0
3-Methylphenol &		ND	10	ug/L	2.0
4-Methylphenol	•	•			
Naphthalene		ND	10	ug/L	3.0
2-Nitroaniline		ND	50	ug/L	10
3-Nitroaniline		ND	50	ug/L	5.0 <sub>.</sub>
4-Nitroaniline		ND	50	ug/L	10
Nitrobenzene		ND	10	ug/L	5.0
2-Nitrophenol		ND	10	ug/L	4.0
4-Nitrophenol		ND	50	ug/L	10
N-Nitrosodiphenylamine		ND	10	ug/L	2.0
N-Nitrosodi-n-propyl- amine		ND	10	ug/L	4.0
Pentachlorophenol		ND	- 50	ug/L	10
Phenanthrene		ND	10	ug/L	2.0
Phenol		ND	10	ug/L	2.0
Pyrene		ND	10	ug/L	3.0
1,2,4-Trichloro-		ND	10	ug/L	5.0
benzene		·· · · · · · · · · · · · · · · · · · ·	<del>- •</del>	5,	
2,4,5-Trichloro-		ND	10	ug/L	5.0
phenol		•			·

(Continued on next page)

#### Client Sample ID: OUTFALL COMPOSITE

## GC/MS Semivolatiles

		the state of the s			
Tot-Sample #	<ul> <li>R5G200307-006</li> </ul>	Work Order #	<ul> <li>HFW711AA</li> </ul>	Matrix.	- W

PARAMETER		RESULT	REPORTING LIMIT	UNITS	MDL
2,4,6-Trichloro-		ND	10	ug/L	2.0
phenol		, ;			
	* * * *	PERCENT	RECOVERY		e de la companya de
SURROGATE		RECOVERY	LIMITS	_	
2-Fluorobiphenyl	-11 0	66	(45 - 110)		
2-Fluorophenol		38	(10 - 75 )	•	and the state of t
Phenol-d5		27	(10 - 60 )		
2,4,6-Tribromophenol		88	(30 - 125)	•	
Terphenyl-d14		81	(35 - 125)		and the Marie Company of the Company
Nitrobenzene-d5	<i>-</i>	61	(40 - 110)	•	

# Client Sample ID: OUTFALL COMPOSITE

### Trace Level Organic Compounds

Lot-Sample #...: E5G200307-007 Work Order #...: HFW761AA Matrix...... W

Date Sampled...: 07/18/05 Date Received..: 07/20/05 12:15 MS Run #.....:

Prep Date....: 07/25/05 Analysis Date..: 07/27/05
Prep Batch #...: 5206207 Analysis Time..: 14:14

Dilution Factor: 1

Analyst ID....: 001970 Instrument ID..: 1D5

		DETECTIO	)N	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
1,2,3,7,8-PeCDF	ND	3.2	pg/L	SW846 8290
2,3,4,7,8-PeCDF	ND	3.2	pg/L	SW846 8290
1,2,3,4,7,8-HxCDF	ND	3.2	pg/L	SW846 8290
2,3,4,6,7,8-HxCDF	ND	3.3	pg/L	SW846 8290
1,2,3,7,8,9-HxCDF	ND	3.8	pg/L	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	2.3	pg/L	SW846 8290
1,2,3,7,8-PeCDD	ND	5.8	pg/L	SW846 8290
1,2,3,7,8,9-HxCDD	ND	4.2	pg/L `	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	5.1	pg/L	SW846 8290
1,2,3,6,7,8-HxCDF	ND	2.5	pg/L	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	2.8	pg/L	SW846 8290
1,2,3,4,7,8~HxCDD	ND	4.7	pg/L	SW846 8290
1,2,3,6,7,8-HxCDD	ND	3.9	pg/L	SW846 8290
Total TCDF	ND	1.9	pg/L	SW846 8290
Total PeCDF	ND	3.2.	рд/г	SW846 8290
Total HxCDF	ND	3.8	pg/L	SW846 8290
Total HpCDF	ND	2.8	pg/L	SW846 8290
Total TCDD	ND	2.5	pg/L	SW846 8290
Total PeCDD	ND	5.8	pg/L	SW846 8290
Total HxCDD	ND	4.7	pg/L	SW846 8290
Total HpCDD	ND	5.1	pg/L	SW846 8290
2,3,7,8-TCDD	ND	2.5	рg/г	SW846 8290
2,3,7,8-TCDF	ND	1.9	pg/L	SW846 8290
•	PERCENT	RECOVER	Y	
INTERNAL STANDARDS	RECOVERY	LIMITS		•
13C-2,3,7,8-TCDD	90	(40 - 1	35)	
13C-1,2,3,7,8-PeCDD	70	(40 - 1	35)	
13C-1,2,3,6,7,8-HxCDD	87	(40 - 1	35)	
13C-1,2,3,4,6,7,8-HpCDD	91	(40 - 1	35)	
13C-OCDD	88	(40 - 1)	35)	
13C-2,3,7,8-TCDF	81	(40 - 1	35)	
13C-1,2,3,7,8-PeCDF	69	(40 - 1	35)	
13C-1,2,3,4,7,8-HxCDF	68	(40 - 1		
13C-1,2,3,4,6,7,8-HpCDF	88	(40 - 1	35)	

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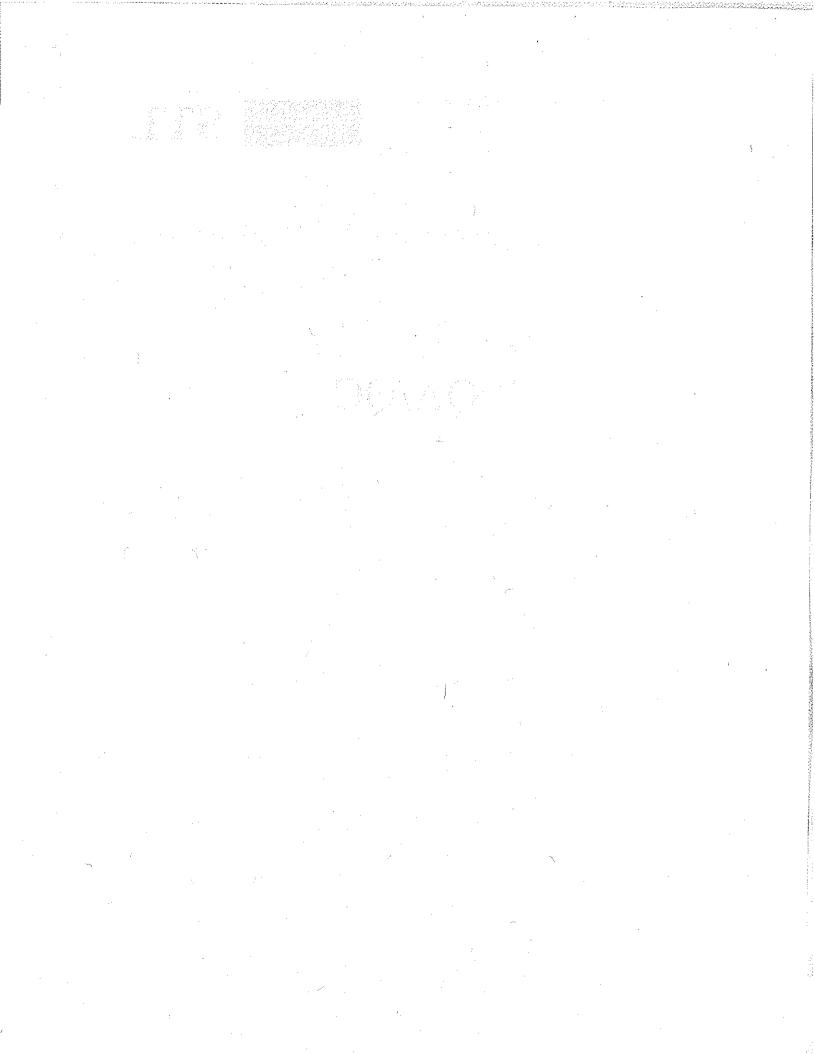
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# SEVERN STL

QA/QC

E5G200307 25



# **QC DATA ASSOCIATION SUMMARY**

#### E5G200307

#### Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD		LEACH BATCH #	PREP BATCH #	MS RUN#
001	W	SW846 8260B			5203515	5203316
002	<b>W</b>	SW846 8260B			5203515	5203316
003	<b>W</b> 252	SW846 8260B			5203515	5203316
004	W	SW846 8260B		₹	5203515	5203316
005	W	SW846 8260B			5203515	5203316
006	<b>w</b>	SW846 8270C	2	g er	5202500	
007	11.11 W 17.1	SW846 8290		P	5206207	

#### GC/MS Volatiles

Client Lot #...: E5G200307

Work Order #...: HF5TT1AA

MB Lot-Sample #: E5G220000-515

Prep Date....: 07/22/05

Analysis Time..: 10:10

**Analysis Date..:** 07/22/05

Dilution Factor: 1

Prep Batch #...: 5203515

Instrument ID..: MSQ

Analyst ID....: 015590

		REPORTING			
PARAMETER	RESULT	LIMIT	UNITS	METHOD	
Chloromethane	ND	2.0	ug/L	SW846 8260B	
Chloroethane	ND	2.0	ug/L	SW846 8260B	
Bromomethane	ND	2.0	ug/L	SW846 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B	
Methylene chloride	ND	1.0	ug/L	SW846 8260B	
trans-1,2-Dichloroethene	ND	1.0	uq/L	SW846 8260B	
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B	
Chloroform	ND	1.0	ug/L	SW846 8260B	
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B	
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B	
Benzene	ND ·	1.0	ug/L	SW846 8260B	
Trichloroethene	ND	1.0	ug/L	SW846 8260B	
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B	
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B	
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B	
Toluene	ND	1.0	ug/L	SW846 8260B	
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B	
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B	
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B	
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B	
Chlorobenzene	ND	1.0	ug/L	SW846 8260B	
Ethylbenzene	ND ·	1.0	ug/L	SW846 8260B	
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B	
Vinyl chloride	ND	1.0	ug/L	SW846 8260B	
Xylenes (total)	ND	1.0	ug/L	SW846 8260B	
Bromoform	ND	1.0	ug/L	SW846 8260B	
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B	
Acrolein	ND	20	ug/L	SW846 8260B	
Acrylonitrile	ND	20	ug/L	SW846 8260B	
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B	
	DED CITATIO	DESCOURSE.			
SURROGATE	PERCENT RECOVERY	RECOVERY			
Bromofluorobenzene	104	LIMITS	<del>-</del>		
1,2-Dichloroethane-d4	103	(75 - 130)			
Toluene-d8	107	(65 - 135)			
	107	(80 - 130)	1		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### Method Blank Report

#### GC/MS Volatiles

Lot-Sample #: E5G220000-515 B Work Order #: HF5TT1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER CAS # ESTIMATED RETENTION

CAS # RESULT TIME UNITS

bis(chloromethyl) ether ND -- M ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

#### GC/MS Semivolatiles

Client Lot #...: E5G200307 MB Lot-Sample #: E5G210000-500

Work Order #...: HF16M1AA

Matrix..... WATER

Prep Date....: 07/21/05 Prep Batch #...: 5202500

Analysis Time..: 08:19 Instrument ID..: MSS

Analysis Date..: 07/22/05

Dilution Factor: 1

Analyst ID....: 007050

<u> </u>		REPORTI	NG	· · · · · · · · · · · · · · · · · · ·	
PARAMETER	RESULT	LIMIT	UNITS	METHOD	
Benzidine	ND	20 .	ug/L	SW846 8270C	
N-Nitrosodimethylamine	ND	20	ug/L	SW846 8270C	•
1,2-Diphenylhydrazine	ND	10	ug/L	SW846 8270C	1
(as Azobenzene)	• • • • • • • • • • • • • • • • • • • •			en de la companya de Capacita de la companya de la compa	
Acenaphthene	ND	10	ug/L	SW846 8270C	
Acenaphthylene	ND	. 10	ug/L	SW846 8270C	
Anthracene	ND	10	ug/L	SW846 8270C	
Benzo (a) anthracene	ND	10	ug/L	SW846 8270C	
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C	
Benzo(k)fluoranthene	ND	10	ug/L	SW846 8270C	
Benzo(ghi)perylene	ND	10	ug/L	SW846 8270C	
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C	
Benzoic acid	ND	50	ug/L	SW846 8270C	
Benzyl alcohol	ND	10	ug/L	SW846 8270C	
bis(2-Chloroethoxy)	ND	10	ug/L	SW846 8270C	
methane	·		37	2	
bis(2-Chloroethyl)-	ND	10	ug/L	SW846 8270C	
ether				DN040 9270C	
bis(2-Chloroisopropyl)	ND	10	ug/L	SW846 8270C	
ether			~5 <i>,</i> ~	D#040 0270C	
bis(2-Ethylhexyl)	ND	10	ug/L	SW846 8270C	
phthalate		-*	49/5	DN040 0270C	
4-Bromophenyl phenyl	· ND	10	ug/L	SW846 8270C	
ether	·	<del></del>	~9/ <del>~</del>	011040 02700	
Butyl benzyl phthalate	ND .	10	ug/L	SW846 8270C	-
Carbazole	ND	10	ug/L	SW846 8270C	
4-Chloroaniline	ND	10	ug/L	SW846 8270C	
4-Chloro-3-methylphenol	ND	10	ug/L	SW846 8270C	
2-Chloronaphthalene	ND	10	ug/L		
2-Chlorophenol	ND	10	ug/L	SW846 8270C	
4-Chlorophenyl phenyl	ND	10	ug/L	SW846 8270C	
ether	112	10	ug/11	SW846 8270C	
Chrysene	ND	10	2205/7	OTTO A C. CORROCA	
Dibenz (a, h) anthracene	ND	10	ug/L ug/L	SW846 8270C	
Dibenzofuran	ND	10	<del>-</del> :	SW846 8270C	
Di-n-butyl phthalate	ND	10	ug/L	SW846 8270C	
1,2-Dichlorobenzene	ND		ug/L	SW846 8270C	
1,3-Dichlorobenzene	ND	10	ug/L	SW846 8270C	
1,4-Dichlorobenzene	ND	10	ug/L	SW846 8270C	
3,3'-Dichlorobenzidine	ND	10	ug/L	SW846 8270C	
-,	IATA	50	ug/L	SW846 8270C	

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#### GC/MS Semivolatiles

Client Lot #...: E5G200307 Work Order #...: HF16M1AA Matrix.....: WATER

	the step are selected	DEDODMING		
TO BUT DE BATCHTOTOLO	RESULT	REPORTING LIMIT	UNITS	METHOD
PARAMETER 2,4-Dichlorophenol	ND	10	ug/L	SW846 8270C
Diethyl phthalate	ND	10	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270C
	ND	10	ug/L	SW846 8270C
Dimethyl phthalate 4,6-Dinitro-	ND	50	ug/L	SW846 8270C
	MD	30	u9/13	DROTO 0270C
2-methylphenol	ND	50	ug/L	SW846 8270C
2,4-Dinitrophenol	and the second of the second o	10	ug/Б ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270C
Di-n-octyl phthalate	ND		ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L ug/L	SW846 8270C
Hexachlorobenzene	ND	10		•
Hexachlorobutadiene	ND	10	ug/L	SW846 8270C
Hexachlorocyclopenta-	ND	50	ug/L	SW846 8270C
diene				2004 É 00202
Hexachloroethane	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
Isophorone	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
2-Methylphenol	ND	10	ug/L	SW846 8270C
3-Methylphenol &	ND	10	ug/L	SW846 8270C
4-Methylphenol				
Naphthalene	ND	10	ug/L	SW846 8270C
2-Nitroaniline	ND	50	ug/L	SW846 8270C
3-Nitroaniline	ND	50	ug/L	SW846 8270C
4-Nitroaniline	ND	50	ug/L	SW846 8270C
Nitrobenzene	ND	10	ug/L	SW846 8270C
2-Nitrophenol	ND	10	ug/L	SW846 8270C
4-Nitrophenol	ND	50	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
N-Nitrosodi-n-propyl- amine	ND	10	ug/L	SW846 8270C
Pentachlorophenol	ND	50	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Phenol	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C
1,2,4-Trichloro-	ND	10	ug/L	SW846 8270C
	MD	10	49/H	5,,040 02,700
benzene	NTO	10	ug/L	SW846 8270C
2,4,5-Trichloro-	ND	TO	ag/ n	DR040 02/00
phenol	NTTN	10	ug/L	SW846 8270C
2,4,6-Trichloro-	ND	10	43\T	DW040 0270C
phenol				

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#### GC/MS Semivolatiles

Client Lot #...: E5G200307

Work Order #...: HF16M1AA

Matrix..... WATER

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PARAMETER	RESULT	REPORTING LIMIT UNITS	METHOD
The state of the s	PERCENT	RECOVERY	
SURROGATE 2-Fluorobiphenyl	RECOVERY 66	LIMITS	
2-Fluorophenol	39	(45 - 110) (10 - 75)	
Phenol-d5	24	(10 - 60)	
2,4,6-Tribromophenol Terphenyl-d14	83 88	(30 - 125)	
Nitrobenzene-d5	64	(35 - 125) (40 - 110)	
NOTE(S):		951	

. Calculations are performed before rounding to avoid round-off errors in calculated results.

# Trace Level Organic Compounds

Client Lot #...: E5G200307

MB Lot-Sample #: G5G250000-207

Analysis Date..: 07/29/05

Dilution Factor: 1

Work Order #...: HF6651AA

Prep Date....: 07/25/05

Prep Batch #...: 5206207

Matrix....: WATER

Analysis Time..: 18:39

Instrument ID.:: 1D5

Analyst ID....: 001970

			DETECTION				
PARAMETER	RESU	LT	LIMIT	UNITS	METHOL		<del></del>
1,2,3,7,8-PeCDF	ND		4.2	pg/L	SW846		•
2,3,4,7,8-PeCDF	ND		4.3	pg/L	SW846	8290	
1,2,3,4,7,8-HxCDF	ND		3.3	pg/L	SW846	8290	4,
2,3,4,6,7,8-HxCDF	ND		3.3	pg/L	SW846	8290 ^	e .
1,2,3,7,8,9-HxCDF	ND	A Section 1	3.6	pg/L	SW846		• •
1,2,3,4,6,7,8-HpCDF	ND		2.2	pg/L	SW846		
Total TCDF	ND		3.4	pg/L	SW846		
Total PeCDF	ND		4.3	pg/L	SW846		
Total HxCDF	ND	·	3.6	pg/L	SW846		** *
Total HpCDF	. ND		2.6	pg/L	SW846		
Total TCDD	ND		3.3	pg/L	SW846		
Total PeCDD	ND		6.3	pg/L	SW846		,
1,2,3,7,8-PeCDD	ND	•	6.3	pg/L	SW846		
Total HxCDD	ND		4.9	pg/L	SW846		
1,2,3,7,8,9-HxCDD	ND		4.4	pg/L	SW846		1.44
Total HpCDD	ND		4.6	pg/L	SW846		
1,2,3,4,6,7,8-HpCDD	ND		4.6	pg/L	SW846		
1,2,3,6,7,8-HxCDF	ND		3.0	pg/L	SW846		
1,2,3,4,7,8,9-HpCDF	ND		2.6	pg/L	SW846		
1,2,3,4,7,8-HxCDD	ND		4.9	рд/ь	SW846		
1,2,3,6,7,8-HxCDD	ND		4.2	pg/L	SW846		
2,3,7,8-TCDD	ND		3.3	pg/L	SW846		
2,3,7,8-TCDF	ND		3.4	ba\r	SW846	8290	
•	PERC	ENT	RECOVERY				
INTERNAL STANDARDS	RECO	VERY	LIMITS	<u> </u>			
13C-2,3,7,8-TCDD	108		(40 - 135				
13C-1,2,3,7,8-PeCDD	98		(40 - 13			•	
13C-1,2,3,6,7,8-HxCDD	104		(40 - 13				
13C-1,2,3,4,6,7,8-HpCDD	118		(40 - 13)				
13C-OCDD	116		(40 - 13				•
13C-2,3,7,8-TCDF	101		(40 - 13				
13C-1,2,3,7,8-PeCDF	95		(40 - 13				
13C-1,2,3,4,7,8-HxCDF	96		(40 - 13				
13C-1,2,3,4,6,7,8-HpCDF	111		(40 - 13	5)			•

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Volatiles

	Client Lot #:	E5G200307	Work Order #:	HF5TT1AC	Matrix: WATER
	LCS Lot-Sample#:	E5G220000-515			and the second of the second of the second
	Prep Date:	07/22/05	Analysis Date:	07/22/05	
	Prep Batch #:	5203515	Analysis Time:	09:22	
٠	Dilution Factor:	1	Instrument ID:	MSQ	
	Analyst ID:	015590	e se la companya de	· · · · · · · · · · · · · · · · · · ·	

PARAMETER	PERCENT RECOVERY		RECOVERY LIMITS	METHOD	
1,1-Dichloroethene	91	T	(65 - 135)	SW846 8260B	
Benzene	81		(75 - 125)	SW846 8260B	
Trichloroethene	86		(75 - 135)	SW846 8260B	- /
Toluene	86		(75 - 125)	SW846 8260B	70,00
Chlorobenzene	85		(75 - 125)	SW846 8260B	
	, po	1.1	PERCENT	RECOVERY	
SURROGATE			RECOVERY	LIMITS	
Bromofluorobenzene	u Tist		106	(75 - 130)	•
1,2-Dichloroethane-d4	e i de		95	(65 - 135)	
Toluene-d8			108	(80 - 130)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

### LABORATORY CONTROL SAMPLE DATA REPORT

### GC/MS Volatiles

Client Lot #: E5G200307	Work Order #: HF5TT1AC		Mat	Matrix: WATER		
LCS Lot-Sample#: E5G220000-515  Prep Date: 07/22/05  Prep Batch #: 5203515  Dilution Factor: 1	Analysis Date: 07/22/05 Analysis Time: 09:22 Instrument ID: MSQ					
Analyst ID: 015590		:			A STATE OF THE STA	
PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	
1,1-Dichloroethene Benzene	10.0	9.09 8.14	ug/L ug/L	91 81	SW846 8260B SW846 8260B SW846 8260B	
Trichloroethene Toluene Chlorobenzene	10.0 10.0 10.0	8.59 8.58 8.51	ug/L ug/L ug/L	86 86 85	SW846 8260B SW846 8260B	
CITIO CODENZANO DE RECUESTO DE COMPANSANO DE		PERCENT	RECOVERY	ear a section		
SURROGATE Bromofluorobenzene	e • ogli vel	RECOVERY 106	LIMITS (75 - 130	<u>)</u>		
1,2-Dichloroethane-d4 Toluene-d8	n in the second of the second	95 108	(65 - 135 (80 - 130	* -	the search of the	
NOTE (C)				2.0		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

# GC/MS Semivolatiles

Client Lot #...: E5G200307 Work Order #...: HF16M1AC-LCS Matrix..... WATER

LCS Lot-Sample#: E5G210000-500 HF16M1AD-LCSD Prep Date....: 07/21/05 Analysis Date - 07/22/05

Prep Date....: 07/21/05 Analysis Date..: 07/22/05
Prep Batch #...: 5202500 Analysis Time..: 07:22
Dilution Factor: 1 Instrument ID..: MSS

Analyst ID....: 007050

	PERCENT	RECOVERY	RPD	•
PARAMETER	RECOVERY	LIMITS RPD	LIMITS	METHOD
Acenaphthene	89	(50 - 100)		SW846 8270C
	:	(50 - 100) 7.3	(0-30)	SW846 8270C
4-Chloro-3-methylphenol	89	(45 ~ 95)		SW846 8270C
	85	(45 - 95) 3.6	(0-30)	SW846 8270C
2-Chlorophenol	75	(45 - 95)		SW846 8270C
	<b>57</b>	(45 - 95) 27	(0-30)	SW846 8270C
1,4-Dichlorobenzene	73	. <sub>(</sub> (35 - 95)		SW846 8270C
	48 p	(35 - 95) 40	(0~30)	SW846 8270C
2,4-Dinitrotoluene	98	(50 - 115)	•	SW846 8270C
	95	(50 - 115) 3.1	(0~30)	SW846 8270C
4-Nitrophenol	39	(10 - 50)		SW846 8270C
• •	39	(10 - 50) 1.0	(0-30)	SW846 8270C
N-Nitrosodi-n-propyl- amine	86	(40 - 110)		SW846 8270C
	72	(40 - 110) 17	(0-30)	SW846 8270C
Pentachlorophenol	95	(40 - 110)		SW846 8270C
	98	(40 - 110) 3.1	(0-30)	SW846 8270C
Phenol	30	(10 ~ 50)	•••••	SW846 8270C
	24	(10 - 50) 25	(0-30)	SW846 8270C
Pyrene	96	(50 - 120)	(,	SW846 8270C
	93	(50 - 120) 3.8	(0~30)	SW846 8270C
1,2,4-Trichloro- benzene	76	(35 - 105)	,	SW846 8270C
	55 p	(35 - 105) 32	(0-30)	SW846 8270C

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
2-Fluorobiphenyl	83	(45 - 110)
	74	(45 - 110)
2-Fluorophenol	47	(10 - 75)
· · · · · · · · · · · · · · · · · · ·	34	(10 - 75)
Phenol-d5	29	(10 - 60)
	23	(10 - 60)
2,4,6-Tribromophenol	100	(30 ~ 125)
	95	(30 - 125)
Terphenyl-d14	88	(35 - 125)
•	87 .	(35 - 125)

(Continued on next page)

### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5G200307

Work Order #...: HF16M1AC-LCS

Matrix..... WATER

HF16M1AD-LCSD

LCS Lot-Sample#: E5G210000-500

RECOVERY PERCENT

RECOVERY LIMITS SURROGATE (40 - 110)79 Nitrobenzene-d5

(40 - 110)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

#### LABORATORY CONTROL SAMPLE DATA REPORT

### GC/MS Semivolatiles

Client Lot #...: E5G200307 Work Order #...: HF16M1AC-LCS Matrix.....: WATER

LCS Lot-Sample#: E5G210000-500 HF16M1AD-LCSD

Prep Date....: 07/21/05 Analysis Date..: 07/22/05 Prep Batch #...: 5202500 Analysis Time..: 07:22 Dilution Factor: 1 Instrument ID..: MSS

Analyst 10....: 007050

•	SPIKE	MEASURED	)	PERCENT	•	-
PARAMETER	TRUOMA	AMOUNT	UNITS	RECOVERY	RPD	METHOD
Acenaphthene	100	89.4	ug/L	89		SW846 8270C
·	100	83.1	ug/L	83	7.3	SW846 8270C
4-Chloro-3-methylphenol	100	88.6	ug/L	89		SW846 8270C
* .	100	85.4	ug/L	85	3.6	SW846 8270C
2-Chlorophenol	100	75.1	ug/L	75		SW846 8270C
•	100	57.5	ug/L	<b>57</b>	27	SW846 8270C
1,4-Dichlorobenzene	100	72.5	սց/և	73		SW846 8270C
•	100	48.4 p	ug/L	48	40	SW846 8270C
2,4-Dinitrotoluene	100	97.8	ug/L	98	•	SW846 8270C
	100	94.8	ug/L	95	3.1	SW846 8270C
4-Nitrophenol	100	39.1	ug/L	39		SW846 8270C
	100	38.7	ug/L	39	1.0	SW846 8270C
N-Nitrosodi-n-propyl- amine	100	85.8	ug/L	86	:	SW846 8270C
	100	72.2	ug/L	72	17	SW846 8270C
Pentachlorophenol	100	95.1	ug/L	95	٠.	SW846 8270C
•	100	98.1	ug/L	98	3.1	SW846 8270C
Phenol	100	30.5	ug/L	30		SW846 8270C
•	100	23.7	ug/L	24	25	SW846 8270C
Pyrene	100	96.3	ug/L	96		SW846 8270C
	100	92.7	ug/L	93	3.8	SW846 8270C
1,2,4-Trichloro- benzene	100	76.0	ug/L	76		SW846 8270C
	100	55.2 p	ug/L	55	32	SW846 8270C

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
2-Fluorobiphenyl	83	(45 - 110)
	74	(45 - 110)
2-Fluorophenol	47	(10 - 75)
	34	(10 - 75)
Phenol-d5	29	(10 - 60)
	23	(10 - 60)
2,4,6-Tribromophenol	100	(30 - 125)
	95	(30 - 125)
Terphenyl-d14	88	(35 - 125)
	87	(35 - 125)

(Continued on next page)

### LABORATORY CONTROL SAMPLE DATA REPORT

### GC/MS Semivolatiles

Client Lot #...: E5G200307 Work Order #...: HF16M1AC-LCS Matrix..... WATER

LCS Lot-Sample#: E5G210000-500 HF16M1AD-LCSD

Nitrobenzene-d5 79 (40 - 110) 62 (40 - 110)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

P Relative percent difference (RPD) is outside stated control limits.

### LABORATORY CONTROL SAMPLE EVALUATION REPORT

### Trace Level Organic Compounds

Client Lot #...: E5G200307 Work Order #...: HF6651AC-LCS Matrix..... WATER

LCS Lot-Sample#: G5G250000-207 HF6651AD-LCSD

 Prep Date...:
 07/25/05
 Analysis Date..:
 07/29/05

 Prep Batch #...:
 5206207
 Analysis Time..:
 19:21

Dilution Factor: 1 Instrument ID.:: 1D5
Analyst ID...: 001970

•				
		N	1.	

	PERCENT	RECOVERY		RPD		٠.
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD	
1,2,3,4,6,7,8-HPCDD	101	(78 - 125)			SW846 8290	<del>, , , ,</del> ,
	103	(78 - 125)	1.5	(0-20)	SW846 8290	
1,2,3,7,8-PeCDF	105	(76 - 129)		• • • •	SW846 8290	
	106	(76 - 129)	0.68	(0-20)	SW846 8290	-:
2,3,4,7,8-PeCDF	1.08	(69 - 127)		• • • • • • • • • • • • • • • • • • • •	SW846 8290	
	98	(69 - 127)	10	(0-32)	SW846 8290	
1,2,3,4,7,8-HxCDF	112	(71 - 134)			SW846 8290	
	109	(71 - 134)	2.6	(0-24)	SW846 8290	
1,2,3,6,7,8-HxCDF	113	(65 - 145)		•	SW846 8290	
•	112	(65 - 145)	1.1	(0-32)	SW846 8290	
2,3,4,6,7,8-HxCDF	108	(64 - 167)			SW846 8290	
	114	(64 - 167)	5.6	(0-49)	SW846 8290	
1,2,3,7,8,9-HxCDF	112	(62 - 161)		•	SW846 8290	
	120	(62 - 161)	6.9	(0-54)	SW846 8290	
1,2,3,4,6,7,8-HpCDF	102	(75 - 129)		-	SW846 8290	
	103	(75 - 129)	0.69	(0-20)	SW846 8290	
1,2,3,4,7,8,9-HpCDF	100	(70 ~ 140)	-		SW846 8290	
	101	(70 - 140)	0.38	(0-21)	SW846 8290	
1,2,3,7,8-PeCDD	100	(71 - 132)			SW846 8290	
	102	(71 - 132)	1.6	(0-20)	SW846 8290	
1,2,3,4,7,8-HxCDD	95	(69 - 133)			SW846 8290	
<b>.</b>	108	(69 - 133)	12	(0-20)	SW846 8290	
1,2,3,6,7,8-HxCDD	105	(74 - 131)			SW846 8290	
	102	(74 - 131)	3.7	(0-20)	SW846 8290	
1,2,3,7,8,9-HxCDD	109	(68 148)			SW846 8290	
	113	(68 - 148)	3.5	(0-33)	SW846 8290	
2,3,7,8-TCDD	106	(72 - 126)			SW846 8290	
	106	(72 - 126)	0.41	(0-20)	SW846 8290	
2,3,7,8-TCDF	108	(69 - 133)		-	SW846 8290	
	105	(69 - 133)	2.6	(0-23)	SW846 8290	
OCDD	105	(74 - 131)			SW846 8290	
	105	(74 - 131)	0.0	(0-20)	SW846 8290	
OCDF	97	(70 - 136)			SW846 8290	
	103	(70 - 136)	5.4	(0-23)	SW846 8290	

(Continued on next page)

### LABORATORY CONTROL SAMPLE EVALUATION REPORT

### Trace Level Organic Compounds

Work Order #...: HF6651AC-LCS Matrix..... WATER Client Lot #...: E5G200307 HF6651AD-LCSD

LCS Lot-Sample#: G5G250000-207

			PERCENT	RECOVERY
INTERNAL STANDARD			RECOVERY	LIMITS
13C-2,3,7,8-TCDD	-		100	(40 ~ 135)
			103	(40 - 135)
13C-1,2,3,7,8-PeCDD			97	(40 - 135)
	100	100	95	(40 - 135)
13C-1,2,3,6,7,8-HxCDD			102	(40 - 135)
	*14.	100	1.02	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD		e in	107	(40 - 135)
্লাল লি আইল্ডিয়েড্যালেই এইড়েছাই 	M + 15	: 1	111	(40 - 135)
13C-OCDD		1.4	103	(40 - 135)
			110	(40 - 135)
13C-2,3,7,8-TCDF		21.4	103	(40 - 135)
**************************************	* - * *	٠.	99	(40 - 135)
13C-1,2,3,7,8-PeCDF			86	(40 - 135)
	e de servicio	* 1	91	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	+		93	(40 - 135)
	•		91	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	**	* .	103	(40 - 135)
			109	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE DATA REPORT

### Trace Level Organic Compounds

Client Lot #...: E5G200307 Work Order #...: HF6651AC-LCS Matrix..... WATER

LCS Lot-Sample#: G5G250000-207 HF6651AD-LCSD

Prep Date....: 07/25/05 Analysis Date..: 07/29/05
Prep Batch #...: 5206207 Analysis Time..: 19:21
Dilution Factor: 1 Instrument ID..: 1D5

Analyst ID....: 001970

	+ 1 + 1 >	SPIKE	MEASURED		PERCENT		
PARAMETER	<u> </u>	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD
1,2,3,4,6,7,8-HpCDD	1.4	1000	1010	pg/L	101		SW846 8290
	14.	1000	1030	pg/L	103	1.5	SW846 8290
1,2,3,7,8-PeCDF	1.5	1000	1050	pg/L	105	4.4.4	SW846 8290
	٠.	1000	1060	pg/L	106	0.68	SW846 8290
2,3,4,7,8-PeCDF		1000	1080	pg/L	108		SW846 8290
		1000	977	pg/L	98	10	SW846 8290
1,2,3,4,7,8-HxCDF		1000	1120	pg/L	112		SW846 8290
	2.	1000	1090	pg/L	109	2.6	SW846 8290
1,2,3,6,7,8-HxCDF		1000	1130	pg/L	113		SW846 8290
		1000	1120	pg/L	112	1.1	SW846 8290
2,3,4,6,7,8-HxCDF		1000	1080	pg/L	108	*	SW846 8290
•		1000	1140	pg/L	114	5.6	SW846 8290
1,2,3,7,8,9-HxCDF	1.34	1000	1120	pg/L	112	**	SW846 8290
	100	1000	1200	рд/L	120	6.9	SW846 8290
1,2,3,4,6,7,8-HpCDF		1000	1020	pg/L	102	79.7	SW846 8290
•		1000	1030	pg/L	103	0.69	SW846 8290
1,2,3,4,7,8,9-HpCDF		1000	1000	pg/L	100		SW846 8290
,		1000	1010	pg/L	101	0.38	SW846 8290
1,2,3,7,8-PeCDD		1000	1000	pg/L	100		SW846 8290
		1000	1020	pg/L	102	1.6	SW846 8290
1,2,3,4,7,8-HxCDD		1000	953	pg/L	95		SW846 8290
		1000	1080	pg/L	108	12.	SW846 8290
1,2,3,6,7,8-HxCDD		1000	1050	pg/L	105		SW846 8290
•		1000	1020	pg/L	102	. 3.7	SW846 8290
1,2,3,7,8,9-HxCDD		1000	1090	pg/L	109		SW846 8290
		1000	1130	pg/L	113	3.5	SW846 8290
2,3,7,8-TCDD		200	212	pg/L	106		SW846 8290
• • • • • • • • • • • • • • • • • • •		200	211	pg/L	106	0.41	SW846 8290
2,3,7,8-TCDF		200	216	pg/L	108		SW846 8290
		200	210	pg/L	105	2.6	SW846 8290
OCDD	•	2000	2110	pg/L	105		SW846 8290
		2000	2110	pg/L	105	0.0	SW846 8290
OCDF		2000	1950	pg/L	97		SW846 8290
		2000	2050	pg/L	103	5.4	SW846 8290

(Continued on next page)

### LABORATORY CONTROL SAMPLE DATA REPORT

### Trace Level Organic Compounds

Client Lot #...: E5G200307 Work Order #...: HF6651AC-LCS Matrix.....: WATER LCS Lot-Sample#: G5G250000-207 HF6651AD-LCSD

		5		PERCENT	RECOVERY
INTERNAL STANDARD				RECOVERY	LIMITS
13C-2,3,7,8-TCDD				100	(40 - 135)
130 2737770 1002	4, 47, fi			103	(40 - 135)
13C-1,2,3,7,8-PeCDD		400		97	(40 - 135)
130 1/4/7/1/2		4.5	7 - 1	95	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	.41.41	· ".	77.7	102	(40 - 135)
230 2727777				102	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	1 2		(in the	107	(40 - 135)
130 1/4/1/4/			1	111	(40 - 135)
13C~OCDD			1.5	103	(40 - 135)
Commence of the commence of th				110	(40 - 135)
13C-2,3,7,8-TCDF				103	(40 - 135)
			4 - 1.3	99	(40 - 135)
13C-1,2,3,7,8-PeCDF	1 4 5	\$1 \ \frac{1}{2}	£ 1	86	(40 - 135)
230 2/2/0/1/2 2000				91	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	ATTEN			93	(40 - 135)
200 2,2,0,2,0,0				91	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF				103	(40 - 135)
	•			109	(40 - 135)
				11	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

### MATRIX SPIKE SAMPLE EVALUATION REPORT

### GC/MS Volatiles

Client Lot #: E5G2003	07 Work	Order #: H	FCE31AE	-MS Mat	rix	WATER
MS Lot-Sample #: E5G1203	72-008	H	FCE31AF	-MSD		t 17 Tildy
Date Sampled: 07/12/0	5 14:35 Date	Received: 0	7/12/05	19:00 MS	Run #:	5203316
Prep Date: 07/22/0	5 Anal	ysis Date: 0	7/22/05			
Prep Batch #: 5203515		ysis Time . : 1:				•
Dilution Factor: 250		yst ID 0:		Ins	trument ID:	MSO
						~
	PERCENT	RECOVERY		RPD	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD	
1,1-Dichloroethene	84	(65 - 135)		-	SW846 8260B	<del></del>
•	96	(65 - 135)	13	(0-25)	SW846 8260B	
Benzene	82	(75 - 125)		-	SW846 8260B	
•	84	(75 - 125)	2.3	(0-25)	SW846 8260B	
Trichloroethene	0.0 MSB	(75 - 135)		•	SW846 8260B	F
•	0 0 MSB	(75 <sub>.</sub> ~ 135)	0.0	(0-25)	SW846 8260B	
Toluene	83	(75 - 125)			SW846 8260B	
	85	(75 – 125)	2.4	(0-25)	SW846 8260B	
Chlorobenzene	• <b>85</b>	(75 ~ 125)			SW846 8260B	
	83	(75 - 125)	1.9	(0-25)	SW846 8260B	
	William Programme			•		
	1.	PERCENT		RECOVERY		
SURROGATE		RECOVERY		LIMITS		
Bromofluorobenzene		108		(75 - 130	<del>,</del>	
	Part Care	106		(75 - 130	)	
1,2-Dichloroethane-d4		111		(65 - 135	)	
		109		(65 - 135	)	
Toluene-d8		106	7.	(80 - 130	)	
•		106		(80 - 130	)	

#### NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

### MATRIX SPIKE SAMPLE DATA REPORT

### GC/MS Volatiles

	Client Lot #: E5G20030' MS Lot-Sample #: E5G12037'	. *	ork Orden		HFCE31AE HFCE31AF		Matr	ix		: WATE	R
	Date Sampled: 07/12/05	14.25 h	ate Pere				O MS F	tun #		: 5203	316
	Prep Date: 07/22/05	14:55 D	ace rece.	nata .	07/22/05						
		· 24	nalysis '	Pimo .	12.25		•				
	Prep Batch #: 5203515		nalysts I				Tnet	- YCYSINA	nt ID.	• MSO	
	Dilution Factor: 250	A	патуыс т	9	013330		.1.11170	. L Cuinc	ne an		
		SAMPLE	SPIKE	MEASRD		,	PERCNT	•			
	÷		AMT	AMOUNT	UNITS		RECVRY	GG &	METHOL	)	-
	PARAMETER	AMOUNT ND	2500	2110	ug/L		B4			8260B	
	1,1-Dichloroethene		2500 2500	2390	ug/L		96	13	SW846		
		ND	2500	2040	ug/L		82	2.0	SW846		
	Benzene	ND		2090	ug/L		84	2.3			
		ND	2500	2030	ug/L		0.0			8260B	
•	Trichloroethene	19000	2500	NACOTO .	ug/II		0.0		DNOTO		
	•		lifiers:	MSB				0.0	SW846	92600	
	•	19000	2500		ug/L		0.0	0.0	24040	82005	
	• *		lifiers:		ē		~~		OTEND 4 C	8260B	
	Toluene	ND	2500	2060	ug/L		83				
	·	ND	2500	2120	ug/L		85	2.4	SW846		
	Chlorobenzene	ND	2500	2130	ug/L		85			8260B	•
		ND.	2500	2080	ug/L		83	1.9	SW846	8260B	
			*					-			
	•		PE	RCENT			OVERY				
	SURROGATE			COVERY			ITS		•		
	Bromofluorobenzene		. 10	8		•	- 130				
	·		10	6		• • •	- 130	-			
	1,2-Dichloroethane-d4		11	.1		,	- 135	•			
	•		10	9		•	- 135	•			
	Toluene-d8		10	6		•	- 130				
			10	6		(80	- 130	)			

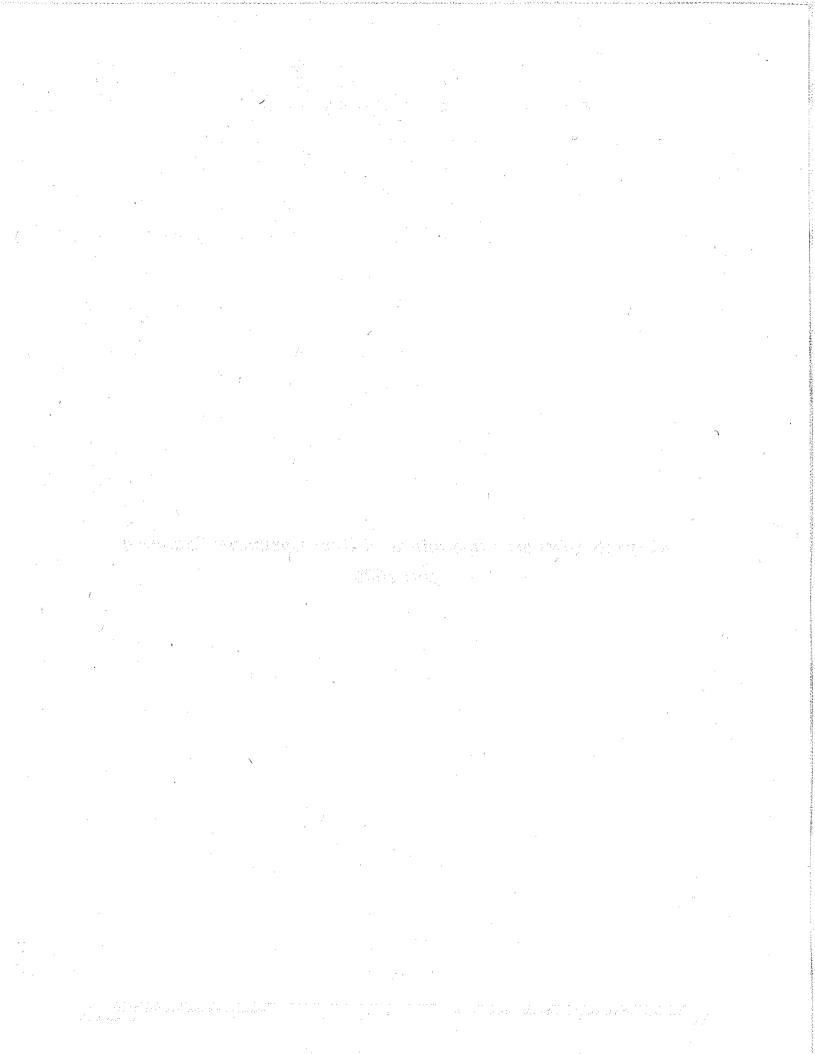
### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

Alternate Discharge Operations 24 Hour Composite Sampling July 2005





An EDISON INTERNATIONAL Company

### **ANALYTICAL REPORT**

Laboratory Name:

Address:

Power Production Chemical

7301 Fenwick Lane, 2nd Floor

Westminster, CA 92683-5202

Telephone:

Facsimile:

(714) 895-0525

(714) 895-0515

Laboratory Certification (ELAP) No.:

1949

Expires 11/30/05

Laboratory Director's Name:

Shawn S. Simmons

Laboratory Director's Signature:

Date

CLIENT:

ADDRESS:

Long Beach Generation, L.L.C.

2665 West Seaside Blvd. Long Beach, CA 90813

DATE(S) SAMPLED:

DATE(S) RECEIVED:

06/24/05 and 06/25/05

06/24/05 and 06/25/05

Chain of Custody(ies) Received:

Yes



### An EDISON INTERNATIONAL Company

## ANALYTICAL REPORT

### **Cover Page 2**

	1 1 45		24 4				
Inorganic Analyses	# of Sam	nles			# of Samo	les Sul	ocontracted
Residual Chlorine, in field	18	Pico			Or Sump		0
pH	18						Ö
Temperature, in field	18				•		0
Oil and Grease	9						0
TSS	2						0
Nitrite-Nitrate-N	2						0
Color	2 -				:		0
Sulfate	2						0
Sulfide	2						0
Sulfite	2					;	0
Magnesium	2						0
BOD	2					ta e s	2
COD	2						2
TOC	2			4.50			2
Ammonia-N	2		•				2
Bromide	2						2
Total/Fecal Coliform	18			.:	•		18
Fluoride	2				•		2
Nitrogen, Total Organic	2						2
Phosphorus, Total	2						2
Radioactivity, Total Alpha	2						2
Radioactivity, Total Beta	2				. *		2
Radioactivity, Total Radium	2						2
Radioactivity, Radium 226	2			•			2
Surfactants	2						2
Trace Metals in Seawater	2						2
Cyanide	. 9						9
Phenols	. 9		-				9
Organic Analyses	# of Sam	ples			# of Samp		ocontracted
VOCs	5					5	
SVOCs	1					1	
Dioxin	l .					Į.	
Pesticides/PCBs	1			•		. 1	
Sample Condition:	Acceptab	ole	•				
· · · · · · · · · · · · · · · · · · ·							

	-DATE-TIME	- DATE			RL.	RESULT
SAMPLE POINT	- COLLECTED	ANALYZED	PARÂMETER	METHOD	(0)	r(c)
LB-Intake	6/24/05 12:00	06/24/05	Temperature	SM 2550B	0.1	17.1
LB-Outfall	6/24/05 12:15	06/24/05	Temperature	SM 2550B	0.1	17.0
LB-Intake	6/24/05 15:10	06/24/05	Temperature	SM 2550B	0.1	19.0
LB-Outfall	6/24/05 15:00	06/24/05	Temperature	SM 2550B	0.1	18.0
LB-Intake	6/24/05 18:07	06/24/05	Temperature	SM 2550B	0.1	18.7
LB-Outfall	6/24/05 18:01	06/24/05	Temperature	SM 2550B	0.1	17.4
LB-Intake	6/24/05 21:10	06/24/05	Temperature	SM 2550B	0.1	17.1
LB-Outfall	6/24/05 21:03	06/24/05	Temperature	SM 2550B	0.1	16.8
LB-Intake	6/25/05 0:10	06/25/05	Temperature	SM 2550B	0.1	17.4
LB-Outfall	6/25/05 0:01	06/25/05	Temperature	SM 2550B	0.1	16.5
LB-Intake	6/25/05 3:10	06/25/05	Temperature	SM 2550B	0.1	15.7
LB-Outfall	6/25/05 3:01	06/25/05	Temperature	SM 2550B	0.1	16.6
LB-Intake	6/25/05 6:10	06/25/05	Temperature	SM 2550B	0.1	15.4
LB-Outfail	6/25/05 6:01	06/25/05	Temperature	SM 2550B	0.1	16.6
LB-Intake	6/25/05 9:10	06/25/05	Temperature	SM 2550B	0.1	16.3
LB-Outfall	6/25/05 9:01	06/25/05	Temperature	SM 2550B	0.1	16.6
LB-Intake	6/25/05 12:20	06/25/05	Temperature	SM 2550B	0.1	17.8
LB-Outfall	6/25/05 12:01	06/25/05	Temperature	SM 2550B	0.1	16.1

						Total
	DATE TIME	DATE			RL	Chlorine
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD	(mg/L)	(mg/L)
LB-Intake	6/24/05 12:00	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/24/05 12:15	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/24/05 15:10	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/24/05 15:00	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/24/05 18:07	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/24/05 18:01	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/24/05 21:10	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/24/05 21:03	06/24/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/25/05 0:10	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND_
LB-Outfall	6/25/05 0:01	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/25/05 3:10	06/25/05	Chlorine Residual	SM 4500-CI G	0.03	ND
LB-Outfall	6/25/05 3:01	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/25/05 6:10	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/25/05 6:01	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/25/05 9:10	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/25/05 9:01	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Intake	6/25/05 12:20	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND
LB-Outfall	6/25/05 12:01	06/25/05	Chlorine Residual	SM 4500-Cl G	0.03	ND

	DATE TIME	DATE			MDL	RESULT
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD	(pH unit)	(pH at t°C)
LB-Intake	6/24/05 12:00	06/24/05	Electrometric pH	EPA 150.1	0.01	7.56 at 17°C
LB-Outfall	6/24/05 12:15	06/24/05	Electrometric pH	EPA 150.1	0.01	7.55 at 17°C
LB-Intake	6/24/05 15:10	06/24/05	Electrometric pH	EPA 150.1	0.01	7.63 at 19°C
LB-Outfall	6/24/05 15:00	06/24/05	Electrometric pH	EPA 150.1	0.01	7.61 at 18°C
LB-Intake	6/24/05 18:07	06/24/05	Electrometric pH	EPA 150.1	0.01	7.63 at 19°C
LB-Outfall	6/24/05 18:01	06/24/05	Electrometric pH	EPA 150.1	0.01	7.50 at 17°C
LB-Intake	6/24/05 21:10	06/24/05	Electrometric pH	EPA 150.1	0.01	7.76 at 17°C
LB-Outfall	6/24/05 21:03	06/24/05	Electrometric pH	EPA 150.1	0.01	7.52 at 17°C
LB-Intake	6/25/05 0:10	06/25/05	Electrometric pH	EPA 150.1	0.01	7.68 at 21°C
LB-Outfall	6/25/05 0:01	06/25/05	Electrometric pH	EPA 150.1	0.01	7.57 at 17°C
LB-Intake	6/25/05 3:10	06/25/05	Electrometric pH	EPA 150.1	0.01	7.82 at 16°C
LB-Outfall	6/25/05 3:01	06/25/05	Electrometric pH	EPA 150.1	0.01	7.53 at 17°C
LB-Intake	6/25/05 6:10	06/25/05	Electrometric pH	EPA 150.1	0.01	7.79 at 15°C
LB-Outfall	6/25/05 6:01	06/25/05	Electrometric pH	EPA 150.1	0.01	7.56 at 17°C
LB-Intake	6/25/05 9:10	06/25/05	Electrometric pH	EPA 150.1	0.01	7.78 at 16°C
LB-Outfall	6/25/05 9:01	06/25/05	Electrometric pH	EPA 150.1	0.01	7.58 at 17°C
LB-Intake	6/25/05 12:20	06/25/05	Electrometric pH	EPA 150.1	0.01	7.79 at 18°C
LB-Outfall	6/25/05 12:01	06/25/05	Electrometric pH	EPA 150.1	0.01	7.63 at 16°C

	DATE TIME	DATE	10 July 10 10 10 10 10 10 10 10 10 10 10 10 10		MDL	RESULT
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD	(mg/L)	(mg/L)
LB-Outfall	6/24/05 12:15	06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	6/24/05 15:00	06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	6/24/05 18:01	06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfali	6/24/05 21:03	06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	6/25/05 0:01	06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	6/25/05 3:01	06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	6/25/05 6:01	06/30/05	Oil and Grease	EPA 1664A LLE	1.4	ND
LB-Outfall	6/25/05 9:01	06/30/05	Oil and Grease	EPA 1664A LLE	1.4	ND.
LB-Outfall	6/25/05 12:01	06/30/05	Oil and Grease	EPA 1664A LLE	1.4	ND
Method Blank		06/28/05	Oil and Grease	EPA 1664A LLE	1.4	ND
Method Blank		06/30/05	Oil and Grease	EPA 1664A LLE	1.4	ND
<del></del> -						

SAMPLEPOINT	The second of the second	DATE:		METHOD	RI /miv/Li	
LB-Intake Composite	6/24-6/25/05	06/27/05	Total Susp. Solids	SM 2540 D	I I	17.8
LB-Outfall Composite	6/24-6/25/05	06/27/05	Total Susp. Solids	SM 2540 D	1	18.5
Method Blank		06/27/05	Total Susp. Solids	SM 2540 D	1	ND

SAMPLE POINT		DATE ANALYZED		METHOD	RL (mg/L)	RESULT -
LB-Intake Composite	6/24-6/25/05	06/29/05	Color	SM 2120 B	5	ND
LB-Outfall Composite	6/24-6/25/05	06/29/05	Color	SM 2120 B	5	ND

					e RI	RESILL
SAMPLE POINT TO	COLLEGIEN	ANALAZED	PARAMETER 28 ***	MITHOD	(mg/L)	(mg/L)
LB-Intake Composite	6/24-6/25/05	06/27/05	Nitrite-Nitrate-N	EPA 300.0	1	ND
LB-Outfall Composite	6/24-6/25/05	06/27/05	Nitrite-Nitrate-N	EPA 300.0	ŀ	ND
Method Blank		06/27/05	Nitrite-Nitrate-N	EPA 300.0	1	ND
LB-Outfall Composite	7/18-7/19/05	07/21/05	Nitrite-Nitrate-N	EPA 300.0	1	ND
Method Blank	٠.	07/21/05	Nitrite-Nitrate-N	EPA 300.0	1	ND
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						

SAMPLE POINT	DAMED COLUCIONED	SEEDATESE ANALYZED	PARAMETER	METHOD	RL -(mg/L)	resein.
LB-Intake Composite	6/24-6/25/05	06/27/05	Sulfate	EPA 300.0	200	2370
LB-Outfall Composite	6/24-6/25/05	06/27/05	Sulfate	EPA 300.0	200	2330
Method Blank		06/27/05	Sulfate	EPA 300.0	2	ND

SAMPLE POINT	DATE COLLECTED	Decide and the second	PARAMETER		RL (mg/L)	
LB-Intake Composite	6/24-6/25/05	06/27/05	Sulfite	SM 4500-SO <sub>3</sub> <sup>2</sup> ·B	1	ND
LB-Outfall Composite	6/24-6/25/05	06/27/05	Sulfite	SM 4500-SO <sub>3</sub> <sup>2</sup> B	1	ND
	1		· · · · · · · · · · · · · · · · · · ·			

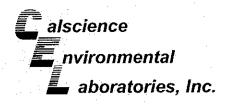
SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	метнор	RL (mg/L)	RESULT (mg/L)
LB-Intake	6/24-6/25/05	06/29/05	Sulfide	SM 4500-S <sup>2</sup> D	0.02	ND
LB-Outfall	6/24-6/25/05	06/29/05	Sulfide	SM 4500-S <sup>2</sup> -D	0.02	ND
Method Blank		06/29/05	Sulfide	SM 4500-S <sup>2</sup> D	0.02	ND

SAMPLERGINT	THE RESIDENCE AND ADDRESS.	DATE ANALYZED	PARAMETER	METHOD	RI (mg/L)	RESULT
LB-Intake	6/24-6/25/05	06/29/05	Total Magnesium	SM 3111B	40	1220
LB-Outfall	6/24-6/25/05	06/29/05	Total Magnesium	SM 3111B	40	1200
Method Blank		06/29/05	Total Magnesium	SM 3111B	0.02	ND

	DATE TIME	DATE			RL	RESULT
SAMPLE POINT	COLLECTED	ANALYZED	PARAMETER	METHOD	(mg/L)	(mg/L)
LB-Retention Basin	6/24/05 12:00	07/05/05	Salinity	SM 210/ 325.3	500	23,700
LB-Retention Basin	6/24/05 15:10	07/05/05	Salinity	SM 210/325.3	500	23,500
LB-Retention Basin	6/24/05 18:07	07/05/05	Salinity	SM 210/ 325.3	500	24,100
LB-Retention Basin	6/24/05 21:10	07/05/05	Salinity	SM 210/ 325.3	500	23,800
LB-Retention Basin	6/25/05 0:10	07/05/05	Salinity	SM 210/ 325.3	500	23,100
LB-Retention Basin	6/25/05 3:10	07/05/05	Salinity	SM 210/ 325.3	500	22,600
LB-Retention Basin	6/25/05 6:10	07/05/05	Salinity	SM 210/325.3	500	22,700
LB-Retention Basin	6/25/05 9:10	07/05/05	Salinity	SM 210/ 325.3	500	22,800
LB-Retention Basin	6/25/05 12:20	07/05/05	Salinity	SM 210/325.3	500	22,600
						,

	Date	ory Control Sample LCS Conc.	Result	LCS	Accept.
Analyte	Analyzed	(mg/L)	(mg/L)	Recovery	Range
pH ERA WP-102	06/27/05	3.90	3.91	100%	78-119%
Sulfate	06/27/05	20.0	19.1	96%	85-115%
Magnesium WP-122	06/29/05	20.0	19.6	98%	88-112%
Oil and Grease OPR	06/30/05	40.0	39.2	98%	78-114%
Salinity	07/05/05	1541	1500	97%	90-110%
					1900

		Matrix Spike				
Analyte	Date Analyzed	Sample Spiked	Spike Conc. (mg/L)	MS (mg/L)	MS Recovery	Accept. Range
Nitrate-N	06/27/05	LB-Outfall	2.00	1.92	96%	80-120%
Magnesium	06/29/05	LB-Outfall	0.200	0.203	102%	80-120%





July 07, 2005

Shawn Simmons Southern California Edison Company **Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Subject: Calscience Work Order No.:

05-06-1684

**Client Reference:** 

05098

### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/25/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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.

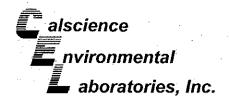
Sincerely,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

**Laboratory Director** 



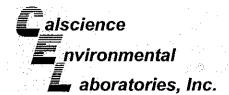


Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: 06/25/05 05-06-1684 N/A EPA 405.1

Project: 05098

Page 1 of 1

Client Sample Number		Lab Sample Number	Date Collected	Matrix	Date Started	Date Ended	QC Batch ID
Intake Composite		05-06-1684-1	06/25/05	Aqueous	06/25/05	06/30/05	50625BODB1
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
iochemical Oxygen Demand	1.5	1.0	1	- 1 to -	mg/L		
Outfall Composite		05-06-1684-2	06/25/05	Aqueous	06/25/05	06/30/05	50625BODB1
<u>arameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	Units		
iochemical Oxygen Demand	ND	1.0	1		mg/L	J .	
Method Blank		099-05-054-1,802	N/A	Aqueous	06/25/05	06/30/05	50625BODB1
arameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>	er er Gest	
iochemical Oxygen Demand	ND	1.0	1		mg/L		



### **Quality Control - Duplicate**



Southern California Edison Company

Edison Chemical Services 7301 Fenwick Lane, 2nd Floor

Westminster, CA 92683-5202

Date Received:

Work Order No:

Preparation:

Method:

06/25/05

05-06-1684

N/A

EPA 405.1

Project: 05098

Quality Control Sample ID		Matrix	Instrument	Date Started:	E	Date Ended:	Duplicate Batch Number
Outfall Composite	ijaja kan jai Balendari	Aqueous	BOD 1	06/25/05	0	6/30/05	50625BODD1
<u>Parameter</u>	Northern Nacholite	Sample Conc	DUP Conc	<u>RPD</u>		PD CL	Qualifiers
Biochemical Oxygen Demand		ND	ND	NA	C	0-25	* %

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### **Glossary of Terms and Qualifiers**



Work Order Number: 05-06-1684

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2 1000 9000 1000 1000 1000	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 or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Н	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.
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.





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Please return and direct inc In all correspondence refer Sample(s) are submitted fo	to project:	Q1033917 Shawn Simmo 05098	Email: shawn.simmons@s	ax: (714) 895-051	
Sample ID	Date Collect		Description/Analytes		
ntake Composite	6/24-6/25/0	5 14:55	Biochemical Oxygen Demand, E	PA 405.1	
Outfall Composite	6/24-6/25/0		Biochemical Oxygen Demand, E		
			1		
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Special Instructions:	i.				
special Instructions:					
Special Instructions:			·		
Special Instructions:					
Special Instructions:					
		6-28-0	5		
Chain of Custody:		6-28-0 de: 147X	5	Date:	
Special Instructions:  Chain of Custody:  Relinguished By		6-25-0 de: 1475	Received By	Time:	
Chain of Custody:	Ti	1478	Received By	Time:	



**WORK ORDER #:** 

### **SAMPLE RECEIPT FORM**

CLIENT: Southern California Edison DATE: 0/25/05
TEMPERATURE - SAMPLES RECEIVED BY:
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  Calscience Courier):  Calscience Courier):
CUSTODY SEAL INTACT:  Sample(s): Cooler: No (Not Intact) : Not Applicable (N/A): Initial: Initial: Not Applicable (N/A):
SAMPLE CONDITION:  Yes No N/A  Chain-Of-Custody document(s) received with samples.  Sample container label(s) consistent with custody papers.  Sample container(s) intact and good condition.  Correct containers for analyses requested.  Proper preservation noted on sample label(s).  VOA vial(s) free of headspace.  Tedlar bag(s) free of condensation.
Collection time of the samples (14:55) were after the receipt time (14:25)  Dun)





July 06, 2005

Shawn Simmons
Southern California Edison
Material Testing Laboratory
7351 Fenwick Lane
Westminster, CA 92683-5202

Subject: Cal

**Calscience Work Order No.:** 

Client Reference:

05-06-1708

Long Beach Permit

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/27/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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,

Calscience Environmental Laboratories, Inc.

Steven L. Lane Laboratory Director



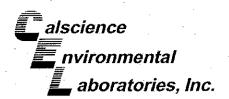


### **ANALYTICAL REPORT**

Southern California Edison	Date Sampled:	06/24/05
Material Testing Laboratory	Date Received:	06/27/05
7351 Fenwick Lane	Date Analyzed:	06/30/05
Westminster, CA 92683-5202		
	Work Order No.:	05-06-1708
Attn: Shawn Simmons	Method:	SM4500BrB
RE: Long Beach Permit	Page 1 of 1	

All concentrations are reported in mg/L (ppm).

Sample Number	Bromide <u>Concentration</u>	Reporting <u>Limit</u>
Intake Composite	85	10
Outfall Composite	81	10
Method Blank	ND	0.10





### **QUALITY ASSURANCE SUMMARY**

Method SM4500BrB

Southern California Edison Page 1 of 1

Work Order No.:

05-06-1708

Date Analyzed:

06/30/05

Matrix Spike/Matrix Spike Duplicate

Sample Spiked: Intake Composite

MS%REC

MSD%REC

Control <u>Limits</u>

%RPD

Control Limits

Analyte
Bromide

112

110

70 - 130

1

0 - 25

**Laboratory Control Sample** 

<u>Analyte</u>

Conc. <u>Added</u> Conc. Rec.

%REC

Control Limits

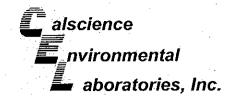
Bromide

0.400

0.410

103

80 - 120





Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: Units: 06/27/05 05-06-1708 EPA 3510B EPA 8081A/8082 ug/L

Project: Long Beach Permit

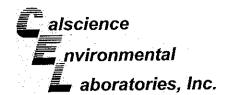
Page 1 of 1

Client Sample Number				Sample umber	Date Collected Ma	atrix p	Date Prepared A	Date nalyzed	QC B	atch ID
Outfall Composite		Kris.	05-06-170	8-11	.06/25/05 Aqu	leous 🤲	06/28/05	06/28/05	05062	7L01
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	Parameter	,	Result	RL -	<u>DF</u>	<u>Qual</u>
Alpha-BHC	ND	0.10	1	1	4,4'-DDT		ND	0.10	1	
Gamma-BHC	ND	0.10	1		Endosulfan Sulfate		ND	0.10	1	
Beta-BHC	ND	0.10	1		Methoxychlor		ND	0.10	1	
teptachlor	ND	0.10	1		Chlordane		ND	1.0	1	
Delta-BHC	ND	0.10	1		Toxaphene		ND	2.0	1	
Aldrin	ND	0.10	1		Endrin Ketone		ND	0.10	1	
Heptachlor Epoxide	ND	0.10	1		Aroclor-1016		ND	1.0	1	
Endosulfan I	ND	0.10	1		Aroclor-1221		ND	1.0	j. 1	
Dieldrin	NĐ	0.10	1		Aroctor-1232		ND	1.0	1.	
1,4'-DDE	NĐ	0.10	1		Aroclor-1242		ND:	1.0	1	
Endrin	ND -	0.10	1		Aroclor-1248		ND	1.0	1	
Endrin Aldehyde	ND	0.10	1		Aroclor-1254		ND	1.0	1	
1,4'-DDD	ND	0.10	1		Aroclor-1260		ND	1.0	1	
Endosulfan II	ND.	0.10	1		Aroclor-1262		ND	1.0	1	
Surrogates:	REC (%)	Control Limits		<u>Qual</u>	Surrogates:		<u>REC (%</u>	<u>Control</u> Limits		<u>Qual</u>
Decachlorobiphenyl	94	50-135			2,4,5,6-Tetrachloro-	m-Xylene	76	50-135		
Method Blank			095-01-01	15-1,358	N/A Aqı	ueous	06/27/05	06/27/05	05062	7L01
Parameter	Result	RL	<u>DF</u>	Qual	<u>Parameter</u>		Result	<u>RL</u>	<u>DF</u>	Qual
Alpha-BHC	ND ·	0.10	1		4,4'-DDT		ND	0.10	1	
Gamma-BHC	ND	0.10	1		Endosulfan Sulfate		ND	0.10	1	-
Beta-BHC	ND	0.10	1		Methoxychlor		ND	0.10	1	
Heptachlor	· ND	0.10	1		Chlordane		ND	1.0	1	
Delta-BHC	ND	0.10	1		Toxaphene		ND	2.0	1	
Aldrin	ND	0.10	1		Endrin Ketone		ND	0.10	1	
Heptachlor Epoxide	ND	0.10	1		Aroclor-1016		ND	1.0	1	
Endosulfan I	ND	0.10	1		Aroclor-1221		ND	1.0	1	
Dieldrin	ND	0.10	1		Aroclor-1232		ND	1.0	1	
4.4'-DDE	ND	0.10	1		Aroclor-1242		ND	1.0	1	
Endrin	ND	0.10	1		Aroclor-1248		ND	1.0	1	
Endrin Áldehyde	ND	0.10	1		Aroclor-1254		ND	1.0	1	
4,4'-DDD	ND	0.10	1		Aroclor-1260		ND	1.0	1	
Endosulfan II	ND	0.10	1		Aroctor-1262		ND	1.0	1	
Surrogates:	REC (%)	Control	•	Qual	Surrogates:		REC (%			Qual
Decachlorobiphenyl	114	<u>Limits</u> 50-135			2.4,5.6-Tetrachloro-	m-Xvlene	85	<u>Limits</u> 50-135		-

RL - Reporting Limit

DF - Dilution Factor

Qual - Qualifier:





Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No:

06/27/05 05-06-1708

Project: Long Beach Permit

Page 1 of 4

Project: Long Beach F	OTTING	·						
Client Sample Number			b Sample Number	Da Coile		Matrix		
Outfall (1215)		05-0	6-1708-1	06/24	1/05 A	queous		
<u>Hang samenti, aran 12, 2014, 21 an tataba 1200</u>								
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method
yanide, Total henolics, Total	ND 0.34	0.050 0.10	1 1		mg/L mg/L	N/A N/A	06/30/05 07/01/05	EPA 335.2 EPA 420.1
Outfall (1500)		05-0	6-1708-2	06/2	4/05 A	queous		
arameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
yanide, Total henolics, Total	ND 0.42	0.050 0.10	1		mg/L mg/L	N/A N/A	06/30/05 07/01/05	EPA 335.2 EPA 420.1
Outfall (1801)		05-0	6-1708-3	06/2	4/05 /	(queous		
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
Syanide, Total Phenolics, Total	ND ND	0.050 0.10	1 1		mg/L mg/L	N/A N/A	06/30/05 07/01/05	EPA 335.2 EPA 420.1
		1,000						
Outfall (2103)		05-0	06-1708-4	06/2	4/05	Aqueous		
Parameter Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
Cyanide, Total Phenolics, Total	ND 0.46	0.050 0.10	1 1	,	mg/L mg/L	N/A N/A	06/30/05 07/01/05	EPA 335.2 EPA 420.1

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers





Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No: 06/27/05

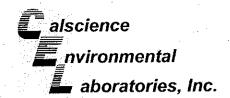
05-06-1708

Project: Long Beach Permit

Page 2 of 4

Project. Long Beach Feithit							raye.z.o
Client Sample Number		Lab Sample Number		ate ected	Matrix		
Outfall (0000)		05-06-1708-5	.06/	25/05 /	Aqueous		
Parameter Result	<u>t - RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method
Cyanide, Total ND Phenolics, Total 0.54	0.050 0.10			mg/L mg/L		06/30/05 07/01/05	EPA 335.2 EPA 420.1
Outfall (0300)		05-06-1708-6	06/	25/05	Aqueous		
<u>Parameter</u> <u>Resul</u>	<u>t RL</u>	<u>DF</u>	Quat	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
Cyanide, Total ND Phenolics, Total 0.38	0.050 0.10	). 1 1		mg/L mg/L	N/A N/A	06/30/05 07/01/05	EPA 335.2 EPA 420.1
Outfall (0601)		05-06-1708-7	. 06/	25/05	Aqueous		
Parameter Resul	t RL	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method
Cyanide, Total ND Phenolics, Total 0.34	0.050 0.10	1 1		mg/L mg/L		06/30/05 07/01/05	EPA 335.2 EPA 420.1
Outfall (0901)		05-06-1708-8	- 06/	25/05	Aqueous		
	. D	DE.	Ougl	11=:+-	Data Proposed	Data Applicad	Method
Parameter Resul	<u>t RL</u> 0.050	<u>DF</u> ) 1	<u>Qual</u>	<u>Units</u> mg/L	Date Prepared N/A	Date Analyzed 06/30/05	EPA 335.2

DF - Dilution Factor





Southern California Edison **Material Testing Laboratory** 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No:

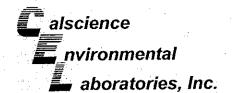
06/27/05 05-06-1708

Project: Long Beach Pe	rmit	<u> </u>					· .	Page	3 of 4
Client Sample Number			Lab Sample Number	Da Colle	te cted	Matrix			
Outfall (1201)		05	-06-1708-9	06/2	5/05	Aqueous			
						•			
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Cyanide, Total Phenolics, Total	ND 0.37	0.050 0.10	1 1		mg/L mg/L	N/A N/A	06/30/05 07/01/05	EPA 335.2 EPA 420.1	
Intake Composite		00	i-06-1708-10	06/2	5/05	Aqueous			
					47				eranti Haranti
<u>Parameter</u>	Result	<u>RL</u>	DF	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Fluoride	0.70	0.10	1		mg/L	N/A	06/28/05	EPA 340.2	
Ammonia	ND	0.10	1		mg/L		07/05/05	EPA 350.2	
Total Kjeldahl Nitrogen	ND	0.50	1		mg/L		07/01/05 06/30/05	EPA 351.3 EPA 365.3	
Phosphorus, Total	ND	0.10	1		mg/L mg/L		06/28/05	EPA 410.4	
Chemical Oxygen Demand	450	5 5.0	1 10		mg/L		06/28/05	EPA 415.1	
Carbon, Total Organic Surfactants	ND ND	0.10	1		mg/L		06/27/05	EPA 425.1	
	· .						erandille kwiwiti		e de la completa del la completa de la completa del la completa de la completa del la completa de la completa della completa della completa della completa della completa della completa della completa d
Outfall Composite		Ō:	5-06-1708-11	06/2	25/05	Aqueous			
Parameter	Result	RL	<u>ĐF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	Method	
Fluoride	0.71	0.10	1		mg/L	. N/A	06/28/05	EPA 340.2	
Ammonia	ND	0.10	<u>i</u>		mg/L		07/05/05	EPA 350.2	
Total Kjeldahl Nitrogen	ND	0.50	1		mg/L	. N/A	07/01/05	EPA 351.3	
Phosphorus, Total	0.15	0.10	. 1		mg/L		06/30/05	EPA 365.3	
Chemical Oxygen Demand	620	5	1		mg/L		06/28/05	EPA 410.4	
Carbon, Total Organic	ND	5.0	10		mg/L		06/28/05	EPA 415.1	
Surfactants	ND	0.10	1		mg/L	. N/A	06/27/05	EPA 425.1	



DF - Ditution Factor

Qual - Qualifiers





Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No:

06/27/05 05-06-1708

Westminster, CA 92683-5202

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Project: Long Beach Perr	nit							Page 4 of 4
Client Sample Number			Lab Sample Number		ate ected	Matrix		
Method Blank		State Co.		N.	A	Aqueous		
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
Cyanide, Total Fluoride Ammonia Total Kjeldahl Nitrogen Phosphorus, Total Chemical Oxygen Demand Carbon, Total Organic Phenolics, Total Surfactants	ND ND ND ND ND ND ND ND	0.10 0.10 0.10 0.50 0.10 5.0 0.50 0.050	1 1 1 1 1 1		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	N/A N/A N/A N/A 06/29/05 N/A N/A N/A	06/30/05 06/28/05 07/05/05 07/01/05 06/30/05 06/28/05 06/28/05 07/01/05	EPA 335.2 EPA 340.2 EPA 350.2 EPA 351.3 EPA 365.3 EPA 410.4 EPA 415.1 EPA 420.1 EPA 425.1



### **Quality Control - Spike/Spike Duplicate**



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No:

N/A 05-06-1708

Project: Long Beach Permit

EPA 415.1

Carbon, Total Organic

The second second second second second										
<u>Parameter</u>	<u>Method</u>	Quality Control Sample ID	<u>Date</u> <u>Analyzed</u>	<u>Date</u> Extracted	MS% REC	MSD % REC	%REC CL	<u>RPD</u>	RPD CL (	Qualifiers
Phosphorus, Total	EPA 365.3 EPA 340.2	05-06-1512-1 Intake Composite	06/30/05 06/28/05	6/29/2005 N/A	102 102	109 104	70-130 70-130	7 21 10 2	0-25 0-25	entari Marija Marija

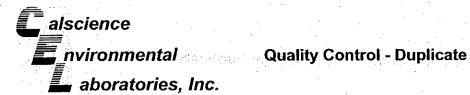
06/28/05

05-06-1792-1

N/A

103

RPD - Relative Percent Difference ,
7440 Lincoln





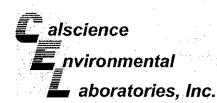
Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202

Date Received: Work Order No:

05-06-1708

Project: Long Beach Permit

Matrix: Aqueous	• 30 - 70 - 70 - 70 - 70 - 70 - 70 - 70 -						
Parameter (1)	<u>Method</u>	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL Qualifiers
Chemical Oxygen Demand	EPA 410.4	05-06-1627-2	06/28/05	150	150	0	0-25
Ammonia	EPA 350.2	05-06-1707-1	07/05/05	ND	ND	· NA	0-25
Total Kjeldahl Nitrogen	EPA 351.3	Outfall Composite	07/01/05	ND	ND	NA	0-25
		the state of the s					



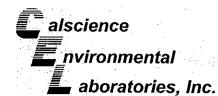
### **Quality Control - LCS/LCS Duplicate**



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: N/A 05-06-1708 EPA 3510B EPA 8081A/8082

Project: Long Beach Permit

Quality Control Sample ID	•	Matrix		nstrumen	Da t Prepa		Date Analyzed	LCS/LCSD Batch Number	
095-01-015-1,358		Aqueous		GC 37	06/27	7/05	06/27/05	050627L01	
Parameter		anifiyi <b>L</b>	CS %REC	<u>LC</u>	SD %REC	%REC C	L RPD	RPD CL	Qualifiers
Gamma-BHC	. **		85		88	50-135	3	0-25	
Heptachlor			86		94	50-135	8 .	0-25	100
Endosulfan I			81		85	50-135	5	0-25	1 1
Dieldrin			80		84	50-135	5	0-25	+ 2" ii - 2
Endrin			85		94	50-135	10	0-25	
4,4'-DDT	. •		83		92	50-135	9	0-25	
Aroclor-1260		•	107	-	105	50-135	2	0-25	



### nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202

Date Received: Work Order No:

N/A 05-06-1708

Project: Long Beach Permit

Matrix; Aqueous				4, 4, 5 m s 3						
<u>Parameter</u>	<u>Method</u>	Quality Control Sample ID	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Analyzed</u>	LCS % REC	LCSD % REC	%REC CL	<u>RPD</u>	RPD CL Qual	
Cyanide, Total	EPA 335.2	099-05-061-1,660	N/A	06/30/05	96	96	80-120	1	0-20	
Phenolics, Total	EPA 420.1	099-05-085-1,411	N/A	07/01/05	102	101	80-120	2	0-20	
Surfactants	EPA 425.1	099-05-093-1,487	N/A	06/27/05	100	100	80-120	0	0-20	



# nvironmental Quality Control - Laboratory Control Sample aboratories, Inc.



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received:

N/A

Work Order No:

05-06-1708

Project: Long Beach Permit

Matrix : Aqueous		erija Historija (Cr. 2. de dain 18.			
Parameter Metr	Quality Control Sample ID	Date Date Analyzed Extract	Conc Conc ed Added Recovered	<u>LCS</u> %Rec %Rec <u>CL</u>	Qualifiers
Phosphorus, Total EPA	365.3 099-05-098-1,626	06/30/05 6/29/200	5 0.40 0.38	96 80-12	0
Fluoride EPA	340.2 097-01-022-214	06/28/05 N//	0.50 0.52	105 80-12	0
Carbon, Total Organic EPA	415.1 099-05-097-1,934	06/28/05 N//	A 111 5.0 1 C 1 5.5 C	110 80-12	0

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# Glossary of Terms and Qualifiers



Work Order Number: 05-06-1708

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<b>1</b>   1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
<b>2</b>	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 or Matrix Spike Duplicate 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 <b>4</b>	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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Н	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.
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.
Ž	Analyte presence was not confirmed by second column or GC/MS analysis.





Relinquished By

#### RESULTS TO:

Facsimile: (714) 895-0515
Power Production Chemical
Southern California Edison
7301 Fenwick Lane, 2nd floor
Westminster, CA 92683

#### INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Please return and di		Shawn Simm					
In all correspondenc	e refer to project:	Long Beach P	ermit	Email: shawn.simmons	@sce.co	m	
Sample(s) are subm	itted for treatment/dis	position as descr	ribed bel	DW.		2 7 4 24	
Sample ID	Date Collect	Time ed Collected	Descri	otion/Analytes			
Outfall	6/24/05		Total 1	henolics, EPA 420.1	<del></del>		
Outfall	6/24/05			Phenolics, EPA 420.1		1 - 1 - 4	
Outfall	6/24/05	5 18:01		Phenolics, EPA 420.1			
Outfall	6/24/05	5 21:03	Total 1	Phenolics, EPA 420.1			
Outfall	6/25/05	5 00:00		Phenolics, EPA 420.1		· · · · · · · · · · · · · · · · · · ·	
Outfall	6/25/05	5 03:00	Total 1	Phenolics, EPA 420.1			
Outfall	6/25/05	5 06:01	Total 1	Phenolics, EPA 420.1			
Outfall	6/25/05	5 09:01	Total ]	Phenolics, EPA 420.1			
Outfall	6/25/05	5 12:01		Phenolics, EPA 420.1			
Outfall	6/24/05	5 12.15	Total (	Cyanide, EPA 335.2			
Outfall	6/24/05	5 15:00	Total (	Cyanide, EPA 335.2			
Outfall	6/24/05	5 18:01	Total (	Cyanide, EPA 335.2			
Outfall	6/24/05	5 21:03		Cyanide, EPA 335.2			
Outfall	6/25/05	5 00:00	Total (	Cyanide, EPA 335.2	1		
Outfall	6/25/05	5 03:00	Total (	Cyanide, EPA 335.2			
Outfall	6/25/05	5 06:01	Total (	Cyanide, EPA 335.2			
Outfall	6/25/05	5 09:01		Cyanide, EPA 335.2			
Outfall	6/25/05	5   12:01	Total (	Cyanide, EPA 335.2			
Special Instructions	•						
		ntrix is seawater.		. :	<del></del>		
		idix is southice.	<u> </u>		· · · · · · · · · · · · · · · · · · ·		
			· · · · · · · · · · · · · · · · · · ·				
Chain of Custody:		•					
		Date:				Date:	
Relinar	ished By	Time:	<del> </del>	Received By	•	Time:	
Zele m		Date:6/27/05				1 . ,	

Time 1433





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

## SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Southern Calif. Edison P.C Please return and direct in		Q1033917 Shawn Simm	Release Number: A002  Tel: (714) 895-0525 Fax: (714) 89	05-051:
in all correspondence refe		ong Beach P		
Sample(s) are submitted f		ition as descr	ibed below.	
Sample ID	Date Collected	Time Collected	Description/Analytes	<del>:</del>
Intake Composite	6/24 to 6/25		Total Phosphorus, EPA 365.3	
Outfall Composite	6/24 to 6/25		Total Phosphorus, EPA 365.3	1.
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		· · · · · · · · · · · · · · · · · · ·
Outfall Composite	6/24 to 6/25		Pesticides/PCBs, EPA 8081/8082	
Intake Composite	6/24 to 6/25		Radiochemistry, Total Alpha and Total Beta	
Outfall Composite	6/24 to 6/25		Radiochemistry, Total Alpha and Total Beta	
Intake Composite	6/24 to 6/25		Radiochemistry, Total Radium, Radium 226	
Outfall Composite	6/24 to 6/25		Radiochemistry, Total Radium, Radium 226	
:				
				·····
				:
Special Instructions:		7		
			DE, 4,4-DDD, alpha-Endosulfan, beta-Endo-	
sulfan, Endosulfan sulfat	e, Endrin, Endrin al	dehyde, He	tachlor, Heptachlor epoxide, alpha-BHC, beta-	
BHC, gamma-BHC, delta	a BHC, Toxaphene	PCBs: 10	16, 1221, 1232, 1242, 1248, 1254, and 1260.	
Matrix is seawater.				
Chain of Custody:				
	Dat	te:	Date:	





RESULTS TO: Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683

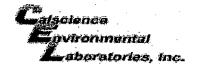
#### INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

# SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Southern Calif. Edison P.	O. Number:	Q1033917		Release Number: A002	
Please return and direct i		Shawn Simm		Tel: (714) 895-0525 Fax:	(714) 895-0515
In all correspondence ref	· -	ong Beach P		Email: shawn.simmons@sce.co	om
Sample(s) are submitted	for treatment/dispos	ition as desci	ribed belo	W.	
Sample ID	Date Collected	Time Collected	Descrip	otion/Analytes	
Intake Composite	6/24 to 6/25			l Nitrogen, EPA 315.1	
Outfall Composite	6/24 to 6/25	<u> </u>	Kjedah	l Nitrogen, EPA 315.1	
Intake Composite	6/24 to 6/25		Chemi	cal Oxygen Demand, EPA 410.	4
Outfall Composite	6/24 to 6/25		Chemi	cal Oxygen Demand, EPA 410.	4
Intake Composite	6/24 to 6/25		Total (	Organic Carbon, EPA 415.1	
Outfall Composite	6/24 to 6/25		Total (	Organic Carbon, EPA 415.1	
Intake Composite	6/24 to 6/25		Ammo	nia-N, EPA 350.2	
Outfall Composite	6/24 to 6/25		Ammo	nia-N, EPA 350.2	-
Intake Composite	6/24 to 6/25	-	Fluorio	le, Bromide, MBAS	
Outfall Composite	6/24 to 6/25		Fluorio	le, Bromide, MBAS	
		1			
Special Instructions:					
	Matrix	x is seawater	<u>.</u>	· · · · · · · · · · · · · · · · · · ·	····
Chain of Custody:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
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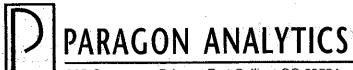
**WORK ORDER #:** 

05-06-1708

Cooler 1 of 1

# **SAMPLE RECEIPT FORM**

CLIENT: EDISON	DATE: 6/27/DS
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  C Temperature blank.	ABORATORY (Other than Calscience Courier):  C Temperature blank. C IR thermometer. Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact) :	Not Applicable (N/A):
	Initial:
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples.  Sample container label(s) consistent with custody papers.  Sample container(s) intact and good condition.  Correct containers for analyses requested.  Proper preservation noted on sample label(s).  VOA vial(s) free of headspace.  Tedlar bag(s) free of condensation.	
COMMENTS:	



225 Commerce Drive & Fort Collins, CO 80524 (800) 443-1511 (970) 490-1511 FAX (970) 490-1522

July 19, 2005

Mr. Steven L. Lane CalScience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841-1432

RE: Paragon Workorder: 05-06-249

Client Project Name: None Submitted Client Project Number: 05-06-1708

Dear Mr. Lane:

Two water samples were received from CalScience Environmental Laboratories on June 29, 2005. The samples were scheduled for the following analyses:

Gross Alpha/Beta pages 1-8
Total Alpha Emitting Radium pages 1-7
226Radium by EPA Method 903.1(m) pages 1-7

The results for these analyses are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics. Should you have any questions, please call.

Sincerely,

Paragon Analytics

Julie Ellingson

JME/ja

**Enclosure: Report** 

# **Paragon Analytics**

# Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0506249

Client Name: CalScience Environmental Laboratories

**Client Project Name:** 

Client Project Number: 05-06-1708 Client PO Number: 05-06-1708

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Intake Composite	0506249-1		WATER	25-Jun-05	
Outfall Composite	0506249-2		WATER	25-Jun-05	<del></del>

Date Printed: Thursday, June 30, 2005

7440 LINCOLN WAY

FedEx to: Paragon Analytics

CHAIN OF CUSTODY RECORD
DATE: 0506249

<b>4</b>	Exporatories, Inc.	GARDEN GROVE, CA 92841-1432 TEL: (714) 895-5484 . FAX: (714) 894-7501	41-1432 : (714) 894-7:	501		i L	S to	Fort Collins, CO 8052	Fort Collins, CO 80524	0524	** **		•	DATE				ь Г		-	
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ADDRESS: 440 Lii	ADDRESS: 7440 Lincoln Way						PROJECT CONTACT:	CONTA	n E								QUOTE NO.	Q.			
CI.							Stev	en L.	Steven L. Lane							1					
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Paragon Analytics

Page 1 of \_\_\_\_

CONDITION OF SAMPLE UPON RECEIPT FORM  Client: Calscience Env Workorder No: OSC	2624	9 .	
Project Manager: JME Initials: SL			05
1. Does this project require any special handling in addition to standard Paragon procedures?	İ	YES	(NO)
2. Is pre-screening required per SOP 008?		(YES)	NO
3. Are custody seals on shipping containers intact?	(N/A)	YES	NO
4. Are custody seals on sample containers intact?	(N/A)	YES	NO
5. Is there a COC (Chain-of-Custody) present or other representative documents?		YES	NO
6. Is the COC (if applicable) complete and legible?	N/A 5	(XE)	NO
7. Are bottle IDs legible and in agreement with COC sample IDs?	N/A	YES	NO
8. Is the COC in agreement with samples received? (# of samples, # of containers, matrix)	N/A	(YES)	NO
9 Were airbills present and/or removable?	N/A	YES	NO
10. Are all aqueous samples requiring preservation preserved correctly? (excluding volatile organics)	N/A	(YES)	NO
11. Are all aqueous non-preserved samples at the correct pH?	(N/A)	YES	NO
12 Is there sufficient sample for the requested analyses?		(YES)	NO
Were all samples placed in the proper containers for the requested analyses?		YES	NO
14. Are all samples within holding times for the requested analyses?	:	YES	NO
15. Were all sample containers received intact? (not broken or leaking, etc.)	:	(YES)	NO
16. Are all samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? Size of bubble: < green pea > green pea	(N/A)	YES	NO
Were samples checked for and free from the presence of residual chlorine?  (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	МО
18. Were the sample(s) shipped on ice?	N/A	YES	NO
19. Were cooler temperatures measured at 0.1-6.0°C?	N/A	(YES)	NO
*IR gun used (circle one): #2 )- Oakton InfraPro II, SN2922500201-0066; #4 - Oakton InfraPro II, S	N2372220	101-0002	
Cooler #'s			
Temperature (°C) ). (e		<u> </u>	
No. of custody seals ————————————————————————————————————			
DOT External uR/hr reading 14			
Acceptance			17 14
Background μR/hr reading 1Z  Were external μR/hr readings ≤ two times background and within DOT acceptance criteria? YES NO	(If no, see	Form 008.)	
Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE	EXCEPT #1	AND #2.	
* No Sample time listed on coc. time on sample time #1 1200	#1 (	intak	e) on ly
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		=	
If applicable, was the client contacted? YES / NO / NA Contact Name:	Date	/Time:	
in application, was the elicit contacted. The first contact the fi		er e	-
Project Manager Signature/ Date:			

Form 201r18.xls (6/26/04)

ORIGIN ID: JLBA (714) 895-5494 SAMPLE CONTROL CALSCIENCE ENVIRONMENTAL LABS 7440 LINCOLN WAY

GARDEN GROVE, CA 928411427 UNITED STATES US Ship Date: 28JUN05 Actual Wgt: 21.8 LB MAN System#: 370082/CAFE2246 Account: 5 136853945

TORECEIVING

PARAGON ANALYTIC

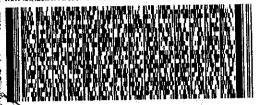
FORT COLLINS, CO 80524

(970) 490-1511

FedEx Express

REF: SL/06-1700

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BILL SENDER

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#### STANDARD OVERNIGHT

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Deliver By: 29JUN05

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80524 -co-us



# Paragon Analytics



# Radiochemistry Case Narrative Gross Alpha/Beta

# CalScience Environmental Laboratories

05-06-1708 PA WO 0506249

- 1. This report consists of the analytical results for two water samples received by Paragon on 6/29/05.
- 2. These samples were prepared according to Paragon Analytics procedure SOP702R17.
- 3. The samples were analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytics procedure SOP724R8. The analyses were completed on 7/7/05. Gross alpha results are referenced to <sup>241</sup>Am. Gross beta results are referenced to <sup>90</sup>Sr/Y.
- 4. The analysis results for these samples are reported in units of pCi/L. The samples were not filtered prior to analysis.
- 5. The requested MDC for gross alpha/beta for all of these samples was not achieved due to the presence of elevated levels of dissolved / suspended solids native to the sample. The requested method limits the amount of sample solids residue taken for analysis to 5 mg/cm². If desired, alternative methodologies for gross alpha are available which can generally address solids interference in water samples. These samples were counted for a maximum count time of 1000 minutes and results are reported without further qualification. These samples are identified with an "M" or "M3" flag on the final reports. The reported gross alpha/beta activity for samples with an "M3" flag exceeds the achieved MDC.
- 6. The magnitude of the negative activity for method blank AB050705-3MB is greater than the 2 sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is not believed to be affected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.
- No anomalous situations were encountered during the preparation or analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Badiochemistry/Instrument Technician

Radiochemistry Final Data Review

フ<u>8・03</u> Date

7/12/05

## PAI 724 Rev 8 Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: AB050705-1MB

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 05-Jul-05

Date Prepared: 05-Jul-05 Date Analyzed: 07-Jul-05 Prep Batch: AB050705-1

QCBatchID: AB050705-1-1

Run ID: AB050705-1A

Count Time: 1000 minutes

Final Aliquot: 200 ml Result Units: pCi/l

File Name: ABB0707G

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.03 +/- 0.23	0.42	U
12587-47-2	GROSS BETA	-0.59 +/- 0.57	0.96	U

#### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

**BDL** - Below Detection Limit

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: ABW0506249-1

Date Printed: Friday, July 08, 2005

Paragon Analytics
LIMS Version: 5.200A

Page 1 of 1

# PAI 724 Rev 8 Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: AB050705-1LCS

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 05-Jul-05

Date Analyzed: 07-Jul-05

Date Prepared: 05-Jul-05

Prep Batch: AB050705-1

QCBatchID: AB050705-1-1

Run ID: AB050705-1A Count Time: 150 minutes

Final Aliquot: 200 ml

Result Units: pCi/

File Name: ABB0707E

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	235 +/- 38	1	248	94.9	70 - 130	Р
12587-47-2	GROSS BETA	233 +/- 38	5	234	99.5	70 - 130	P,M3

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- L LCS Recovery below lower control limit.
- H LCS Recovery above upper control limit.
- P.- LCS Recovery within control limits.
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.

Data Package ID: ABW0506249-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Date Printed: Friday, July 08, 2005

Paragon Analytics LIMS Version: 5.200A

Page 1 of 1

# **PAI 724 Rev 8 Matrix Spike Results**

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Outfall Composite Lab ID: 0506249-2MS

Sample Matrix: WATER Prep SOP: PAI 702

Date Collected: 25-Jun-05 Date Prepared: 05-Jul-05

Date Analyzed: 07-Jul-05

Prep Batch: AB050705-1

QCBatchID: AB050705-1-1 Run ID: AB050705-1A

Count Time: 150 minutes Report Basis: Unfiltered

Final Aliquot: 2.00 ml

Prep Basis: Unfiltered Moisture(%): NA

Result Units: pCi/l File Name: ABB0707E

CASNO	Target Nuclide	Matrix Spike	Sample Results	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	20900	3	200	24800	84.2	70 - 130	P,M3
12587-47-2	GROSS BETA	22800	294	500	23400	96.2	70 - 130	P,M3

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- Y1 Chemical Yield in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits.
- N Matrix Spike Recovery outside control limits
- P Matrix Spike Recovery within control limits
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.

Data Package ID: ABW0506249-1

Date Printed: Friday, July 08, 2005

Paragon Analytics

LIMS Version: 5.200A

Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Page 1 of 1

# **PAI 724 Rev 8 Duplicate Sample Results (DER)**

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Intake Composite

Lab ID: 0506249-1DUP

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 25-Jun-05 Date Prepared: 05-Jul-05

Date Analyzed: 07-Jul-05

Prep Batch: AB050705-1

QCBatchID: AB050705-1-1

Run ID: AB050705-1A

Count Time: 1000 minutes

Report Basis: Unfiltered

Final Aliquot: 2.00 ml

Prep Basis: Unfiltered

Moisture(%): NA

Result Units: pCi/l

File Name: ABB0707G

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GRÖSS ALPHA	-20 +/- 26	-7 + <i>l</i> - 28	0.36	2.13	U,M
12587-47-2	GROSS BETA	289 +/- 77	260 +/- 72	0.28	2.13	М3

#### Comments:

#### Duplicate Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits.
- W DER is greater than Warning Limit of 1.42
- D DER is greater than Control Limit of 2.13
- LT Result is less than Request MDC, greater than sample specific MDC
- M Requested MDC not met.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L LCS Recovery below lower control limit.
- H LCS Recovery above upper control limit.
- P LCS, Matrix Spike Recovery within control limits.
- N Matrix Spike Recovery outside control limits

Data Package ID: ABW0506249-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio (see PAI SOP 715)

BDL - Below Detection Limit

NR - Not Reported

Date Printed: Friday, July 08, 2005

Paragon Analytics LIMS Version: 5.200A

Page 1 of 1

# PAI 724 Rev 8 Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Intake Composite

Lab ID: 0506249-1

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 25-Jun-05

Date Prepared: 05-Jul-05

Date Analyzed: 07-Jul-05

Prep Batch: AB050705-1

QCBatchID: AB050705-1-1

Run ID: AB050705-14

Count Time: 1000 minutes

Report Basis: Unfiltered

Final Aliquot: 2.00 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: ABB0707G

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-20 +/- 26	49	U,M
12587-47-2	GROSS BETA	289 +/- 77	94	M3

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: ABW0506249-1

Date Printed: Friday, July 08, 2005

# PAI 724 Rev 8 Sample Duplicate Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Intake Composite

Lab ID: 0506249-1DUP

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 25-Jun-05

Date Prepared: 05-Jul-05

Date Analyzed: 07-Jul-05

Prep Batch: AB050705-1

QCBatchID: AB050705-1-1

Run ID: AB050705-1A

Count Time: 1000 minutes

Report Basis: Unfiltered

Final Aliquot: 2.00 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: ABB0707G

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-7 +/- 28	50	U,M
12587-47-2	GROSS BETA	260 +/- 72	91	M3

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.
- W DER is greater than Warning Limit of 1.42
- D DER is greater than Control Limit of 2.13

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: ABW0506249-1

Date Printed: Friday, July 08, 2005

Paragon Analytics
LIMS Version: 5.200A

Page 1 of 1

# PAI 724 Rev 8 Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Outfall Composite

Lab ID: 0506249-2

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 25-Jun-05

Date Prepared: 05-Jul-05

Date Analyzed: 07-Jul-05

Prep Batch: AB050705-1

QCBatchID: AB050705-1-1

Run ID: AB050705-1A

Count Time: 1000 minutes

Report Basis: Unfiltered

Final Aliquot: 2.00 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: ABB0707G

CASN	O Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	3 +/- 25	44	U,M
12587-47-2	GROSS BETA	294 +/- 78	96	M3

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: ABW0506249-1

# Paragon Analytics

# Radiochemistry Case Narrative Total Alpha Emitting Radium

# CalScience Environmental Laboratories

05-06-1708 Paragon WO 0506249

- 1. This report consists of the analytical results for two water samples received by Paragon on 6/29/05.
- These samples were prepared according to Paragon Analytics procedure SOP712R12.
- 3. These samples were analyzed for the presence of Total Alpha Emitting Radium Isotopes according to Paragon Analytics procedure SOP724R8. The analyses were completed on 7/12/05.
- 4. This test is a screen for Radium-226 and could show high bias in sample results if other alpha emitting isotopes of radium are contained in the sample (esp. Ra-224 and Ra-223).
- 5. The analysis results for these samples are reported in units of pCi/L. The samples were not filtered prior to analysis.
- Sample volume was insufficient to allow preparation of a duplicate. A Laboratory Control Sample Duplicate (LCSD) was prepared in lieu of a client sample duplicate.
- 7. A significant low bias (greater than -15%) was observed in the pre-separation ICP measurement for these samples. This may be an indication of some matrix interference in the initial yield determination. To minimize low bias in the final analytical results the known concentration of the carrier solution was used in chemical yield calculations in lieu of the preseparation measurement.
- 8. Paragon Analytics follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.
- No anomalous situations were encountered during the preparation or analysis of these samples. All
  quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician

Radiochemistry Final Data Review

7.15 CS

7.18.05

## **PAI 724 Rev 8** Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: TR050708-2MB

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 08-Jul-05

Date Prepared: 08-Jul-05

Date Analyzed: 12-Jul-05

Prep Batch: TR050708-2

QCBatchID: TR050708-2-1

Run ID: TR050708-2A

Count Time: 75 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: TRB0712

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7440-14-4	TOTAL RADIUM	-0.036 +/- 0.072	0.240	U

# **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	14000	12940	ug	92.5	40 - 110 %	

#### Comments:

#### Qualifiers/Flags:

- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

**BDL** - Below Detection Limit

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: TRA0506249-1

# **PAI 724 Rev 8 Laboratory Control Sample(s)**

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: TR050708-21.CS

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 08-Jul-05 Date Prepared: 08-Jul-05

Date Analyzed: 12-Jul-05

Prep Batch: TR050708-2

QCBatchID: TR050708-2-1

Run ID: TR050708-2A

Count Time: 75 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: TRB0712

	CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier	
1				0	50.2	93.3	75 - 125	P	
	7440-14-4	TOTAL RADIUM	41. 71- 12	<u> </u>					

# **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag	
1	BARIUM	13990	13640	ug	97.5	40 - 110 %		J

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits
- L LCS Recovery below lower control limit.
- H LCS Recovery above upper control limit.
- P LCS Recovery within control limits.
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.

Data Package ID: TRA0506249-1

Date Printed: Friday, July 15, 2005

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Paragon Analytics

LIMS Version: 5.202A

Page 1 of 2

# **PAI 724 Rev 8 Laboratory Control Sample(s)**

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: TR050708-2LCSD

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 08-Jul-05

Date Prepared: 08-Jul-05

Date Analyzed: 12-Jul-05

Prep Batch: TR050708-2

QCBatchID: TR050708-2-1

Run ID: TR050708-2A

Final Aliquot: 995 ml

Result Units: pCi/l File Name: TRB0712

Count Time: 75 minutes

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
7440-14-4	TOTAL RADIUM	49 +/- 12	0	50.2	97.2	75 - 125	P

# **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
Ì	BARIUM	13990	13730	ug	98.1	40 - 110 %	

#### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MOC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Data Package ID: TRA0506249-1

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Page 2 of 2

# **PAI 724 Rev 8 Duplicate Sample Results (DER)**

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID:

Lab ID: TR050708-2LCSD

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 08-Jul-05

Date Prepared: 08-Jul-05

Date Analyzed: 12-Jul-05

Prep Batch: TR050708-2

QCBatchID: TR050708-2-1

Run ID: TR050708-2A Count Time: 75 minutes

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA

Result Units: pCi/l

File Name: TRB0712

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
7440-14-4	TOTAL RADIUM	47 +/- 12	49 +/- 12	0.12	2.13	Р

#### Comments:

#### Duplicate Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits.
- W DER is greater than Warning Limit of 1.42
- D DER is greater than Control Limit of 2.13
- LT Result is less than Request MDC, greater than sample specific MDC
- M Requested MDC not met.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L LCS Recovery below lower control limit.
- H LCS Recovery above upper control limit.
- P LCS, Matrix Spike Recovery within control limits.
- N Matrix Spike Recovery outside control limits

Data Package ID: TRA0506249-1

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio (see PAI SOP 715)

**BDL - Below Detection Limit** 

NR - Not Reported

Date Printed: Friday, July 15, 2005

Paragon Analytics LIMS Version: 5.202A

Page 1 of 1

# **PAI 724 Rev 8** Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Intake Composite

Lab ID: 0506249-1

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 25-Jun-05

Date Prepared: 08-Jul-05

Date Analyzed: 12-Jul-05

Prep Batch: TR050708-2

QCBatchID: TR050708-2-1

Run ID: TR050708-2A

Count Time: 75 minutes

Report Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: TRB0712

			and the second s	· · · · ·	
CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier	
7440-14-4	TOTAL RADIUM	0.08 +/- 0.11	0.24	U	

# **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
I	BARIUM	14020	12840	ug	91.6	40 - 110 %	

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: TRA0506249-1

Date Printed: Friday, July 15, 2005

Paragon Analytics LIMS Version: 5,202A

Page 1 of 2

# **PAI 724 Rev 8** Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Outfall Composite

Lab ID: 0506249-2

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 25-Jun-05

Date Prepared: 08-Jul-05

Date Analyzed: 12-Jul-05

Prep Batch: TR050708-2

QCBatchID: TR050708-2-1

Run ID: TR050708-2A Count Time: 75 minutes

Report Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: TR80712

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7440-14-4	TOTAL RADIUM	0.09 +/- 0.13	0.26	U

# **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	14020	13640	ug	97.3	40 - 110 %	

#### Comments:

#### Qualifiers/Flags:

- Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- **8DL** Below Detection Limit

Data Package ID: TRA0506249-1



# Paragon Analytics

# Radiochemistry Case Narrative <sup>226</sup>Radium by EPA Method 903.1(m)

# CalScience Environmental Laboratories

05-06-1708 Paragon WO 0506249

- 1. This report consists of the analytical results for two water samples received by Paragon on 6/29/05:
- These samples were prepared and analyzed according to Paragon Analytics procedures SOP783R5. The analyses were completed on 7/11/05.
- The analysis results for these samples are reported in units of pCi/L. The samples were not filtered prior to analysis.
- Sample volume was insufficient to allow preparation of a duplicate. A Laboratory Control Sample Duplicate (LCSD) was prepared in lieu of a client sample duplicate.
- 5. A significant low bias (greater than -15%) was observed in the pre-separation ICP measurement for these samples. This may be an indication of some matrix interference in the initial yield determination. To minimize low bias in the final analytical results the known concentration of the carrier solution was used in chemical yield calculations in lieu of the preseparation measurement.
- 6. No anomalous situations were encountered during the preparation or analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

\_\_\_7/19/0S

Radiochemistry Final Data Review

# PAI 783 Rev 5 Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: RE050705-1MB

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 05-Jul-05

Date Prepared: 05-Jul-05

Date Analyzed: 11-Jul-05

Prep Batch: RE050705-1

QCBatchID: RE050705-1-1

Run ID: RE050712-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	-0.16 +/- 0.25	0.52	U

# **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	17060	16580	ug	97.2	40 - 110 %	

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.

- Abbreviations:
- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- M Requested MDC not met.
- B Analyte concentration greater than MDC.
- B3 Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: REM0506249-1

# PAI 783 Rev 5 Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: RE050705-1LCS

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 05-Jul-05

Date Prepared: 05-Jul-05

Date Analyzed: 11-Jul-05

Prep Batch: RE050705-1

QCBatchID: RE050705-1-1

Run ID: RE050712-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	45 +/- 11	1	48.1	94.2	80 - 120	Р

## **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	17060	16890	ug	99.0	40 - 110 %	g+

#### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits,

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Data Package ID: REM0506249-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

# PAI 783 Rev 5 Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Lab ID: RE050705-1LCSD

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 05-Jul-05 Date Prepared: 05-Jul-05

Date Analyzed: 11-Jul-05

Prep Batch: RE050705-1

QCBatchID: RE050705-1-1

Run ID: RE050712-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Result Units: pCi/l

File Name: Manual Entry

T	r <del></del>		***				
CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	51 +/- 13	1	48.1	105	80 - 120	Guanner
	-		! <u></u> _	40.1	105	00 - 120	P .

# **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	17060	16710	ug	97.9	40 - 110 %	145.4

#### Comments:

#### Qualifiers/Flags:

- $\boldsymbol{U}_{-}$  Result is less than the sample specific MDC.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- t LCS Recovery below lower control limit.
- H LCS Recovery above upper control limit.
- P LCS Recovery within control limits.
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.

Data Package ID: REM0506249-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

# **PAI 783 Rev 5 Duplicate Sample Results (DER)**

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID:

Lab ID: RE050705-1LCSD

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 05-Jul-05 Date Prepared: 05-Jul-05.

Date Analyzed: 11-Jul-05

Prep Batch: RE050705-1

QCBatchID: RE050705-1-1

Run ID: RE050712-1A

Count Time: 15 minutes

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: Manual Entry

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	45 +/- 11	51 +/- 13	0.16	2.13	• Р

#### Comments:

#### Duplicate Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits.
- W DER is greater than Warning Limit of 1.42
- D DER is greater than Control Limit of 2.13
- LT Result is less than Request MDC, greater than sample specific MDC
- M Requested MDC not met.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L LCS Recovery below lower control limit.
- H LCS Recovery above upper control limit.
- P LCS, Matrix Spike Recovery within control limits.
- N Matrix Spike Recovery outside control limits

Data Package ID: REM0506249-1

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio (see PAI SOP 715)

**BDL - Below Detection Limit** 

NR - Not Reported

Date Printed: Wednesday, July 13, 2005

Paragon Analytics LIMS Version: 5.201A

Page 1 of 1

**PAI 783 Rev 5** Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Intake Composite

Lab ID: 0506249-1

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 25-Jun-05

Date Prepared: 05-Jul-05

Date Analyzed: 11-Jul-05

Prep Batch: RE050705-1

QCBatchID: RE050705-1-1

Run ID: RE050712-1A Count Time: 15 minutes

Report Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.09 +/- 0.30	0.54	U

# **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	17050	15310	ug	89.8	40 - 110 %	

#### Comments:

#### Qualiflers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: REM0506249-1

# **PAI 783 Rev 5** Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0506249

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-06-1708

Field ID: Outfall Composite

Lab ID: 0506249-2

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 25-Jun-05 Date Prepared: 05-Jul-05

Date Analyzed: 11-Jul-05

Prep Batch: RE050705-1

QCBatchID: RE050705-1-1

Run ID; RE050712-1A

Count Time: 15 minutes

Report Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.19 +/- 0.26	0.42	U

# **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	17070	16280	ug	95.4	40 - 110 %	

#### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC.
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BOL Below Detection Limit

Data Package ID: REM0506249-1



# Marine Laboratories, Inc.

2020 Del Amo Blvd. Suite 200, Torrance, CA 90501 • (310) 533-5190 • FAX (310) 533-5003 • mmercier@crglabs.com

July 26, 2005

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> Floor Westminster, CA 92683

Re:

CRG Project ID:

P2557a

SCE Project:

Long Beach Permit

ATTN: Mr. Shawn Simmons

CRG Marine Laboratories is pleased to provide you with the enclosed analytical data report for your Long Beach Permit Project. According to the chain-of-custody, 2 samples were received intact at CRG on June 29, 2005. Per your instructions, the samples were analyzed for:

- Total Trace Metals By ICPMS Using EPA Method 1640
- Barium & Boron By ICPMS Using EPA Method 200.8

Please don't hesitate to call if you have any questions and thank you very much for using our laboratory for your analytical needs.

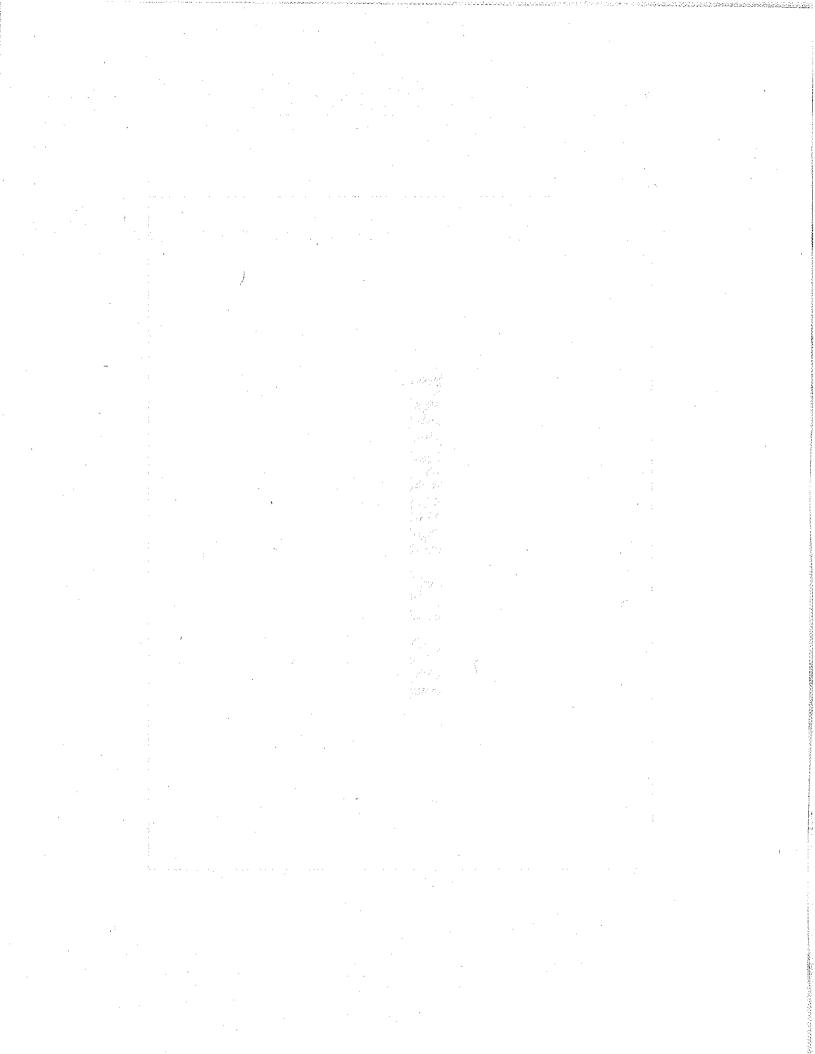
Regards, Misty B. Mercier Project Manager

Misty B. Mercier

Digitally signed by Misty B. Mercier
DN: CN = Misty B. Mercier, C = US, O ≃ CRG Marine
Laboratories, Inc.
Dale: 2005.07.27 06:06:29-07'00'

Reviewed and Approved

# DATA REPORT



(CRG Marine Laboratories, 9uc., 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Client:	Southern California Edi	fornia Edison				SR	CRG Project ID:		2557c
CRG 1D#:	26132	Sample	Intake	BTISCOMOO					
Replicate #:		Description:	Long Beach Permit			ב ב	Date Sampled:	24-Jun-05	
Batch ID:	2557-12040	Matrix:	Seawater				Date Received: Date Processed	7 14-100-05	
Instrument:	ICPMS #1 HP 4500	Analyst:	P. Hershelman			Date	Date Analyzed:		
CONSTITUENT	Τλ	FRACTION	метнор	RESULT	UNITS	MDL	RL DI	DILUTION , FACTOR	ACCEPTANCE RANGE
Aluminum (Al)		Total	EPA 1640	40.4	! !	0.01		1	AN
Antimony (Sb)		Totai	EPA 1640	0.123		0.01	0.015	-	₹ Z
Arsenic (As)			EPA 1640	1.75	-	0.01	0.015	<u>τ-</u>	√ Z
Barium (Ba)			EPA 200.8	QN		0.1	0.5	-	. ∢ Z
Beryliium (Be)	~	Total	EPA 1640	E0.006		:005	0.01	· •	∢ Z
Boron (B)		Total	EPA 200.8	5.17		· •	z,	<b>,</b>	Ϋ́
Cadmium (Cd)	(1	Total	EPA 1640	0.049		.005	0.03	<del>-</del>	. ₹ Z
Chromium (Cr)	٦	Total	EPA 1640	0.375		.005	0.01		Ą
Cobalt (Co)		Total	EPA 1640	NO.		.005	0.01	<del>-</del>	Z Z
Copper (Cu)		Total	EPA 1640	1.85		.005	0.01	-	Ϋ́
Iron (Fe)	-	Total	EPA 1640	25		1.01	0.025	-	Ϋ́
Lead (Pb)		Total	EPA 1640	0.388		.005	0.01	_	V
Manganese (Mn)	dn)		EPA 1640	16,9		.005	0,01	· —	Ą
Mercury (Hg)		Total	EPA 1631E	0.00139		00005	0,0001		۷ Z
Molybdenum (Mo)	(Mo)	Total	EPA 1640	0	η ng/L 0	0.005	0.01	-	Υ X
Nickel (Ni.)			EPA 1640	0.373	-	.005	0.01		A N
Selenium (Se)			EPA 1640	ND		.01	0.015		٩Z
Silver (Ag)		Total	EPA 1640	Q		.005	0.01	***	X AX
Thallium (TI)			EPA 1640	E0.005		.005	0.01		√ Z
Tin (Sn)		Total	EPA 1640	0,017		.005	0.01	:	٩
Titanium (Ti)		Total	EPA 1640	2.08			0.01	÷-	ĄZ
Vanadium (V)		Total	EPA 1640	2,64	μg/L 0.	002	0.01		NA NA
Zinc (Zn)		Total	EPA 1640	13.4		0.005	0.01		NA

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable,

California ELAP Certificate # 2261

 $\Xi$ 26132

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

### I Pare Meris

Client: Southern California Edi	fornia Edison				ပ	CRG Project ID:	ect ID:	2557c
ŀ	Sample	Intake	COMPOSITE		٥	Date Sampled:	24-Jun-05	
Replicate #: R2	Description:	Long Beach Permit			Ä	Date Received:		
Batch ID: 2557-12040 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman			۵۵	Date Processed: Date Analyzed:		
CONSTITUENT	FRACTION	МЕТНОВ	RESULT	UNITS	MDL	RI. 1	ILU TA	ACCEPTANCE
Aluminum (AI)	Total	EPA 1640	39.9	ng/L	0.01	0.125	1	AN
Antimony (Sb)	Total	EPA 1640	0.127	hg/L	0.01	0.015	<del>-</del>	Υ ×
Arsenic (As)		EPA 1640	0.869	hg/L	0.01	0.015	<b>-</b>	Ϋ́
Barium (Ba)		EPA 200.8	QN	mg/L	0.1	0.5	-	Ϋ́
Beryllium (Be)	Total	EPA 1640	E0.008	hg/L	0.005	0.01		Ϋ́
Boron (B)	Total	EPA 200.8	5.76	mg/L	-	чo		NA
Cadmium (Cd)		EPA 1640	0.05	µg/L	0.005	0.01	· -	Ϋ́
Chromium (Cr)		EPA 1640	0.475	J/6rl	0,005	0.01	· <del></del>	Ϋ́Z
Cobalt (Co).		EPA 1640	· QN	hg/L	0.005	0.01		· K
Copper (Cu)		EPA 1640	1.84	hg/L	0.005	0.01	~	. ∀Z
Iron (Fe)		EPA 1640	26.6	hg/L	0.01	0.025	<b>-</b>	A N
Lead (Pb)	Total	EPA 1640	0.398	hg/L	0.005	0.01	-	Ϋ́
Manganese (Mn)		EPA 1640	17.1	µg/L	0.005	0.01		ďZ.
Mercury (Hg)	Total	EPA 1631E	0.00156	ng/L	0,00005	0.0001	, <del></del>	₹Z
Malybdenum (Mo)		EPA 1640	9.76	hg/L	0.005	0.01	<b>-</b>	٩
Nickel (Ni)		EPA 1640	0.393	hg/L	0,005	0.01	20 (1) 10 (1)	NA
Selenium (Se)		EPA 1640	0.394	ng/L	0.01	0.015	· · ·	N A
Silver (Ag)		EPA 1640	Q	hg/L	0.005	0.01	·.	Ą
Thallium (Tl)		EPA 1640	0.011	hg/L	0,005	0.01		NA
Tin (Sn)	Total	EPA 1640	0.017	hg/L	0.005	0.01	: <del>.</del>	NA
Titanium (Ti)	Total	EPA 1640	2.24	hg/L	0.005	0.01		Ϋ́
Vanadium (V)	Totai	EPA 1640	2.57	hg/L	0.005	0.01	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	NA
Zinc (Zn)	Total	EPA 1640	12.9	µg/L	0.005	0,01		NA

MDL.= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26132

# ORG Marine Laboratories, Inc. 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobei.net

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Client:	Southern California Edi	fornia Edi:	son				Ö	CRG Project ID:	ect ID:	2557c
CRG ID#: Replicate #:	26133 R1	Sa	Sample Description:	Outfall Long Beach Permit	COMPOSITE		D C	Date Sampled:	24-Jun-05	
Batch ID: Instrument:		Ma An	Matrix: Analyst:	Seawater P. Hershelman				Date Processed: Date Analyzed:		
CONSTITUENT	J. <sub>h</sub>	FRACTION	-	метнор	RESULT	UNITS	MDL	RL I	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (AI)	(1	Total		EPA 1640	11.1	µg/L	0.01	0.125	and continued and the continue	NA
Antimony (Sb)	·	Total		EPA 1640	0.161	µg/L	0.01	0.015	-	∢ Z
Arsenic (As)		Total	_	EPA 1640	1.62	µg/L	0.01	0.015	τ-	Ą
Barium (Ba)		Total	w	EPA 200,8	Q.	mg/L	0.1	0,5	·	A'N
Beryllium (Be)	<b>←</b>	Total	_	EPA 1640	E0.006	µg/L	0.005	0.01	F	A A
Boron (B)		Total	ш	EPA 200.8	5.98	mg/L	<b>~</b>	ιO	_	ĄZ
Cadmium (Cd)	· ·	Total		EPA 1640	0.081	µg/L	0.005	0.01	-	Ą
Chromium (Cr)		Total		EPA 1640	0.345	µg/L	0.005	0.01	-	ď.
Cobalt (Co)		Total		EPA 1640	· Q	µg/L	0.005	0.01	<b>-</b>	A N
Copper (Cu)		Total	_	EPA 1640	2.7	hg∕L	0.005	0.01	<del>-</del>	ΑΝ
iron (Fe)	-	Total		EPA 1640	32.6	hg/L	0.01	0.025	_	Ą
Lead (Pb)		Total	ш	EPA 1640	0.389	µg/L	0.005	0.01	-	Ā
Manganese (Mn)	Mn)	Total		EPA 1640	19.3	µg/L	0,005	0.01	۲-	ΑN
Mercury (Hg)		Total	w	EPA 1631E	0.00158	ng/L	0.00005	0.0001	_	NA
Molybdenum (Mo)	(Mo)	Total	ш	EPA 1640	9.05	µg/L	0.005	0.01	· .	NA
Nickel (Ni)		Total		EPA 1640	0.993	ng/L	0.005	0.01	· ·	Y A
Selenium (Se)		Total	ш	EPA 1640	ND	µg/L	0.01	0.015	· · · · · · · · · · · · · · · · · · ·	NA
Silver (Ag)		Total		EPA 1640	Q	μg/L	0.005	0.01	· ·	NA V
Thallium (TI)		Total		EPA 1640	QN	hg/L	0.005	0.01	<del>, •••</del>	AN
Tin (Sn)		Totai	-2,	EPA 1640	0.019	hg∕L	0.005	0.01	-	AN
Titanium (Ti)	- -	Total	ш	EPA 1640	1.08	ng/L	0.005	0.01	- -	Y Y
Vanadium (V)		Total	w	EPA 1640	2.19	µg/L	0.005	0.01	· .	NA
Zinc (Zn)		Total	ш.	EPA 1640	21.7	hg/L	0.005	0.01	-	ĄZ

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26133

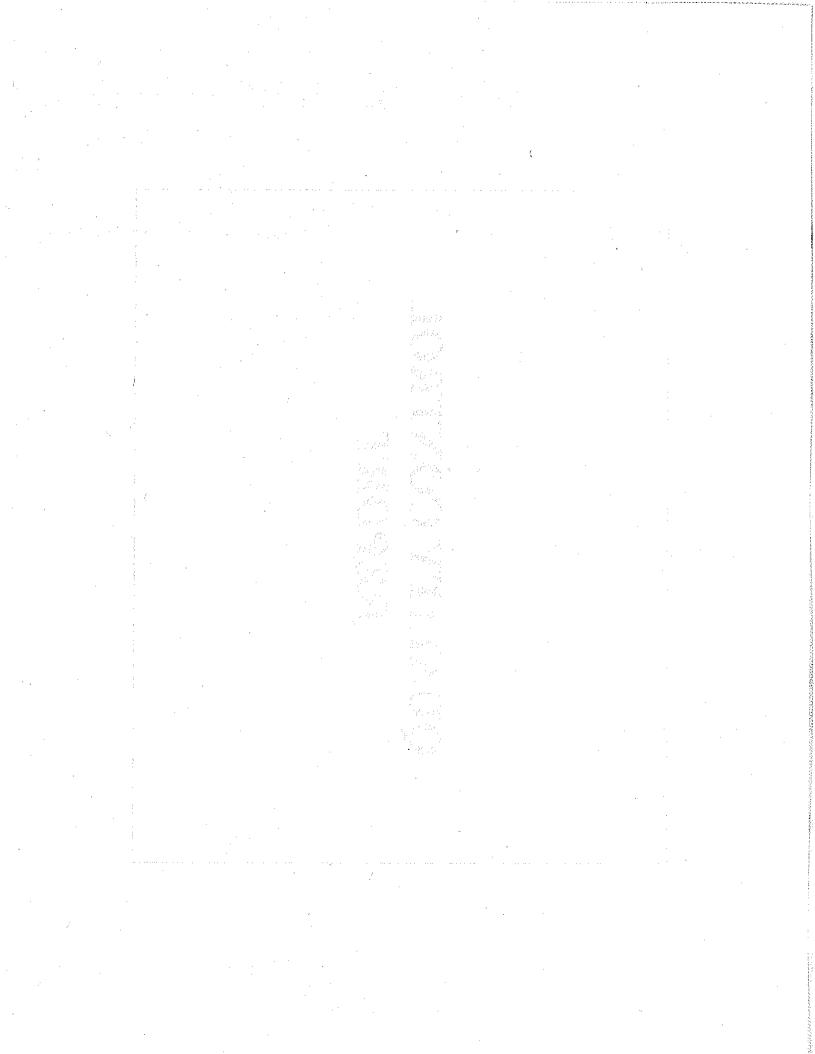
# **CRG Marine Laboratories, 9uc.** 2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

	့ပ			ACCEPTANCE	NGE	NA NA
	2557c	65 35	52	ACCEP	RAN	ZZ
	CKG Project ID:		ed: 21-Jul-05	DILUTION	FACTOR	<b>-</b> -
	CKG Pr	Date Sampled; Date Received; Date Processed;	Date Analyzed:	RL		5.5
				MDL		1.0
				UNITS		mg/L
		COMPOSITE		RESULT	CN	6.03
	Outfall		METHOD	METHOD	EPA 200.8	EPA 200.8
nia Edison	Sample	Description: Matrix: Analyst:	FRACTION		Total	Total E
Client: Southern California Edia	26133	Replicate #: R2 Batch ID: 2557-12040 Instrument: ICPMS #1 HP 4500				
Client:	CRG ID#: 26133	Replicate #: R2 Batch ID: 2557 Instrument: ICPA	CONSTITUENT	Rarium (Ba)	(BO)	Boron (B)

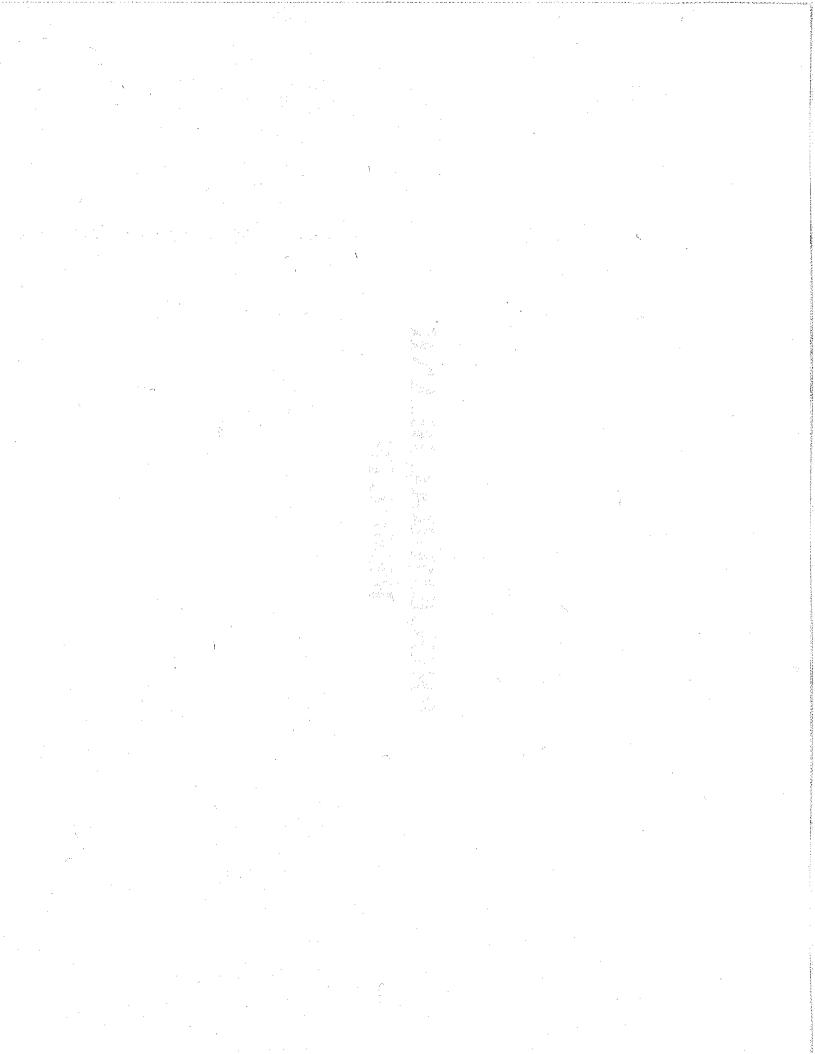
California ELAP Certificate # 2261

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value helow the RL and above the MDL; ND= Not Detected; NA= Not Applicable,

### QUALITY CONTROL REPORT



### PROCEDURAL BLANK RESULTS



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Client: 3	Southern California Edi	ornia Edison				CF	रG Pro	CRG Project ID:	2557c
CRG ID#:	26131	Sample	aAac	Procedural Blank	lank	Dat	Date Sampled:	ij	
Replicate #:	B1	Description:	Long Beach Permit			Dat	Date Received:		
Batch ID:	2557-12040	Matrix:	Di Water			Dat	Date Processed:	sed: 14-Jul-05	10
Instrument:	instrument: ICPMS #1 HP 4500	Analyst:	P. Hershelman			Dat	Date Analyzed:	d: 20-Jul-05	5
CONSTITUENT	L	FRACTION	метнор	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)		Total	EPA 1640	QN.	µg/L	0.01	0.125	-	Y.
Antimony (Sb)		Total	EPA 1640	9	µg/L	0.01	0.015	-	AN
Arsenic (As)	٠	Total	EPA 1640	9	µg/L	0.01	0,015	<b></b> -	AN.
Barium (Ba)			EPA 200,8	9	mg/L	0.1	0,5	<b>-</b>	Ą
Beryllium (Be)		Total	EPA 1640	2	µg/L	0.005	0.01	-	NA A
Boron (B)		Total	EPA 200.8	8	mg/L	<b>4</b> -	ហ្	<del></del>	NA
Cadmium (Cd)	€	Total	EPA 1640	2	hg/L	0.005	0.01	<del></del>	NA A
Chromium (Cr)	۲)	Total	EPA 1640	9	hg/L	0.005	0,01	<del></del>	Ą.
Cobalt (Co)		Total	EPA 1640	Q.	hg/L	0.005	0,01	-	Y A
Copper (Cu)		Total	EPA 1640	8	µg/L	0.005	0,01	₹.	Ϋ́
Iron (Fe)		Total	EPA 1640	Q.	hg/L	0.01	0,025	-	Ϋ́
Lead (Pb)		Total	EPA 1640	20	hg/L	0.005	0.01	<b>-</b>	V
Manganese (Mn)	Vin)	Total	EPA 1640	9	µg/L	0.005	0,01	<b>-</b>	ΑN
Mercury (Hg)		Total	EPA 1631E	2	ng/L	0,00005	0.0001	-	ΑN
Molybdenum (Mo)	(Mo)		EPA 1640	2	µg/L	0.005	0.01	-	ΑN
Nickel (Ni)		Total	EPA 1640	Q	hg/L	0.005	0.01	<b>-</b>	V
Selenium (Se)	•	Total	EPA 1640	<del>Q</del>	µg/L	0.01	0.015	-	Ϋ́
Silver (Ag)		Total	EPA 1640	2	hg/L	0.005	0.01	-	Ϋ́
Thallium (TI)		Total	EPA 1640	Q.	hg/L	0.005	0.01	←	ĄN
Tin (Sn)		Total	EPA 1640	2	µg/L	0.005	0.01	₩.	V
Titanium (Ti)		Total	EPA 1640	2	µg/L	0.005	0.01	<b>-</b>	ΑN
Vanadium (V)		Total	EPA 1640	2	hg/L	0.005	0.01	<del></del>	Ϋ́
Zinc (Zn)		Total	EPA 1640	Q	µg/L	0.005	0.01	<b>-</b>	<b>∀</b> Z
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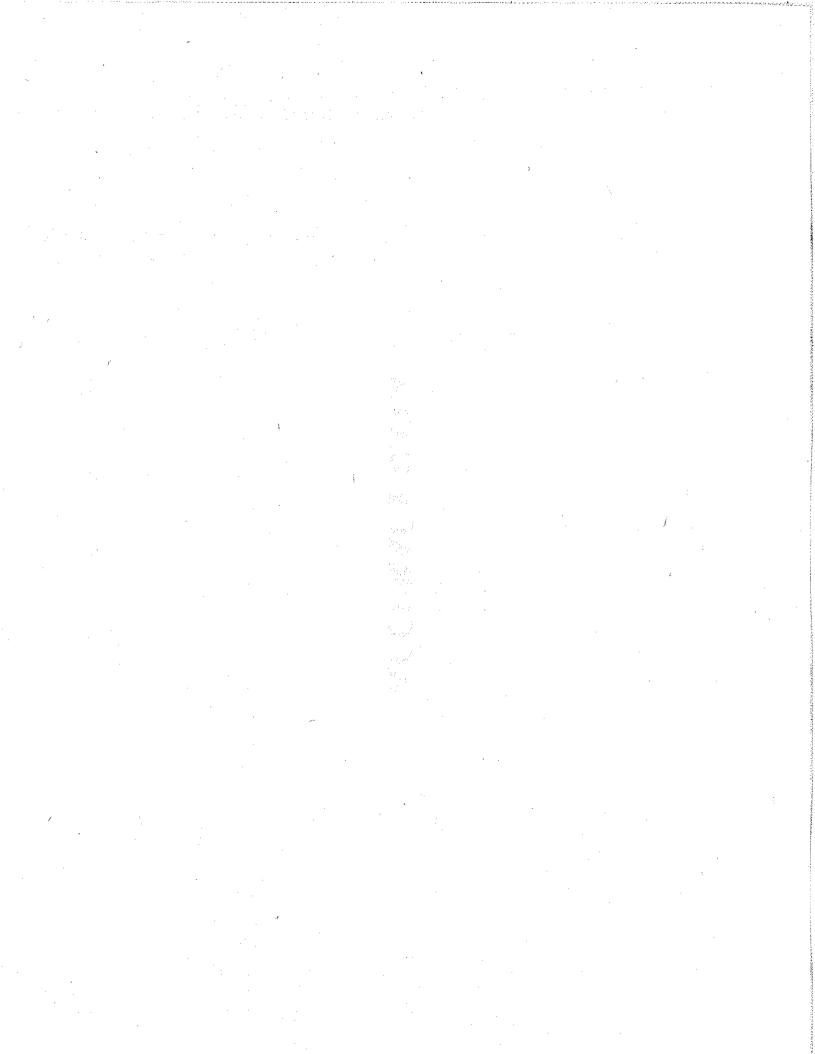
MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26131

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## ACCURACY DATA



# 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

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Client:	Southern California Edi	fornia Edis	son			į.	Ö	CRG Project ID:	ct ID:	2557c	_
CRG ID#:	26134	Sam	eldı	QAQC	LCM-CRG Seawater	sawater	Da	Date Sampled:			_
Replicate #; LCM1	LCM1	Des	Description:	Long Beach Permit			Ö	Date Received:		a. a	
Batch ID:		Matrix:	ӝ	Seawater			: Da	Date Processed:	l: 14-Jul-05		*
Instrument:	ICPMS #1 HP 4500	Analyst:	lyst:	P. Hershelman			C	Date Analyzed:	20-Jul-05	2	
CONSTITUENT	L	FRACTION	4	МЕТНОБ	RESULT	UNITS	MDL	RL D)	DILUTION FACTOR	ACCEPTANCE RANGE	
Aluminum (AI)		Total	ш	EPA 1640	9	hg/L	0.01	0.125	_	ΑN	
Antimony (Sb)	-	Total	ш	EPA 1640	0.104	hg/L	0.01	0.015	·	Ϋ́	
Arsenic (As)		Total	ш	EPA 1640	1.58	ng/L	0,01	0.015	-	Ϋ́Z	
Barium (Ba)		Total	ш	EPA 200.8	2	mg/L	0.1	0.5	<del></del>	V	
Beryllium (Be)	~	Total	ш	EPA 1640	9	µg/L	0.005	0.01	<b></b> -	NA	
Boron (B)		Total	W	EPA 200,8	E3.38	mg/L	<b>-</b>	ຸເດ	-	NA	
Cadminm (Cd)	<del>-</del>	Total	ш.	EPA 1640	0.106	µg/L	0.005	0.01	_	Ą	
Chromium (Cr)	(L	Total	щ	EPA 1640	0.305	hg/L	0.005	0.01	τ-	AN.	
Cobalt (Co)	-	Total	Ш	EPA 1640	Q	hg/L	0.005	0.01	<b>*</b>	NA	
Copper (Cu)		Total	Ш	EPA 1640	0.154	hg/L	0.005	0.01	<b>-</b>	NA	
Iron (Fe)		Total	ш	EPA 1640	0.433	hg/L	0.01	0.025	<del>-</del>	AN	
Lead (Pb)		Total	Ш	EPA 1640	E0,005	µg/L	0,005	0.01	-	ΑN	
Manganese (Mn)	Mn)	Total	ш	EPA 1640	0.166	hg/L	0.005	0.01	₹~	NA	٠.
Mercury (Hg)		Total	Ü	EPA 1631E	0.00114	ng/L	0.00005	0.0001	_	AN	
Molybdenum (Mo)	(Mo)	Total	ш	EPA 1640	9,65	ug/L	0.005	0.01	<del>-</del>	Ϋ́	
Nickel (Ni.)		Total	ш	EPA 1640	0.514	hg/L	0.005	0.01	· •	Ϋ́	
Selenium (Se)		Total ·	Ш	EPA 1640	S	Hg/L	0.01	0.015	_	ĄZ	
Silver (Ag)		Total		EPA 1640	N	µg/L	0.005	0.01	_	₹	
Thallium (TI)		Total	ш	EPA 1640	E0.007	T/6ri	0.005	0.01	-	ΑΝ	
Tin (Sn)		Total	ш	EPA 1640	N	µg/L	0,005	0.01		ΑN	
Titanium (Ti)		Total	ш :-	EPA 1640	0.275	µg/L	0.005	0.01	_	ďZ	
Vanadium (V)		Total	ш	EPA 1640	2.33	J/Brl	0.005	0.01	-	NA AN	
Zinc (Zn)		Total	Ш	EPA 1640	1.46	hg/L	0.005	0.01	-	ΨN	
	{										-

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26134 LCM1

# CRG Marine Laboratories, 9nc. 2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 orglabs@sboglobal.net

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Client: S	Southern California Edi	fornia Edison				່ວ	CRG Project ID:	sct ID:	2557c
CRG ID#:	26134	Sample	OAOC	LCM-CRG Seawater	awater	Da	Date Sampled:	-	73
Replicate #: 1	LCM2	Description:	: Long Beach Permit	ust.		Ö	Date Received:		
	2557-12040	Matrix:	Seawater			D C	Date Processed:		
Instrument:	ICPMS #1 HP 4500	Analyst:	r. nersnerman			na	Date Analyzed:	co-inc-oz	
CONSTITUENT	L	FRACTION	метнор	RESULT	UNITS	MDL	_	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (AI)		Total	EPA 1640	ND	µg/L	0.01	0.125	<del>.</del>	A'N
Antimony (Sb)		Total	EPA 1640	0.088	µg/L	0.01	0.015	<b>-</b>	Ą
Arsenic (As)		Total	EPA 1640	1,75	hg/L	0.01	0.015	÷	N
Barium (Ba)		Total	EPA 200.8	· ·	mg/L	0.1	0,5	·	Ą V
Beryllium (Be)		Total	EPA 1640	Q	µg/L	0.005	0.01		Ϋ́
Boron (B)		Total	EPA 200.8	ш Э	mg/L	÷	ໝ	~	¥.
Cadmium (Cd)	_	Total	EPA 1640	0.108	µg/L	0.005	0.01		¥.
Chromium (Cr)	(	Total	EPA 1640	0,315	µg/L	0.005	0.01	τ-	ΨZ
Cobalt (Co)		Total	EPA 1640	QN	µg/L	0.005	0.01		Ϋ́
Copper (Cu)	-	Total	EPA 1640	0.153	· µg/L	0.005	0.01		Ϋ́
Iron (Fe)		Total	EPA 1640	0.315	µg/L	0.01	0.025	<b>5</b> 7	₹ V
Lead (Pb)		Total	EPA 1640	E0.006	µg/L	0.005	0.01	<del>-</del>	<b>∢</b> Z
Manganese (Mn)	(u)	Total	EPA 1640	0.171	µg/L	0.005	0.01	<del>Č</del>	V V
Mercury (Hg)	٠	Total	EPA 1631E	0,00099	ng/L	0.00005	0.0001	₩	Υ Υ
Molybdenum (Mo)	Mo)·	Total	EPA 1640	9.85	µg/L	0.005	0.01	τ-	¥N,
Nickel (Ni)		Total	EPA 1640	0.501	µ9/L	0.005	0.01		Ϋ́
Selenium (Se)		Total	EPA 1640	S	µg/L	0.01	0,015	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ϋ́
Silver (Ag)		Total	EPA 1640	Q	µg/L	0.005	0.01	·	Ϋ́
Thallium (TI)		Total	EPA 1640	E0.007	µg/L	0.005	0.01	<del>-</del>	<b>∀</b>
Tin (Sn)		Totaí	EPA 1640	Q	µg/L	0.005	0.01	τ-	VAN.
Titanium (Ti)		Total	EPA 1640	0,414	н9/L	0.005	0.01	τ-	N A
Vanadium (V)		Total	EPA 1640	2.52	hg/L	0.005	0.01		Ϋ́
Zinc (Zn)		Total	EPA 1640	1,6	µg/L	0.005	0.01		ΨN

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26134 LCM2

# 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

### 

Client: South	Southern California Edison	Edison			CRG Project ID:	2557c
CRG ID#: 26134		Sample QAQC		LCM-CRG Seawater	Date Sampled:	
Replicate #: LCS1 Batch ID: 2557-12040	040	Matrix: Seawater	remin	e.	Date Received:	10 T
÷	1 HP 4500	••	nan			N-05
CONSTITUENT	FRACTION	МЕТНОВ	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (AI)	Total	EPA 1640	77.	20 µg/£	52 - 149%	PASS
Antimony (Sb)	Total	EPA 1640	99	25 µg/L	44 - 107%	PASS
Arsenic (As)	Totai	EPA 1640	91	20 µg/L	71 - 114%	PASS
Beryllium (Be)	Total	EPA 1640	64	20 µg/L	62 - 113%	PASS
Cadmium (Cd)	Total	EPA 1640	84	25 µg/L	69 - 120%	PASS
Chromium (Cr)	Total	EPA 1640	109	20 µg/L	85 - 133%	PASS
Cobalt (Co)	Total	EPA 1640	86	20 µg/L	75 - 124%	PASS
Copper (Cu)	Total	EPA 1640	. 81	25 µg/L	72 - 128%	PASS
Iron (Fe)	Total	EPA 1640	90	25 µg/L	35 - 97%	PASS
Lead (Pb)	Total	EPA 1640	06	25 µg/L	56 - 116%	PASS
Manganese (Mn)	Total	EPA 1640	86	20 µg/L	64 - 120%	PASS
Mercury (Hg)	Total	EPA 1631E	26	0.0375 µg/L	68 - 117%	PASS
Molybdenum (Mo)	Total	EPA 1640	89	25 µg/L	59 - 125%	PASS
Nickel (NI)	Total	EPA 1640	62	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	77	25 µg/L	55 - 110%	PASS
Silver (Ag)	Totai	EPA 1640	97	20 µg/L	66 - 125%	PASS
Thallium (TI)	Total	EPA 1640	9,2	20 µg/L	66 - 110%	PASS
Tin (Sn)	Total	EPA 1640	87	25 µg/L	68 - 110%	PASS
Titanium (Ti)	Total	EPA 1640	111	20 µg/L	. 85 - 133%	PASS
Vanadium (V)	Total	EPA 1640	116	20 µg/L	85 - 133%	PASS
Zinc (Zn)	Total	EPA 1640	72	20 µg/L	62 - 108%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261
26134 LCS1

## CRG Marine Laboratories, Inc.

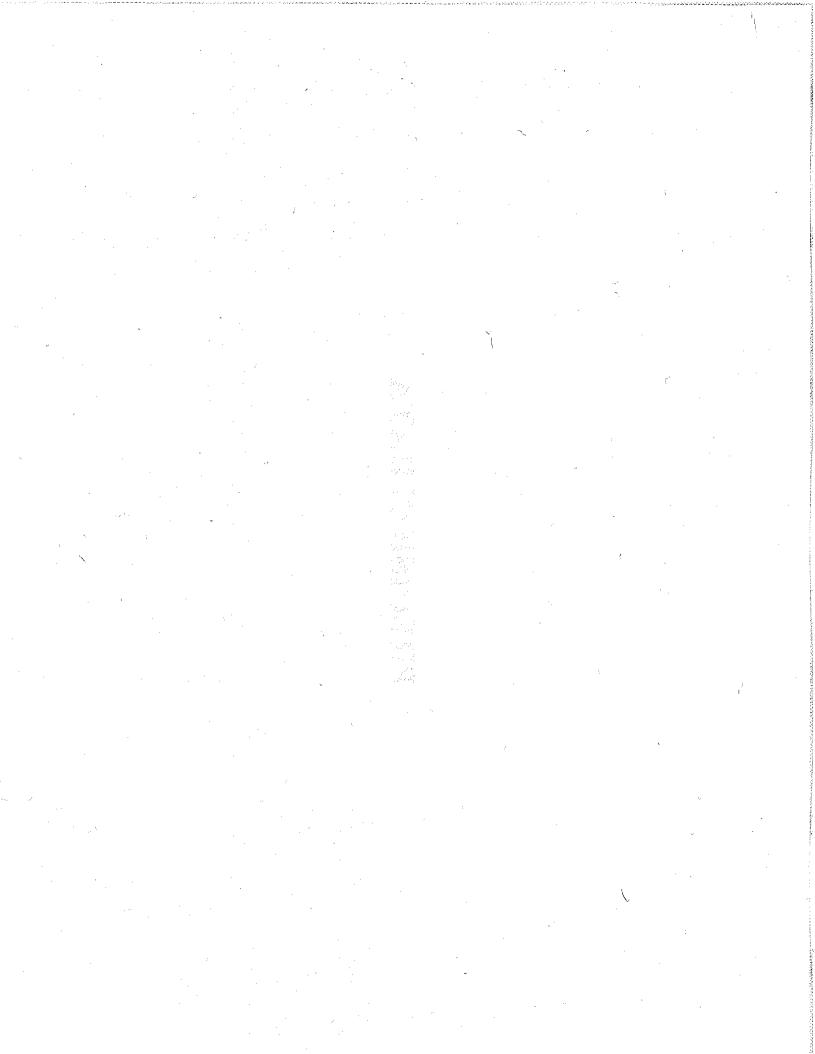
2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

CRG ID#: 26134 Replicate #: LCS2 Batch ID: 2557-12040 Instrument: ICPMS #1 HP 4500 CONSTITUENT F			-		CRG Project ID:	2557c
Replicate #: LCS2 Batch ID: 2557-12040 Instrument: ICPMS #1 HP 45 CONSTITUENT		Sample QAQC		LCM-CRG Seawater	Date Sampled:	
Batch ID: 2557-12040 Instrument: ICPMS #1 HP 45 CONSTITUENT			Long Beach Permit	usēt Tirij	Date Received:	
Instrument: ICPMS #1 HP 45 CONSTITUENT		Matrix: Seawater			Date Processed: 14-Jul-05	II-05
CONSTITUENT	000	Analyst: P. Hershelman	nelman		Date Analyzed: 20-Jul-05	11-05
	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	Total	EPA 1640	79	20 µg/L	52 - 149%	PASS
Antimony (Sb)	Total	EPA 1640	99	25 µg/L	44 - 107%	PASS
Arsenic (As)	Total	EPA 1640	66	20 µg/L	71 - 114%	PASS
Beryllium (Be)	Total	EPA 1640	64	20 µg/L	62 - 113%	PASS
Cadmium (Cd)	Total	EPA 1640	83	25 µg/L	69 - 120%	PASS
Chromium (Cr)	Total	EPA 1640	107	20 µg/L	85 - 133%	PASS
Cobalt (Co)	Total	EPA 1640	66	20 µg/L	75 - 124%	PASS
Copper (Cu)	Total	EPA 1640	81	25 µg/L	72 - 128%	PASS
Iron (Fe)	Total	EPA 1640	65	25 µg/L	35 - 97%	PASS
Lead (Pb)	Total	EPA 1640	91	25 µg/L	56 - 116%	PASS
Manganese (Mn)	Total	EPA 1640	87	20 µg/L	64 - 120%	PASS
Mercury (Hg)	Total	EPA 1631E	16	0.0375 µg/L	68 - 117%	PASS
Molybdenum (Mo)	Total	EPA 1640		25 µg/L	59 - 125%	PASS
Nickel (Ni)	Total	EPA 1640	∞	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	75	. 25 µg/L	55 - 110%	PASS
Silver (Ag)	Total	EPA 1640	92	20 µg/L	66 - 125%	PASS
Thallium (Ti)	Total	EPA 1640		20 µg/L	66 - 110%	PASS
Tin (Sn)	Total	EPA 1640	52	25 µg/L	68 - 110%	PASS
Titanium (Ti)	Total	EPA 1640	111	20 µg/L	85 - 133%	PASS
Vanadium (V)	Total	EPA 1640	116	20 µg/L	85 - 133%	PASS
Zinc (Zn)	Total	EPA 1640	73	20 µg/L	62 - 108%	PASS

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26134

## PRECISION DATA



## CRG Marine Laboratories, Inc.

2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Client:	Southern California Ed	fornia Edison					CRG Project ID:	ID: 2557c	
CRG ID#:	26132	Sample Description:	Intake Long Beach Permit	COMPOSITE	OSITE		Date Sampled: Date Received:	24-Jun-05 29-Jun-05	٠.
Batch ID: Instrument:	<b>Batch ID:</b> 2557-12040 <b>Instrument:</b> ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman				Date Processed: Date Analyzed:	14-Jul-05 20-Jul-05	
CONSTITUENT	TN	FRACTION	МЕТНОО	rg/L	R2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT	
Aluminum (At)	()	Total	EPA 1640	40.4	39.9	-	0 - 30%	PASS	
Antimony (Sb)	(q	Total	EPA 1640	0.123	0.127	က	0 - 30%	PASS	
Arsenic (As)		Total	EPA 1640	1.75	0.869	. 67	0 - 30%	FAIL	
Beryllium (Be)	· (e)	Total	EPA 1640	900:0	900.0	0	0 - 30%	PASS	
Boron (B)		Total	EPA 200.8	5.17	5.76	Ξ	0 - 30%	PASS	
Cadmium (Cd)	(þ;	Total	EPA 1640	0.049	90.0	2	0 - 30%	PASS	
Chromium (Cr)	ું.	Total	EPA 1640	0.375	0.475	54	0 - 30%	PASS	
Copper (Cu)		Total	EPA 1640	1,85	1.84	•	0 - 30%	PASS	:
Iron (Fe)		Total	EPA 1640	25	26.6	ဖ	0 - 30%	PASS	
Lead (Pb)	Ž.	Total	EPA 1640	0.388	0,398	භ 	0 - 30%	PASS	
Manganese (Mn)	(Mn)	Total	EPA 1640	16.9	17.1	-	0 - 30%	PASS	
Mercury (Hg)		Total	EPA 1631E	0.00139	0.00156	12	0 - 30%	PASS	:
Molybdenum (Mo)	(Mo)	Total	EPA 1640	Ф	9.76	ω.	0 - 30%	PASS	
Nickel (NI)		Total	EPA 1640	0.373	0.393	ìΟ	0 - 30%	PASS	
Thallium (TI)		Total	EPA 1640	0.005	0.011	75	.0 - 30%	FAIL	
Tin (Sn)	. 13	Total	EPA 1640	0.017	0.017	0	0 - 30%	PASS	
Titanium (Ti)		Total	EPA 1640	2,08	2.24	7	0 - 30%	PASS	
Vanadium (V)		Total	EPA 1640	2.64	2,57	က	0 - 30%	PASS	
Zinc (Zn)		Total	EPA 1640	13.4	12.9	4	0 - 30%	PASS	
		-							:

MDL=Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26132

## CRG Marine Laboratories, Inc.

2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

### Trace Melais

Client:	Client: Southern California Edison	ornia Edison		-			CRG Project ID:	â	2557c	
CRG ID#:	26133	Sample Description:		COMPOSITE	SITE		Date Sampled: Date Received:	188		
batch ID: Instrument:	Batch ID; 2557-12040 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman	·			Date Processed: Date Analyzed:	14-Jul-05 21-Jul-05		*
CONSTITUENT	_	FRACTION	МЕТНОБ	R1 mg/L	R2 mg/L	%RPD	ACCEPTANCE RANGE		COMMENT	
Boron (B)		Total	EPA 200.8	5.98	6,03	-	0 - 30%	à.	PASS	, 

California ELAP Certificate # 2261 26133

# **CRG Marine Laboratories**, 9nc. 2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Client:	Client: Southern California Edison	ornia Edison					CRG Project ID:	ID: 2557c	
CRG ID#:	26134	Sample Description	QAQC ion: Long Beach Permit	CCM-C	LCM-CRG Seawater		Date Sampled: Date Received:		
Batch ID: Instrument:	<b>Batch ID:</b> 2557-12040 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman	-	٠.		Date Processed; Date Analyzed:	14-Jul-05 20-Jul-05	
CONSTITUENT	LZ	FRACTION	МЕТНОБ	LCM1 µg/L	LCM2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT	
Antimony (Sb)	(c	Total	EPA 1640	0.104	0.088	17	0 - 30%	PASS	
Arsenic (As)		Total	EPA 1640	1.58	1.75	10	0 - 30%	PASS	
Boron (B)		Total	EPA 200,8	3.38	<b>ო</b>	12	0 - 30%	PASS	
Cadmium (Cd)	ਰੇ	Total	EPA 1640	0.106	0.108	2	0 - 30%	PASS	
Chromium (Cr)	£	Total	EPA 1640	0.305	0.315	er)	0 - 30%	PASS	
Copper (Cu)	-	Total	EPA 1640	0.154	0.153	<b>,</b>	0 - 30%	PASS	
Iron (Fe)	-	Total	EPA 1640	0.433	0.315	32	0 - 30%	FAIL	
Lead (Pb)		Total	EPA 1640	0.005	900'0	18	0 - 30%	PASS	
Manganese (Mn)	(Mn)	Totaí	EPA 1640	0.166	0.171	ლ	0 - 30%	PASS	
Mercury (Hg)		Total	EPA 1631E	0.00114	0.00099	4	0 - 30%	PASS	
Molybdenum (Mo)	(Mo)	Total	EPA 1640	9.65	9.85	2	0 - 30%	PASS	
Nickel (Ni)		Total	EPA 1640	0.514	0.501	ო	0 - 30%	PASS	
Thallium (TI)		Total	EPA 1640	0.007	0.007	0	0 - 30%	PASS	
Titanium (Ti)		Total	EPA 1640	0.275	0.414	40	0 - 30%	FAIL	
Vanadium (V)		Total	EPA 1640	2.33	2.52	œ	.%0€・0	PASS	
Zinc (Zn)		Total	EPA 1640	1.46	1.6	ത	0 - 30%	PASS	

MDL=Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

26134

California ELAP Certificate # 2261

## CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

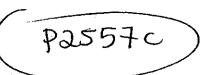
Cliont	Couthous Celi				er e				
	Southern California	rornia Edison					CRG Project ID:	ID: 2557c	
CRG ID#:	26134	Sample	aAac	PCM-O	LCM-CRG Seawater		Date Sampled:		
		Description:	Long Beach Permit				Date Received:		
Batch ID:	2557-12040	Matrix:	Seawater				Date Processod:	74. Ind OR	
Instrument:	Instrument: ICPMS #1 HP 4500	Analyst:	P. Hershelman				Date Analyzed:	20-Jul-05	
CONSTITUENT	L.	FRACTION	METHOD	LCS1	LCS2	% RPD	ACCEPTANCE		
				% Recovery	% Recovery	1	RANGE	-	
Aluminum (AI)		Total	EPA 1640	11	79	e	0 - 30%	PASS	
Antimony (Sb)	÷	Total	EPA 1640	99	99	٥	0 - 30%	PASS	
Arsenic (As)	-	Total	EPA 1640	91	63	,74	0 - 30%	PASS	
Beryllium (Be)		Total	EPA 1640	64	64	0	0 - 30%	PASS	
Cadmium (Cd)	₽	Total	EPA 1640	84	83	7.	0 - 30%	PASS	
Chromium (Cr)	<del>ن</del>	Total	EPA 1640	109	107	Ç	0 - 30%	PASS	
Cobalt (Co)		Total	EPA 1640	86	66	<b>~</b>	0 - 30%	PASS	
Copper (Cu)		Total	EPA 1640	120	81	0	0 - 30%	PASS	
Iron (Fe)		Total	EPA 1640	90	. 65	œ	0 - 30%	PASS	
Lead (Pb)		Total	EPA 1640	06	91	<del>, -</del> -	0 - 30%	PASS	
Manganese (Mn)	۷n)	Total	EPA 1640	86	87	<del>-</del>	0 - 30%	PASS	
Mercury (Hg)	÷	Total	EPA 1631E	26	91	ထ	0 - 30%	PASS	
Molybdenum (Mo)	(Mo)	Total	EPA 1640	83	91	7	0 - 30%	PASS	
Nickel (Ni)		Total	EPA 1640	79	81	က	0 - 30%	PASS	
Selenium (Se)		Total	EPA 1640	11	75	ო	0 - 30%	PASS	
Silver (Ag)		Total	EPA 1640	26	. 92	5	0 - 30%	PASS	
I halilum (TI)		Total	EPA 1640	76	81	ဖ	0 - 30%	PASS	
Tin (Sn)		Total	EPA 1640	87	79	5	0 - 30%	PASS	2
Titanium (Ti)		Total	EPA 1640	1.	111	0	0 - 30%	PASS	
Vanadium (V)	W	Total	EPA 1640	116	116	0	0 • 30%	PASS	
Zinc (Zn)		Total	EPA 1640	72	73	÷	0 - 30%	PASS	

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

26134

## CHAIN-OF-CUSTODY



### 26132-26133



Southern Calif. Edison P.O. Number:

Relinquished By

RESULTS TO:

INVOICE TO:

SCE Accounting: <u>1220-6358-097.099</u>

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> Floor Westminster, CA 92683 Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

CRG Marine Laboratories, Inc. 2020 Del Amo Blvd., Suite 200 Torrance, CA 90503

V2024904, Release A001

Please return and direct inquires to:		Simmons	rel: (714) 893-0323 rax: (73	(4) 893-0313	
In all correspondence refer to project:	Long Beach Permit		Email: shawn.simmons@sce.com		
0	t/diamonition os d	locaribad bal	OVER .		
Sample(s) are submitted for treatment				<del> </del>	
Sample ID	<b>Date Collected</b>	Time	Description/Analytes		
		Collected			
T. 1. C.	6/24-6/25/05		Al, Ba, B, Co. Fe, Mo, Mn, Sn, Ti,	Sb. As. Be.	
Intake Composite	0/24-0/25/05		Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl,		
		1	EPA 1640		
Outfall Composite	6/24-6/25/05		Al, Ba, B, Co. Fe, Mo, Mn, Sn, Ti,	Sb, As, Be,	
Outian Composite	0/21 0/25/05		Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl,	Zn	
			EPA 1640		
	· · · · · · · · · · · · · · · · · · ·				
	· · · ·				
<u> </u>					
Special Instructions:					
,					
Chain of Custody:	<u> </u>				
H 0	Date: 082	-05 st	TV.	ate: 6/29/05	
y where	- Date: 082	s ou	Where De	me: 0825	
Relinquished By	Time:		Received By Ti	me: 00 FU	
	Date:		D	ate:	



CRG Project ID

P2557c

CLIENT	DATE	
NAME SCE	RECEIVED 6/89/05	
	COURIER INFORMATION	
☐ CRG ☐ FEDEX		
☑ OTHER* ☐ UPS	NUMBER	
	o di  in di  in traditi di  in di La compania di  in d	isoli e is
TEMPERATURE	TEACHE TO THE PART OF THE PARTY	ΙX
☐ BLUE IO		
22 °C □ WET IC		
☑ NO ICE	☐ NOT INCLUDED ☐ OTHER*	
CONDITION OF SAM	PLES UPON ARRIVAL	$\neg$
	YES NO* NA	_
All sample containers inta		
All samples listed on COC		
Sample ID on containers of		Ì
Correct containers used for All samples received withi		İ
All samples received with	in metrica nording time	-
		_
	*NOTES	
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	COMPLETED BY:	- 1

July 20, 2005

STL LOT NUMBER: E5F270218 PO/CONTRACT: V2033901

Shawn Simmons Southern California Edison Com 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683

Dear Shawn Simmons,

This report contains the analytical results for the seven samples received under chain of custody by STL Los Angeles on June 27, 2005. These samples are associated with your Long Beach Permit Renew project.

STL Los Angeles certifies that the test results provided in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA / E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the cooler received for this project can be found on the Project Receipt Checklist. Historical control limits for the LCS are used to define the estimate of uncertainty for a method. All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report shall not be reproduced except in full, without the written approval of t	the laboratory.
This topolit chair not so represent the	

This report contains \_\_\_\_\_\_pages.

If you have any questions, please feel free to call me at (714) 258-8610.

Sincerely,

Butth Dy for Marisol Tabirara
Project Manager

cc: Project File

is day to Environmental Testing



STL Los Angeles 1721 South Grand Avenue Santa Ana, CA 92705

www.stl-inc.com

Tel: 714 258 8610 Fax: 714 258 0921

### **CASE NARRATIVE**

### LOT NUMBER E5F270218

The SW846 8290, Dioxins/Furans, analysis was performed by STL Sacramento located at 880 Riverside Parkway, West Sacramento, CA 95605. The telephone number is (916) 373-5600

### Nonconformance 07-48516

### **Affected Samples:**

E5F270218 (7): OUTFALL COMPOSITE

### **Affected Methods:**

8290

### Case Narrative:

The deviations were 29.1%, 21.1% and 26.6% for 1,2,3,6,7,8-HxCDF, 1,2,3,6,7,8-HxCDD and OCDF in the opening standard and 30.8%, 25.1% and 28.8% in ending standard. These values are greater than the method limit of 20%.

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### **Corrective Action:**

All associated samples were ND for these three compounds. The data is reported as is.





ESFZIOZIB

MAIL REPORT AND ONE COPY OF INVOICE TO:

Attn.: Shawn Simmons Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 MAIL ORIGINAL AND ONE COPY OF INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Severn Trent Laboratories (STL) 1721 South Grand Avenue Santa Ana, CA 92705

Southern Calif. Edison P.O. Number:	V2033901	SCE Accounting:	1220-635	8-097.097
Please return and direct inquires to:	S. Simmons	Tel: (714) 895-0525		(714) 895-0515
In all correspondence refer to project:	Long Beach Permit Renew	Email: shawn.simmons	@sce.com	

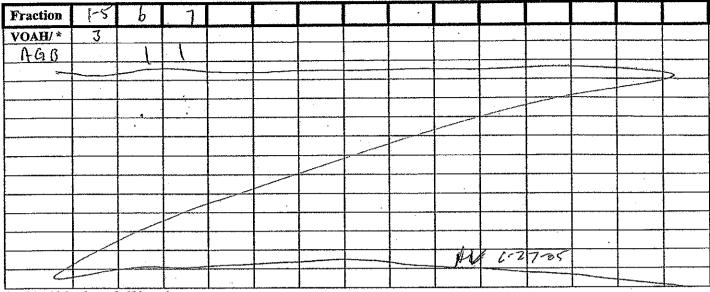
Sample(s) are submitted for treatment/disposition as described below.

Sample ID	Date Collected	Time Collected	Description/Analytes
Outfall	6/24/05	12:15	EPA 8260B, see attached list for required cpds.
Outfall	6/24/05	18:01	EPA 8260B, see attached list for required cpds.
Outfall	6/25/05	00:01	EPA 8260B, see attached list for required cpds.
Outfall	6/25/05	06:01	EPA 8260B, see attached list for required cpds.
Outfall	6/25/05	12:01	EPA 8260B, see attached list for required cpds.
. %			
Outfall Composite	6/24-6/25/05	•	EPA 8270C, see attached list for required cpds.
Outfall Composite	6/24-6/25/05		TCDD Full-Screen by EPA 8290
			:
		T	
		1	

Chain of Custody:	)			
THE WAR	2	Date: 6/27/05	NatiOnusy 11	Date 027-05
Relinquished By	( makenja apar	Time: 1345	Refeiged By	Time: /5:4(
		Date:		Date:
Relinquished By	,) 20 00, 500 is is	Time	Received By	Time:

Temp=5.4+CF.4=5.8

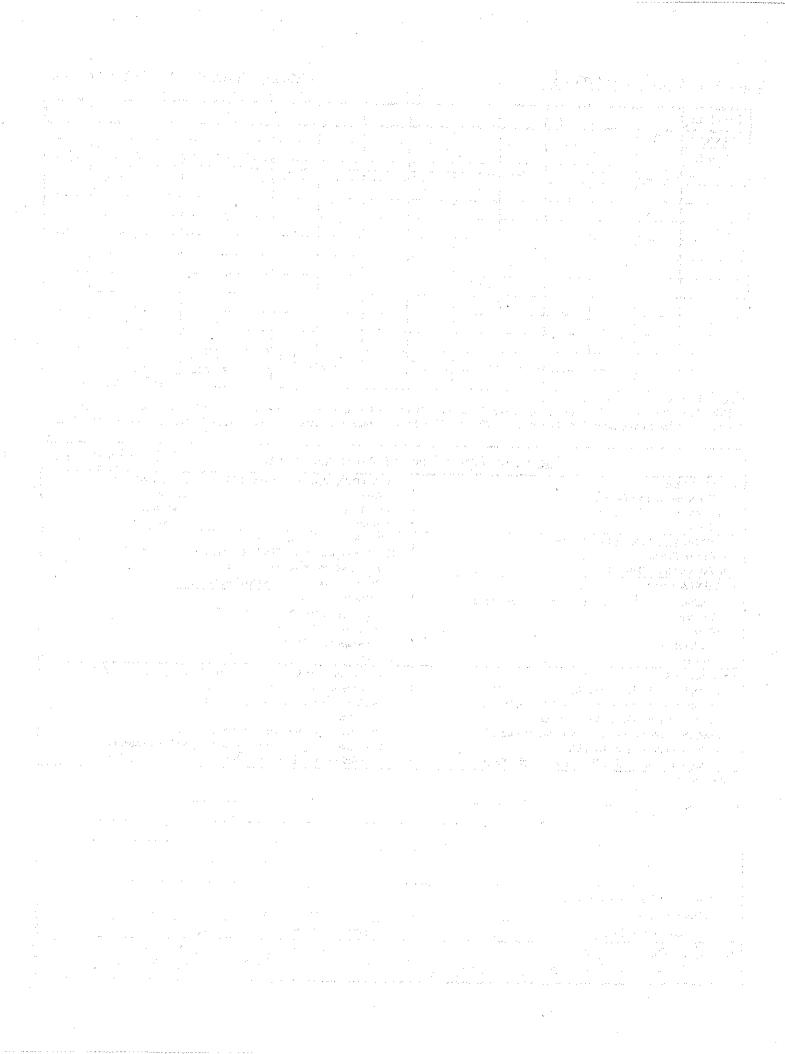
STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 6-73-05
LIMS Lot #:Quote #:
Client Name: Southern California Edison Project: L.B. Permit Renew
Received by: MG Date/Time Received: 6-27-05/13:45
Delivered by: Client STL DHL Fed Ex UPS Other
**************************************
Custody Seal Status Cooler:
Custody Seal #(s):
Sampler Signature on COC Yes No
IR Gun # 13 Correction Factor 9 °C IR passed daily verification Yes No
Temperature - BLANK $5.4  ^{\circ}\text{C}$ +/- $.4  ^{\circ}\text{CF} = 5.8  ^{\circ}\text{C}$
Temperature - COOLER (°C°C°C°C) =avg °C +/CF =°C
Samples outside temperature criteria but received within 6 hours of final sampling Yes
Sample Container(s): STL-LA Client
One COC/Multiple coolers: Yes-# coolers All within temp criteria Yes No N/A
One or more coolers with an anomaly: Yes - (fill out PRC for each)
Samples: Untact Broken Other
pH measured: Yes Anomaly (if checked, notify lab and file NCM)
Anomalies: No Yes - complete CUR and Create NCM NCM#
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times.  Yes  N/A
Labeled by: Labeling checked
***************************************
Turn Around Time: RUSH-24HR RUSH-48HR RUSH-72HR NORMAL
Short-Hold Notification: DH Wet Chem Metals (Filter/Pres) Encore >1/2 HT expired. WH 6-27-51 Hz
Outside Analysis(es) (Test/Lab/Date Sent Out) 37 627 5 8290 To Sacramento.
**************************************
Headspace Anomaly WA 62705 BY
Lab ID Container(s) # Headspace Lab ID Container(s) # Headspace
□ > 6mm □ > 6mm
□ > 6mm □ > 6mm



\* VOA with headspace/bubbles < 6mm

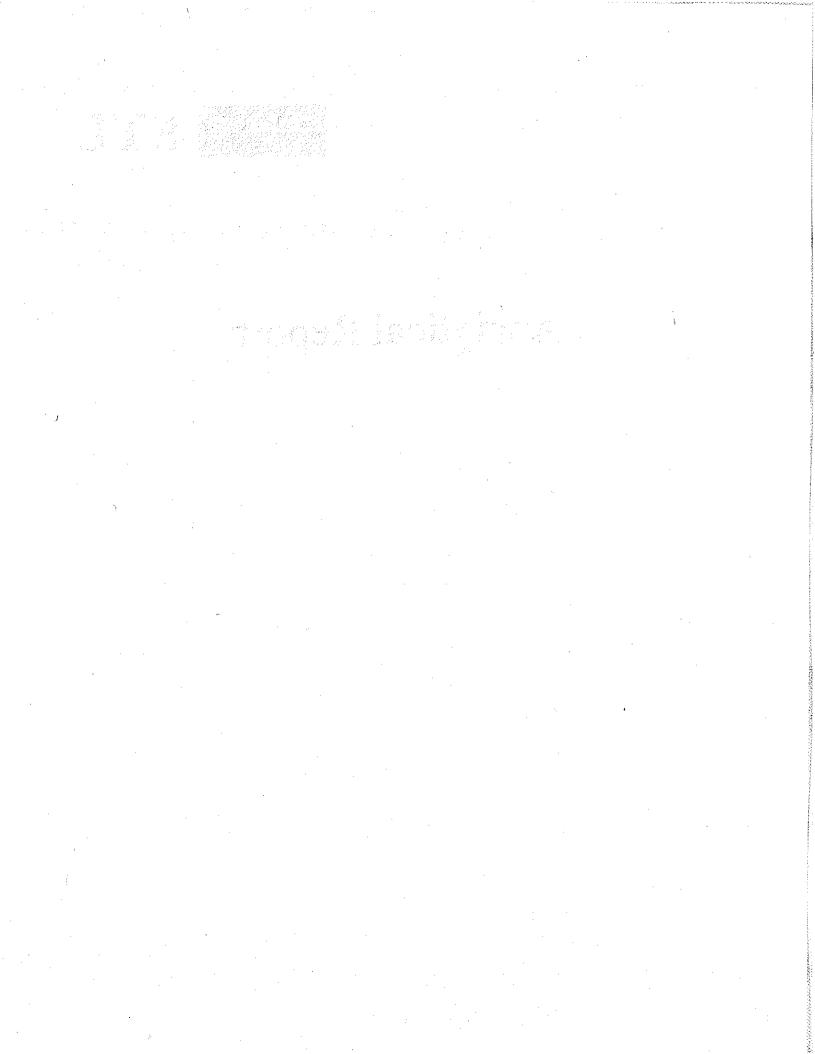
H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

· ·		
Condition Upon	Receipt Anomaly Form	UNIA 125-27-05
- COOLERS	CUSTODY SEALS (COOLER(S)	CONTAINER(S)
☐ Not Received (received COC only)	□ None	□ None
① Leaking	□ Not Intact	□ Not Intact
Other:	□ Other	U Other
<ul> <li>TEMPERATURE (SPECS 4 ± 2°C)</li> </ul>	- CHAIN OF CUSTODY (COC)	
☐ Cooler Temp(s)	□ Not relinquished by Client; No dat	te/time relinquished
☐ Temperature Blank(s)	☐ Incomplete information provided	
- CONTAINERS	☐ Other ☐ COC not received – n	otify PM
☐ Leaking ☐ Voa Vials with Bubbles > 6mm	- LABELS	
(1) Broken	☐ Not the same ID/info as in COC	•
□ Extra	☐ Incomplete Information	
☐ Without Labels	[] Markings/Info illegible	
□ Other:	□ Torn	
- SAMPLES	□ Will be noted on COCClient to s	end samples with new COC
☐ Samples NOT RECEIVED but listed on COC	Mislabeled as to tests, preservative	es, etc.
☐ Samples received but NOT LISTED on COC	☐ Holding time expired – list sample	ID and test
☐ Logged based on Label Information	☐ Improper container used	
☐ Logged based on info from other samples on COC	☐ Not preserved/Improper preserva	
□ Logged according to Work Plan	1 Improper pH Lab to prese	
☐ Logged on HOLD UNTIL FURTHER NOTICE	☐ Insufficient quantities for analysis	∐ Other
Comments:		•
	•	yaid bo
<u> </u>		
<u> </u>		
□ Corrective Action Implemented:		
☐ Client Informed: verbally on	By: ② In writing on	Ву:
🗆 Sample(s) on hold until:	☐ Sample(s) processed "as is."	
Logged by/Date: Whillange 6-77	PM Review/Date:	6/28/05





### Analytical Report



### ANALYTICAL REPORT

Lot #: B5F270218

Shawn Simmons

Southern California Edison Com

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara Project Manager

July 19, 2005

### **EXECUTIVE SUMMARY - Detection Highlights**

E5F270218

PARAMETER RESULT LIMIT UNITS METHOD METHOD

### **METHODS SUMMARY**

### E5F270218

:	PARAMETER	ANAI METI	LYTICAL HOD	PREPA	RATION
	Dibenzodioxins and Dibenzofurans, E Semivolatile Organic Compounds by O Volatile Organics by GC/MS	C/MS SW8	46 8290 46 8270C 46 8260B		3510C 5030B/826
	化基金 医乳腺素素 医多种性性 医二甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基		The state of the second	100 4 4 4 4 7 7 4	

### References:

SW846

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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# SAMPLE SUMMARY

#### B5F270218

WO # S	AMPLE#		SAMPLE ID	SAMPLED DATE	SAMP TIME
HEGFW	001	OUTFALL		06/24/0	5 12·15
HEGGF	002	OUTFALL		**	
HEGGG	003	OUTFALL		그는 그는 이 전에 하면 하다 되는 것 같아. 한 상대는 것은 전쟁이 되는 것 같아 그는 것 같아 없었다.	5 00.01
HEGGH	004	OUTFALL		06/25/0	
HEGGJ	005	OUTFALL		06/25/0	
HEGGK	006	OUTFALL	COMPOSITE	06/24/0	
HEGGN	007	OUTFALL	COMPOSITE	06/24/0	

#### NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

#### Client Sample ID: OUTFALL

#### GC/MS Volatiles

Lot-Sample #...: E5F270218-001 Work Order #...: HEGFW1AA Matrix......: W
Date Sampled...: 06/24/05 12:15 Date Received..: 06/27/05 13:45 MS Run #.....: 5182272

Prep Date....: 06/30/05 Analysis Date..: 07/01/05
Prep Batch #...: 5182448 Analysis Time..: 01:17

Dilution Factor: 1

Analyst ID....: 015590 Instrument ID.:: MSR

Method.....: SW846 8260B

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
Dichlorodifluoromethane	ND	2.0	ug/L	0.40
Chloromethane	ND	2.0	ug/L	0.30
Chloroethane	ND	2.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Trichlorofluoromethane	ND	2.0	ug/L	0.30
1,1-Dichloroethene	ND	1.0	ug/L	0.30
Methylene chloride	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
Chloroform	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
Carbon tetrachloride	ND	1.0	ug/L	0.30
Benzene	MD	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
1,2-Dichloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chlorobenzene	ND	1.0	ug/L	0.30
Ethylbenzene	ND	1.0	úg/L	0.20
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Vinyl chloride	ND	1.0	ug/L	0.30
Xylenes (total)	ND	1.0	ug/L	0.80
Bromoform	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Acrolein	ND	20	ug/L	12
Acrylonitrile	ND	20	ug/L	10
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0
		***		4
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS	<del></del>	
Bromofluorobenzene	92	(75 - 13		
1,2-Dichloroethane-d4	98	(65 - 13		
Toluene-d8	96	(80 - 13	0)	egen et de la company de la company de la company de la company de la company de la company de la company de l La company de la company d

## Client Sample ID: OUTFALL

# GC/MS Volatiles

Lot-Sample #...: E5F270218-002 Work Order #...: HEGGF1AA Matrix..... W Date Sampled...: 06/24/05 18:01 Date Received..: 06/27/05 13:45 MS Run #...... 5182272

Prep Date....: 06/30/05 Analysis Date..: 07/01/05 Prep Batch #...: 5182448 Analysis Time..: 01:40

Dilution Factor: 1

Analyst ID....: 015590

Instrument ID.:: MSR

Method..... SW846 8260B

PARAMETER   RESULT   LIMIT   UNITES   MDL		The state of	REPORTING		
Dichlorodifluoromethane		RESULT	LIMIT	UNITS	MDL
Chloromethane ND 2.0 ug/L 0.30 Chloromethane ND 2.0 ug/L 1.0 Trichlorofluoromethane ND 2.0 ug/L 1.0 Trichlorofluoromethane ND 2.0 ug/L 1.0 Trichlorofluoromethane ND 2.0 ug/L 0.30 Ng/L 0.		ND	2.0	ug/L	<del></del>
Chloroethane   ND   2.0   ug/L   0.30		ND	2.0	•	
Bromomethane		ND	2.0	_	and the second of the second o
Trichloroethene		ND			
1,1-bichloroethene		ND	2.0		
Methylene chloride	and the second s	ND	1.0		and the second of the second o
Trans-1, 2-Dichloroethene	= :	ND	7.44	-	the state of the s
1,1-Dichloroethane		ND .	1.0	_	
Chloroform		ND	1.0		
1,1-Trichloroethane		ND	* *	-	
Carbon tetrachloride	1,1,1-Trichloroethane	ND	.75	_	Although the state of the state
Benzene	Carbon totas shi said	ND			4.25
Trichloroethene		ND			
1.2-Dichloropropane		ND			and the second of the second o
Bromodichloromethane		ND		_	
Cis-1,3-Dichloropropene		ND			
Toluene ND 1.0 ug/L 0.30 1,1,2-Trichloroethane ND 1.0 ug/L 0.30 1,2-Dichloroethane ND 1.0 ug/L 0.40 Tetrachloroethene ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.30 Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Acrolein ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY ETMITTS  Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)	cis-1,3-Dichloropropene	ND		-	and the second of the second o
1,1,2-Trichloroethane ND 1.0 ug/L 0.30 1,2-Dichloroethane ND 1.0 ug/L 0.40 Tetrachloroethane ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.40 Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Expression ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.30 The strength ND 1.0 ug/L 0.40 The strength ND 20 ug/L 12 The strength ND 20 ug/L 12 The strength ND 20 ug/L 10 The strength ND 5.0 ug/L 2.0  SURROGATE RECOVERY LIMITS The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 ug/L 1.0 The strength ND 1.0 The stre		ND			
1.2-Dichloroethane	1,1,2-Trichloroethane	ND			
Tetrachloroethene	1,2-Dichloroethane	ND		_	
Dibromochloromethane	the state of the s	ND			
Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.80 Bromoform ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY LIMITS Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)	Dibromochloromethane	ND	1.0		
### SURROGATE ### STORM	Chlorobenzene	ND	1,000		Cartifacture of the Control of the C
trans-1,3-Dichloropropene         ND         1.0         ug/L         0.50           Vinyl chloride         ND         1.0         ug/L         0.30           Xylenes (total)         ND         1.0         ug/L         0.80           Bromoform         ND         1.0         ug/L         0.30           1,1,2,2-Tetrachloroethane         ND         1.0         ug/L         0.40           Acrolein         ND         20         ug/L         12           Acrylonitrile         ND         20         ug/L         10           2-Chloroethyl vinyl ether         ND         5.0         ug/L         2.0           SURROGATE         RECOVERY         LIMITS           Bromofluorobenzene         93         (75 - 130)           1,2-Dichloroethane-d4         99         (65 - 135)	Ethylbenzene	ND		_	
Vinyl chloride         ND         1.0         ug/L         0.30           Xylenes (total)         ND         1.0         ug/L         0.80           Bromoform         ND         1.0         ug/L         0.30           1,1,2,2-Tetrachloroethane         ND         1.0         ug/L         0.40           Acrolein         ND         20         ug/L         12           Acrylonitrile         ND         20         ug/L         10           2-Chloroethyl vinyl ether         ND         5.0         ug/L         2.0           SURROGATE         PERCENT         RECOVERY         LIMITS           Bromofluorobenzene         93         (75 - 130)           1,2-Dichloroethane-d4         99         (65 - 135)	trans-1,3-Dichloropropene	ND		_	the state of the s
ND   1.0   ug/L   0.80					
Bromoform	Xylenes (total)	ND			
1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40  Acrolein ND 20 ug/L 12  Acrylonitrile ND 20 ug/L 10  2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY  SURROGATE RECOVERY  Bromofluorobenzene 93 (75 - 130)  1,2-Dichloroethane-d4 99 (65 - 135)	Bromoform	•		-	the state of the s
Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY LIMITS Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)	1,1,2,2-Tetrachloroethane		and the second second		
Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY  SURROGATE RECOVERY LIMITS  Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)			**	-	and the second s
2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY  SURROGATE RECOVERY LIMITS  Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)	Acrylonitrile			_	
SURROGATE PERCENT RECOVERY  Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)		The state of the s		_	
SURROGATE RECOVERY LIMITS  Bromofluorobenzene 93 (75 - 130)  1,2-Dichloroethane-d4 99 (65 - 135)		112	3.0	ug/ L	2.0
SURROGATE RECOVERY LIMITS  Bromofluorobenzene 93 (75 - 130)  1,2-Dichloroethane-d4 99 (65 - 135)		PERCENT	DECOMEDY	_	•
Bromofluorobenzene 93 (75 - 130) 1,2-Dichloroethane-d4 99 (65 - 135)	SURROGATE	•			
1,2-Dichloroethane-d4 99 (65 - 135)				•	
7-1					
		96	(80 - 130)	1.	The state of the s

#### Client Sample ID: OUTFALL

#### GC/MS Volatiles

Lot-Sample #...: E5F270218-003 Work Order #...: HEGGG1AA Matrix.....: W

Date Sampled...: 06/25/05 00:01 Date Received..: 06/27/05 13:45 MS Run #.....: 5182272

Prep Date...: 06/30/05 Analysis Date.: 07/01/05
Prep Batch #..: 5182448 Analysis Time.: 02:04

Dilution Factor: 1

Analyst ID....: 015590 Instrument ID..: MSR

Method.....: SW846 8260B

PARAMETER Dichlorodifluoromethane Chloromethane Chloroethane Bromomethane	RESULT ND ND ND ND ND ND ND ND ND ND ND ND	LIMIT 2.0 2.0 2.0 2.0 2.0 2.0 1.0	UNITS  ug/L  ug/L  ug/L  ug/L  ug/L	MDL 0.40 0.30 0.30 1.0	
Dichlorodifluoromethane Chloromethane Chloroethane	ND ND ND ND ND ND	2.0 2.0 2.0 2.0	ug/L ug/L ug/L	0.30 0.30 1.0	
Chloromethane Chloroethane	ND ND ND ND ND	2.0 2.0 2.0	ug/L ug/L	0.30 1.0	eletining Sterne de Sen Seneral je Vic
Chloroethane	ND ND ND ND	2.0 2.0 2.0	ug/L	1.0	
Promomethane	ND ND	2.0	•		
DIOROGECTICALC	ND ND		uq/L		
Trichlorofluoromethane	ND	1.0		0.30	er er der verdi. Er er er
1,1-Dichloroethene			ug/L	0.30	100
Methylene chloride		1.0	ug/L	0.30	
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30	
1,1-Dichloroethane	ND	1.0	ug/L .	0.20	
Chloroform	ND	1.0	ug/L	0.30	
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20	
Carbon tetrachloride	ND	1.0	ug/L	0.30	
Benzene	ND	1.0	ug/L	0.30	
Trichloroethene	ND	1.0	ug/L	0.30	
1,2-Dichloropropane	ND	1.0	ug/L	0.30	
Bromodichloromethane	ND	1.0	ug/L	0.30	
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30	
Toluene	ND	1.0	ug/L	0.30	
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30	
1,2-Dichloroethane	ND	1.0	ug/L	0.40	
Tetrachloroethene	ND	1.0	ug/L	0.30	
Dibromochloromethane	ND	1.0	ug/L	0.40	
Chlorobenzene	ND	1.0	ug/L	0.30	
Ethylbenzene	ND	1.0	ug/L	0.20	
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50	
Vinyl chloride	ND	1.0	ug/L	0.30	10.0
Xylenes (total)	ND	1.0	ug/L	0.80	14
Bromoform	ND	1.0	ug/L	0.30	
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40	
Acrolein	ND	20	ug/L	12	
Acrylonitrile	ND	20	ug/L	10	
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0	
	PERCENT	RECOVERY	-	•	
SURROGATE	RECOVERY	LIMITS		e e e	
Bromofluorobenzene	94	(75 - 13	0)		
1,2-Dichloroethane-d4	98	(65 - 13			
Toluene-d8	98	(80 - 13		:	

# Client Sample ID: OUTFALL

# GC/MS Volatiles

Lot-Sample #:	E5F270218-004	Work Order #: HEGGH1AA	12 12	Matrix	*****	W
erep bace:	06/30/05	Date Received.: 06/27/05 Analysis Date.: 07/01/05		MS Run #		
Prep Batch #: Dilution Factor:		Analysis Time: 02:27				ferior in personal personal personal personal personal personal personal personal personal personal personal p Personal personal pe

Analyst ID....: 015590 Instrument ID..: MSR

Method.....: SW846 8260B

Dichlorodifluoromethane   ND   2.0			REPORTING		
Dichlorodifluoromethane         ND         2.0         ug/L         0.40           Chloromethane         ND         2.0         ug/L         0.30           Chloroethane         ND         2.0         ug/L         0.30           Bromomethane         ND         2.0         ug/L         0.30           Bromomethane         ND         2.0         ug/L         0.30           Trichlorofluoromethane         ND         1.0         ug/L         0.30           Methylene chloride         ND         1.0         ug/L         0.30           Lamana (2-picklorocethane         ND         1.0         ug/L         0.30           1,1-Trichlorocethane         ND         1.0         ug/L         0.30           Benzene         ND         1.0         ug/L         0.30           Bromodichloromethane         ND         1.0         ug/L         0.30           1,2-Dichloropropene         ND         1.0 <th< th=""><th></th><th>RESULT</th><th>•</th><th></th><th>MDF.</th></th<>		RESULT	•		MDF.
Chloromethane ND 2.0 ug/L 0.30 chloromethane ND 2.0 ug/L 1.0 ug/L 1.0 ug/L 1.0 ug/L 1.0 ug/L 1.0 ug/L 0.30 ug/L 1.10 ug/L 0.30 ug/L 1.10 ug/L 0.30 ug/L 1.0 ug/L 0.30 ug/L 1.10 ug/L 0.30	Dichlorodifluoromethane	<del></del>			
Chloroethane   ND   2.0   ug/L   0.30	Chloromethane	ND	14.1		
Bromomethane	Chloroethane	ND	the state of the s	_	
Trichlorofthuoromethane	Bromomethane	ND		_	
1,1-Dichloroethene   ND	Trichlorofluoromethane	ND	the state of the s		
Methylene chloride	1,1-Dichloroethene	ND		T 1	
trans-1,2-Dichloroethene         ND         1.0         ug/L         0.30           1,1-Dichloroethane         ND         1.0         ug/L         0.20           Chloroform         ND         1.0         ug/L         0.30           1,1,1-Trichloroethane         ND         1.0         ug/L         0.30           1,1,1-Trichloroethane         ND         1.0         ug/L         0.30           Benzene         ND         1.0         ug/L         0.30           Trichloroethane         ND         1.0         ug/L         0.30           1,2-Dichloropropane         ND         1.0         ug/L         0.30           1,2-Dichloropropane         ND         1.0         ug/L         0.30           1,2-Dichloropropane         ND         1.0         ug/L         0.30           1,2-Dichloropropene         ND         1.0         ug/L         0.30           1,1,2-Trichloroethane         ND         1.0         ug/L         0.30           1,2-Dichloroethane         ND         1.0         ug/L         0.30           1,2-Trichloroethane         ND         1.0         ug/L         0.30           Dibromochloromethane         ND         1.0 <td>Methylene chloride</td> <td>ND</td> <td>11</td> <td></td> <td></td>	Methylene chloride	ND	11		
1.1-Dichloroethane	trans-1,2-Dichloroethene	ND		_	
Chloroform		ND			
1,1,1-Trichloroethane	Chloroform	ND		-	
Carbon tetrachloride	1,1,1-Trichloroethane	ND	* 4	_	
Benzene		ND			
Trichloroethene  1.0 ug/L 0.30  1,2-Dichloropropane  ND 1.0 ug/L 0.30  Bromodichloromethane  ND 1.0 ug/L 0.30  cis-1,3-Dichloropropene  ND 1.0 ug/L 0.30  Toluene  ND 1.0 ug/L 0.30  Toluene  ND 1.0 ug/L 0.30  1,1,2-Trichloroethane  ND 1.0 ug/L 0.30  1,2-Dichloroethane  ND 1.0 ug/L 0.30  1,2-Dichloroethane  ND 1.0 ug/L 0.30  Dibromochloromethane  ND 1.0 ug/L 0.30  Dibromochloromethane  ND 1.0 ug/L 0.30  Ethylbenzene  ND 1.0 ug/L 0.30  Ethylbenzene  ND 1.0 ug/L 0.20  trans-1,3-Dichloropropene  ND 1.0 ug/L 0.20  trans-1,3-Dichloropropene  ND 1.0 ug/L 0.30  Kylenes (total)  ND 1.0 ug/L 0.30  Kylenes (total)  ND 1.0 ug/L 0.30  Kylenes (total)  ND 1.0 ug/L 0.30  I,1,2,2-Tetrachloroethane  ND 1.0 ug/L 0.30  I,2-Dichloroethyl vinyl ether  ND 20 ug/L 12  Acrylonitrile  PERCENT RECOVERY  SURROGATE  Bromofluorobenzene  95 (75 - 130)  I,2-Dichloroethane-d4  96 (65 - 135)	Benzene	ND			
1,2-Dichloropropane	Trichloroethene	ND	4.4		
Bromodichloromethane   ND   1.0   ug/L   0.30   cis-1,3-Dichloropropene   ND   1.0   ug/L   0.30   Toluene   ND   1.0   ug/L   0.30   1,1,2-Trichloroethane   ND   1.0   ug/L   0.30   1,1,2-Trichloroethane   ND   1.0   ug/L   0.30   1,2-Dichloroethane   ND   1.0   ug/L   0.30   0.40   Tetrachloroethene   ND   1.0   ug/L   0.30   0.40	1,2-Dichloropropane	ND		-	
cis-1,3-Dichloropropene         ND         1.0         ug/L         0.30           Toluene         ND         1.0         ug/L         0.30           1,1,2-Trichloroethane         ND         1.0         ug/L         0.30           1,2-Dichloroethane         ND         1.0         ug/L         0.40           Tetrachloroethene         ND         1.0         ug/L         0.30           Dibromochloromethane         ND         1.0         ug/L         0.40           Chlorobenzene         ND         1.0         ug/L         0.30           Ethylbenzene         ND         1.0         ug/L         0.20           trans-1,3-Dichloropropene         ND         1.0         ug/L         0.50           Vinyl chloride         ND         1.0         ug/L         0.30           Xylenes (total)         ND         1.0         ug/L         0.30           Sylenes (total)         ND         1.0         ug/L         0.30           1,1,2,2-Tetrachloroethane         ND         1.0         ug/L         0.40           Acrolein         ND         20         ug/L         12           Acrylonitrile         ND         5.0         ug/L		ND			
Toluene ND 1.0 ug/L 0.30 1,1,2-Trichloroethane ND 1.0 ug/L 0.30 1,2-Dichloroethane ND 1.0 ug/L 0.40 Tetrachloroethene ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Expensoform ND 1.0 ug/L 0.30 Trans-1,2-Tetrachloroethane ND 1.0 ug/L 0.30 Trans-1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.30 Trans-1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 Tetrachloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY ELIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	cis-1,3-Dichloropropene	ND		-	
1,1,2-Trichloroethane ND 1.0 ug/L 0.30 1,2-Dichloroethane ND 1.0 ug/L 0.40 Tetrachloroethene ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.40 Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Eromoform ND 1.0 ug/L 0.30 I,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.30 Acrolein ND 20 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY LIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	Toluene	ND		_	the first of the f
1,2-Dichloroethane ND 1.0 ug/L 0.40 Tetrachloroethene ND 1.0 ug/L 0.30 Dibromochloromethane ND 1.0 ug/L 0.40 Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Eromoform ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Acrolein ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acroloin ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  SURROGATE RECOVERY ESURROGATE RECOVERY ESURROGATE RECOVERY ESURROGATE RECOVERY LIMITS Eromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	1,1,2-Trichloroethane				. "
Tetrachloroethene		ND			
Dibromochloromethane ND 1.0 ug/L 0.40 Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.30 Indicate ND 1.0 ug/L 0.30 Indicate ND 1.0 ug/L 0.30 Indicate ND 1.0 ug/L 0.30 Indicate ND 1.0 ug/L 0.30 Indicate ND 1.0 ug/L 0.30 Indicate ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Indicate ND 20 ug/L 12 Indicate ND 20 ug/L 10 Indicate Indicate ND 20 ug/L 10 Indicate I	Tetrachloroethene	ND		-	
Chlorobenzene ND 1.0 ug/L 0.30 Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Kylenes (total) ND 1.0 ug/L 0.80 Bromoform ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY EDWARD RECOVERY LIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	Dibromochloromethane	ND		_	
Ethylbenzene ND 1.0 ug/L 0.20 trans-1,3-Dichloropropene ND 1.0 ug/L 0.50 Vinyl chloride ND 1.0 ug/L 0.30 Xylenes (total) ND 1.0 ug/L 0.80 Bromoform ND 1.0 ug/L 0.30 1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0 PERCENT RECOVERY SURROGATE RECOVERY LIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	Chlorobenzene	ND			
trans-1,3-Dichloropropene       ND       1.0       ug/L       0.50         Vinyl chloride       ND       1.0       ug/L       0.30         Xylenes (total)       ND       1.0       ug/L       0.80         Bromoform       ND       1.0       ug/L       0.30         1,1,2,2-Tetrachloroethane       ND       1.0       ug/L       0.40         Acrolein       ND       20       ug/L       12         Acrylonitrile       ND       20       ug/L       10         2-Chloroethyl vinyl ether       ND       5.0       ug/L       2.0         SURROGATE       RECOVERY       LIMITS         Bromofluorobenzene       95       (75 - 130)       (75 - 130)         1,2-Dichloroethane-d4       96       (65 - 135)	Ethylbenzene	ND		-	the contract of the contract o
Vinyl chloride         ND         1.0         ug/L         0.30           Xylenes (total)         ND         1.0         ug/L         0.80           Bromoform         ND         1.0         ug/L         0.30           1,1,2,2-Tetrachloroethane         ND         1.0         ug/L         0.40           Acrolein         ND         20         ug/L         12           Acrylonitrile         ND         20         ug/L         10           2-Chloroethyl vinyl ether         ND         5.0         ug/L         2.0           SURROGATE         PERCENT         RECOVERY         LIMITS           Bromofluorobenzene         95         (75 - 130)           1,2-Dichloroethane-d4         96         (65 - 135)	trans-1,3-Dichloropropene	ND		_	· ·
Xylenes (total)       ND       1.0       ug/L       0.80         Bromoform       ND       1.0       ug/L       0.30         1,1,2,2-Tetrachloroethane       ND       1.0       ug/L       0.40         Acrolein       ND       20       ug/L       12         Acrylonitrile       ND       20       ug/L       10         2-Chloroethyl vinyl ether       ND       5.0       ug/L       2.0         PERCENT       RECOVERY         SURROGATE       RECOVERY       LIMITS         Bromofluorobenzene       95       (75 - 130)         1,2-Dichloroethane-d4       96       (65 - 135)		ND	•		
Bromoform	Xylenes (total)				
1,1,2,2-Tetrachloroethane ND 1.0 ug/L 0.40 Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY LIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	Bromoform			-	
Acrolein ND 20 ug/L 12 Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY SURROGATE RECOVERY LIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	1,1,2,2-Tetrachloroethane			-	
Acrylonitrile ND 20 ug/L 10 2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY  SURROGATE RECOVERY LIMITS Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	Acrolein	The second secon	4 4 4		•
2-Chloroethyl vinyl ether ND 5.0 ug/L 2.0  PERCENT RECOVERY  SURROGATE RECOVERY LIMITS  Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	Acrylonitrile			-	i i
PERCENT RECOVERY  SURROGATE RECOVERY  Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	2-Chloroethyl vinyl ether				
SURROGATE RECOVERY LIMITS  Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	• • • • • • • • • • • • • • • • • • • •	***	5.0	ugyı	2.0
SURROGATE RECOVERY LIMITS  Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)		PERCENT	PROGRAM		
Bromofluorobenzene 95 (75 - 130) 1,2-Dichloroethane-d4 96 (65 - 135)	SURROGATE				•
1,2-Dichloroethane-d4 96 (65 - 135)	Bromofluorobenzene	· · · · · · · · · · · · · · · · · · ·		<del></del>	1000 · 1
m-1 10 10 10 10 10 10 10 10 10 10 10 10 10					$= \mathbb{E}_{\mathcal{A}}(\mathbb{R}^{n}) \times \mathbb{E}_{\mathbb{R}^{n}}(\mathbb{R}^{n}) \times \mathbb{E}_{\mathbb{R}^{n}}(\mathbb{R}^{n}) \times \mathbb{E}_{\mathbb{R}^{n}}(\mathbb{R}^{n})$
		the first of the second	-		Cartifolis Albert (Albert Carti

# Client Sample ID: OUTFALL

# GC/MS Volatiles

Lot-Sample #: E5F270218-	05 Work Order #: HEGGJ1AA	Matrix W
Date Sampled: 06/25/05 1:	::01 Date Received: 06/27/05	13:45 MS Run # 5182272
Prep Date: 06/30/05	Analysis Date: 07/01/05	
Prep Batch #: 5182448	Analysis Time: 02:51	
Dilution Factor: 1		and the second s
Analyst ID: 015590	Instrument ID: MSR	

Method.....: SW846 8260B

w.		REPORTING			
PARAMETER	RESULT	LIMIT	UNITS	MDL	
Dichlorodifluoromethane	ND	2.0	ug/L	0.40	e santa de la estada de la compansión de la compansión de la compansión de la compansión de la compansión de l La compansión de la compa
Chloromethane	ND	2.0	ug/L	0.30	in the late of the
Chloroethane	ND	2.0	ug/L	0.30	grand who is the
Bromomethane	ND	2.0	ug/L	1.0	* 1 m
Trichlorofluoromethane	ND	2.0	ug/L	0.30	
1,1-Dichloroethene	ND	1.0	ug/L	0.30	for expression
Methylene chloride	ND	1.0	ug/L	0.30	in a gasa Sula (anti-
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30	over in patients
1,1-Dichloroethane	ND	1.0	ug/L	0.20	a in the first section
Chloroform	ND	1.0	ug/L	0.30	and the forest as
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20	
Carbon tetrachloride	ND	1.0	ug/L	0.30	
Benzene	ND	1.0	ug/L	0.30	1.00
Trichloroethene	ND	1.0	ug/L	0.30	
1,2-Dichloropropane	ND	1.0	ug/L	0.30	
Bromodichloromethane	ND	1.0	ug/L	0.30	
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30	
Toluene	ИD	1.0	ug/L	0.30	
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30	100
1,2-Dichloroethane	MD	1.0	ug/L	0.40	
Tetrachloroethene	ND	1.0	ug/L	0.30	
Dibromochloromethane	ND	1.0	ug/L	0.40	
Chlorobenzene	ND	1.0	ug/L	0.30	
Ethylbenzene	, CIN	1.0	ug/L	0.20	
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50	
Vinyl chloride	ND	1.0	ug/L	0.30	
Xylenes (total)	ND	1.0	ug/L	0.80	
Bromoform	ND	1.0	ug/L	0.30	• .
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40	
Acrolein	ND	20	ug/L	12	*
Acrylonitrile	ND	20	ug/L	1.0	
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0	* .
	PERCENT	RECOVERY			
SURROGATE	RECOVERY	LIMITS	· 		
Bromofluorobenzene	93	(75 - 130	)	and the second	
1,2-Dichloroethane-d4	97	(65 - 135	).	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Toluene-d8	9.9	(80 - 130)	•)		

# Client Sample ID: OUTFALL COMPOSITE

## GC/MS Semivolatiles

Lot-Sample #...: E5F270218-006 Work Order #...: HEGGK1AA Matrix... Date Sampled...: 06/24/05 Date Received..: 06/27/05 13:45 MS Run #.. Prep Date....: 06/28/05 Analysis Date..: 06/30/05 Prep Batch #...: 5179591 Analysis Time..: 19:41 Dilution Factor: 1 Analyst ID....: 007050

Instrument ID. .: MSS

Method.....: SW846 8270C

PARAMETER		RES	qirqent i	REPO LIMI	RTING T	UNITS	MDL	
N-Nitrosodimethylamine		ND		20		ug/L	7.0	
Benzidine		ND		- 20	4.831	ug/L	13	
1,2-Diphenylhydrazine		ND		10		ug/L	2.0	
(as Azobenzene)								
Acenaphthene		ND		10		ug/L	3.0	
Acenaphthylene		ND	÷ ;	10		ug/L	2.0	i san est,
Anthracene	and the second	ND		10	1764 1870,	ug/L	2.0	er i er er er
Benzo(a)anthracene		ND		10	11.7	ug/L	2.0	The first of the
Benzo(b)fluoranthene		ND	. 4	10		ug/L	5.0	Mittalia in takan a
Benzo(k)fluoranthene	71 y.	ND	46	10	111 T 114 T	ug/L	5.0	uny spanyello.
Benzo(ghi)perylene	•	ND		10	1476	ug/L	2.0	ing state and
Benzo(a)pyrene	·	ND		10		ug/L	2.0	
Benzoic acid		ND	4,	50	* = #* * ; ; .	ug/L	20	Marrin North
Benzyl alcohol		ND	ž.	10	er er Språ	ug/L	5.0	
bis(2-Chloroethoxy)	· · · · · · · · · · · · · · · · · · ·	ND		10	1.0	ug/L	2.0	descriptions of
methane						J.		
bis(2-Chloroethyl)-	. 1.4.	ND		10		ug/L	3.0	
ether					/i,j	J. ,		
bis(2-Chloroisopropy1)	e de la companya de l	ND		10	177.7	ug/L	4.0	37 M.A.
ether		•			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		**	
bis(2-Ethylhexyl)	r in the second	ND		10		ug/L	4.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
phthalate								entervier up et een
4-Bromophenyl phenyl		ND		10	7 1 4	ug/L	2.0	1 1 1 M
ether			÷		:	5,		
Butyl benzyl phthalate	. :	ND		10		ug/L	4.0	A Property of the
Carbazole		ND		10		ug/L	2.0	to a second to
4-Chloroaniline		ND		10	7	ug/L	3.0	
4-Chloro-3-methylphenol		ND	•	10		ug/L	2.0	
2-Chloronaphthalene		ND		1.0		ug/L	3.0	
2-Chlorophenol	4	ND		10		ug/L	3.0	
4-Chlorophenyl phenyl		ND		10	1.8	ug/L	2.0	
ether					37. - 1.5			
Chrysene		ND		10	. *	ug/L	2.0	
Dibenz(a,h)anthracene		ND		10		ug/L	5.0	
Dibenzofuran		ND	7 · ·	10	ing the second	ug/L	2.0	
Di-n-butyl phthalate		ND	Maria Company	10		ug/L	2.0	
1,2-Dichlorobenzene		ND		1.0		ug/L	3.0	1
						-J. —		

(Continued on next page)

# Client Sample ID: OUTFALL COMPOSITE

#### GC/MS Semivolatiles

e.	Lot-Sample #: E5F270218-006	Work Order #:	HEGGK1AA	Matrix.	W
	Dana Melilian	RESULT	REPORTING LIMIT	UNITS	MDL
	PARAMETER 1,3-Dichlorobenzene	ND	10	ug/L	2.0
	1,4-Dichlorobenzene	· ND	10	ug/L	3.0
	3,3'-Dichlorobenzidine	ND	50	ug/L	5.0
	•	ND	10	ug/L	5.0
	2,4-Dichlorophenol	ND	10	ug/L	2.0
	Diethyl phthalate	ND	10	ug/L	5.0
	2,4-Dimethylphenol		10	ug/L ug/L	2.0
	Dimethyl phthalate	ND	50	ug/L	10
	4,6-Dinitro-	ND	50	ug/л	
	2-methylphenol	<u> </u>		/ <del></del>	<b>15</b>
	2,4-Dinitrophenol	ND	50	ug/L	
	2,4-Dinitrotoluene	ND	10	ug/L	2.0
	2,6-Dinitrotoluene	ND	10	ug/L	2.0
	Di-n-octyl phthalate	ND	10	ug/L	4.0
	Fluoranthene	ND	10	ug/L	2.0
	Fluorene	ND	10	ug/L	2.0
	Hexachlorobenzene	ND.	10	ug/L	5.0
	Hexachlorobutadiene	ND	10	ug/L	2.0
	Hexachlorocyclopenta-	ND	50	ug/L	6.0
	diene	277	* ^	ug/L	3.0
	Hexachloroethane	ND	10	ug/L ug/L	2.0
	Indeno(1,2,3-cd)pyrene	ND	10		
	Isophorone	ND	10	ug/L	3.0
	2-Methylnaphthalene	ND .	10	ug/L	3.0
	2-Methylphenol	ND	10	ug/L	5.0
	3-Methylphenol & 4-Methylphenol	ND	10	ug/L	2.0
	Naphthalene	ND	10	ug/L	3.0
	2-Nitroaniline	ND.	50	$\mathtt{ug/L}^{\cup}$	10
	3-Nitroaniline	ND	50	ug/L	5.0
1	4-Nitroaniline	ND	50	ug/L	10
	Nitrobenzene	ND	1.0	ug/L	5.0
	2-Nitrophenol	ND	10	ug/L	4.0
	4-Nitrophenol	ND	50	ug/L	10
	N-Nitrosodiphenylamine	ND	10	ug/L	2.0
	N-Nitrosodi-n-propyl-	ND	10	ug/L	4.0
	amine			/ -	10

(Continued on next page)

ND

ND

ND

ND

ND

ND

50

10

10

10

10

10

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

10

2.0

2.0

3.0

5.0

5.0

Pentachlorophenol

1,2,4-Trichloro-

2,4,5-Trichlorophenol

benzene

Phenanthrene

Phenol

Pyrene

# Client Sample ID: OUTFALL COMPOSITE

# GC/MS Semivolatiles

Lot-Sample #: E5F2	70218-006	Work Order #	: HEGGK1AA	Matrix.	W
PARAMETER		RESULT	REPORTING LIMIT	UNITS	MDL
2,4,6-Trichloro- phenol		ND	10	ug/L	2.0
SURROGATE	18.00	PERCENT RECOVERY	RECOVERY LIMITS	**************************************	
2-Fluorobiphenyl 2-Fluorophenol Phenol-d5		59 18 25	(45 - 110) (10 - 75 ) (10 - 60 )	• · ·	
2,4,6-Tribromophenol Terphenyl-d14		70 73	(30 - 125) (35 - 125)		and the second of the second o
Nitrobenzene-d5	ez Jakit Nasa	58	(40 - 110)		en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de Companya de la companya de la compa

#### Client Sample ID: OUTFALL COMPOSITE

#### Trace Level Organic Compounds

Lot-Sample #...: E5F270218-007 Work Order #...: HEGGN1AA Matrix...... W

Date Sampled...: 06/24/05 Date Received..: 06/27/05 13:45 MS Run #.....:

Prep Date....: 07/08/05 Analysis Date..: 07/13/05 Prep Batch #...: 5189327 Analysis Time..: 04:36

Dilution Factor: 1

Analyst ID....: 001970 Instrument ID..: 1D5

		DETECTIO	)N	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
1,2,3,7,8-PeCDF	ND	10	pg/L	SW846 8290
2,3,4,7,8-PeCDF	ND	10	pg/L	SW846 8290
1,2,3,4,7,8-HxCDF	ND	11	pg/L	SW846 8290
2,3,4,6,7,8-HxCDF	ND	12	pg/L	SW846 8290
1,2,3,7,8,9-HxCDF	ND	13	pg/L	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	12	pg/L	SW846 8290
1,2,3,7,8-PeCDD	ND	16	pg/L	SW846 8290
1,2,3,7,8,9-HxCDD	ND	18	pg/r	SW846 8290
1,2,3,4,6,7,8-HpCDD	. ND	23	pg/L	SW846 8290
1,2,3,6,7,8-HxCDF	ND	11	pg/L	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	15	pg/L	SW846 8290
1,2,3,4,7,8-HxCDD	ND	19	pg/L	SW846 8290
1,2,3,6,7,8-HxCDD	ND	18	pg/L	SW846 8290
Total TCDF	ND	5.8	pg/L	SW846 8290
Total PeCDF	ND	11	pg/L	SW846 8290
Total HxCDF	ND	13	pg/L	SW846 8290
Total HpCDF	ND	15	pg/L	SW846 8290
Total TCDD	ND	7.5	pg/L	SW846 8290
Total PeCDD	ND	16	pg/L	SW846 8290
Total HxCDD	ND	19	pg/L	SW846 8290
Total HpCDD	ND	23	pg/L	SW846 8290
2,3,7,8-TCDD	ND	7.5	pg/L	SW846 8290
2,3,7,8-TCDF	ND	5.8	pg/L	SW846 8290
	PERCENT	RECOVER	ž.	
INTERNAL STANDARDS	RECOVERY	LIMITS	·	
13C-2,3,7,8-TCDD	85	(40 - 13	35)	
13C-1,2,3,7,8-PeCDD	64	(40 - 13	35)	
13C-1,2,3,6,7,8-HxCDD	104	(40 - 13	35)	
13C-1,2,3,4,6,7,8-HpCDD	84	(40 - 13	35)	
13C-OCDD	76	(40 - 13	35)	•
13C-2,3,7,8-TCDF	82	(40 - 1	35 <u>)</u>	
13C-1,2,3,7,8-PeCDF	67	(40 - 1	35)	
13C-1,2,3,4,7,8-HxCDF	98	(40 - 13	35) .	
13C-1,2,3,4,6,7,8-HpCDF	88	(40 - 13	35)	

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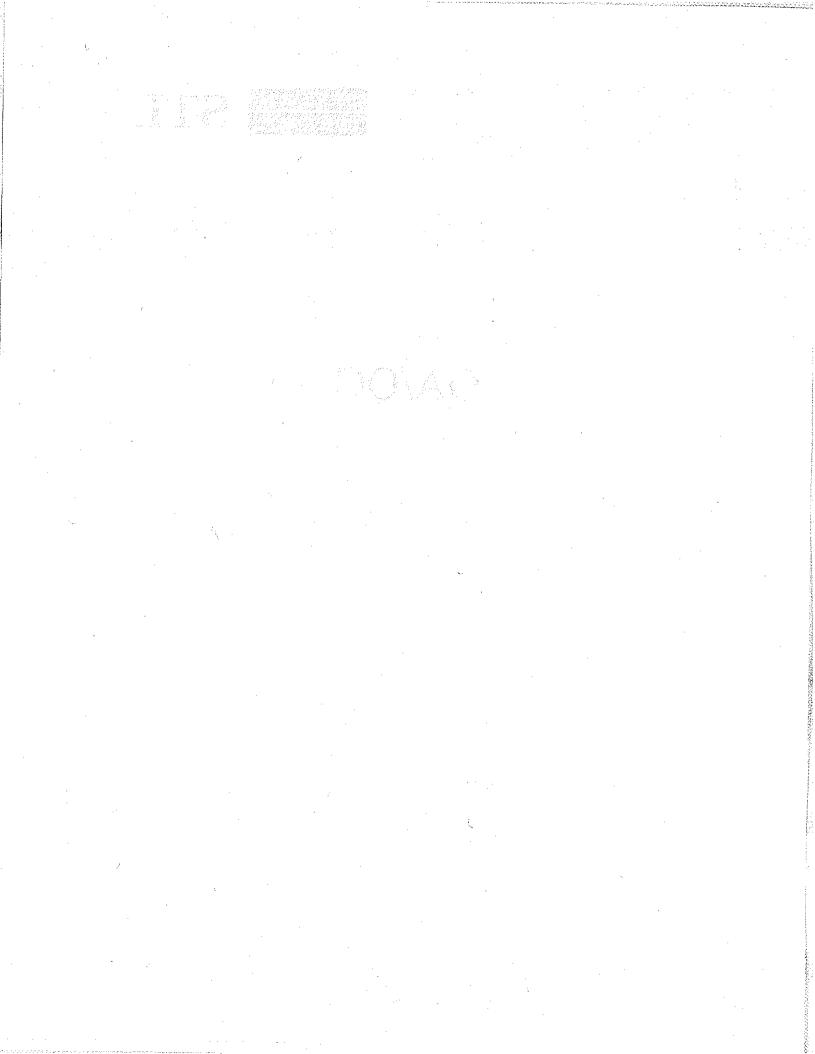
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# QA/QC



# QC DATA ASSOCIATION SUMMARY

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#### E5F270218

#### Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	W	SW846 8260B		5182448	5182272
002	W	SW846 8260B	The second secon	5182448	5182272
003	W	SW846 8260B	, ti	5182448	5182272
004	W	SW846 8260B	:	5182448	5182272
005	W	SW846 8260B	<i>Y</i>	5182448	5182272
006	W	SW846 8270C	9 - 3 9 18	5179591	
007	W	SW846 8290		5189327	

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## GC/MS Volatiles

Client Lot #...: E5F270218

MB Lot-Sample #: E5G010000-448

Analysis Date..: 06/30/05 Dilution Factor: 1

Work Order #...: HETR91AA

Prep Date....: 06/30/05 Prep Batch #...: 5182448

Analysis Time..: 18:02 Instrument ID..: MSR

Analyst ID....: 015590

77 77 77		REPORTIN	G	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Dichlorodifluoromethane	ND	2.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L ug/L	SW846 8260B
Toluene	ND	1.0		SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND		ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND		ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Acrolein	ND	1.0	ug/L	SW846 8260B
Acrylonitrile	ND	20	ug/L	SW846 8260B
2-Chloroethyl vinyl ether		20	ug/L	SW846 8260B
vinyi ciner	ND	5.0	ug/L	SW846 8260B
	PERCENT	RECOVERY		-
SURROGATE	RECOVERY	LIMITS		
Bromofluorobenzene	92	$\frac{111115}{(75 - 130)}$	<del>-</del>	•
1,2-Dichloroethane-d4	92	(65 - 135)		•
Toluene-d8	101	(80 - 130)		
· ·		144 130	7	

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### GC/MS Semivolatiles

Client Lot #...: E5F270218

MB Lot-Sample #: E5F280000-591

Analysis Date..: 06/30/05

Dilution Factor: 1

Work Order #...: HEJ251AA

Prep Date....: 06/28/05 Prep Batch #...: 5179591

Analyst ID....: 007050

Matrix..... WATER

Analysis Time..: 17:47
Instrument ID..: MSS

general de la companya de la company	1421		REPORTII	JG	
PARAMETER	RESULT	14.5	LIMIT	UNITS	METHOD
Benzidine	ND		20	ug/L	SW846 8270C
N-Nitrosodimethylamine	ND		20	ug/L	SW846 8270C
1,2-Diphenylhydrazine	ND	* -	10	ug/L	SW846 8270C
(as Azobenzene)				57	
Acenaphthene	ND		10	ug/L	SW846 8270C
Acenaphthylene	ND		10	ug/L	SW846 8270C
Anthracene	ND		10	ug/L	SW846 8270C
Benzo(a)anthracene	ND		10	ug/L	SW846 8270C
Benzo(b) fluoranthene	ND	:	10	ug/L	SW846 8270C
Benzo(k) fluoranthene	ND		10	ug/L	SW846 8270C
Benzo(ghi)perylene	ND		10	ug/L	SW846 8270C
Benzo (a) pyrene	ND	,	10	ug/L	SW846 8270C
Benzoic acid	ND	100	50	ug/L	SW846 8270C
Benzyl alcohol	ND		10	ug/L	SW846 8270C
bis (2-Chloroethoxy)	ND		10	ug/L	SW846 8270C
methane	IVE			-3, -	
bis(2-Chloroethyl)-	ND		10	ug/L	SW846 8270C
ether	1412			~5/ ~	
bis(2-Chloroisopropyl)	ND	2.5	10	ug/L	SW846 8270C
ether	ND	:	10	~5, <del>-</del>	
bis(2-Ethylhexyl)	ND		10	ug/L	SW846 8270C
phthalate	NED .		±0	497.4	
4-Bromophenyl phenyl	ND		10	ug/L	SW846 8270C
ether	1112	-1	10	ug/ L	
	ND		10	ug/L	SW846 8270C
Butyl benzyl phthalate	ND		10	ug/L	SW846 8270C
Carbazole	ND		10	ug/L	SW846 8270C
4-Chloroaniline	ND		10	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND		10	ug/L	SW846 8270C
2-Chloronaphthalene			10	ug/L	SW846 8270C
2-Chlorophenol	ND ND		10	ug/L	SW846 8270C
4-Chlorophenyl phenyl	ND		10	ug/11	54040 02700
ether	377		10	ug/L	SW846 8270C
Chrysene	ND			ug/L	SW846 8270C
Dibenz (a, h) anthracene	ND		10		SW846 8270C
Dibenzofuran	ND		10	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	.*	10	ug/L	
1,2-Dichlorobenzene	ND		10	ug/L	SW846 8270C
1,3-Dichlorobenzene	ND	•	10	ug/L	SW846 8270C
1,4-Dichlorobenzene	ND		10	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND		50	ug/L	SW846 8270C

(Continued on next page)

# GC/MS Semivolatiles

Client Lot #:	E5F270218	Work Order #:	HE.TOSIAN	Matrix
		MOTH OTOGET M	DEGESTRA	Matrix WATER

at y		REPORTING	, J. A. J. A. W.	in the second of
PARAMETER	RESULT	LIMIT	UNITS	METHOD
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270C
Diethyl phthalate	ND	10	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270C
Dimethyl phthalate	ND	10	ug/L	SW846 8270C
4,6-Dinitro-	ND	50	ug/L	SW846 8270C
2-methylphenol				5.015 02700
2,4-Dinitrophenol	ND	- 50	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270C
Di-n-octyl phthalate	ND	10	ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L	SW846 8270C
Hexachlorobenzene	ND	10	ug/L	SW846 8270C
Hexachlorobutadiene	ND	10	ug/L	SW846 8270C
Hexachlorocyclopenta-	ND	50	ug/L	SW846 8270C
diene			~ <b>5</b> , 2	5110 40 82700
Hexachloroethane	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
Isophorone	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
2-Methylphenol	ND	10	ug/L	SW846 8270C
3-Methylphenol &	ND	10	ug/L	SW846 8270C
4-Methylphenol	•		-3, 2	2110 10 02 700
Naphthalene	ND	10	ug/L	SW846 8270C
2-Nitroaniline	ND	50	ug/L	SW846 8270C
3-Nitroaniline	ND	50	ug/L	SW846 8270C
4-Nitroaniline	ND	50	ug/L	SW846 8270C
Nitrobenzene	ND	10	ug/L	SW846 8270C
2-Nitrophenol	ND	10	ug/L	SW846 8270C
4-Nitrophenol	ND	50	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-	ND	10	ug/L	SW846 8270C
amine			45/ 2	511040 02700
Pentachlorophenol	ND	50	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Phenol	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C
1,2,4-Trichloro-	ND	10	ug/L	SW846 8270C
benzene		<b>~~</b>	~ <del>9</del> /13	DH040 0210C
2,4,5-Trichloro-	ND	10	ug/L	SW846 8270C
phenol		<b>→</b> • .	~g/ 11	D#040 02/0C
2,4,6-Trichloro-	ND	10	ug/L	SW846 8270C
phenol			-2, -	DH020 02/00
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#### GC/MS Semivolatiles

Client Lot # ...: E5F270218 Work Order # ...: HEJ251AA

Matrix....: WATER

The state of the s		REPORTING	
PARAMETER	RESULT	LIMIT UNITS	METHOD
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
2-Fluorobiphenyl	63	(45 - 110)	
2-Fluorophenol	15	(10 - 75)	
Phenol-d5	23	(10 - 60)	
2,4,6-Tribromophenol	66	(30 - 125)	
Terphenyl-d14	75	(35 - 125)	e e e e e e e e e e e e e e e e e e e
Nitrobenzene-d5	64	(40 - 110)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### Trace Level Organic Compounds

Client Lot #...: E5F270218

MB Lot-Sample #: G5G080000-327

Work Order #...: HE4VN1AA

Matrix..... WATER

**Analysis Date..:** 07/12/05

Dilution Factor: 1

Prep Date....: 07/08/05 Prep Batch #...: 5189327

Analysis Time..: 18:54 Instrument ID.:: 1D5

Analyst ID....: 001970

		DETECTION	MC		
PARAMETER	RESULT	LIMIT	UNITS	METHOD	100
1,2,3,7,8-PeCDF	ND	12	pg/L	SW846 8290	<del></del>
2,3,4,7,8-PeCDF	ND	12	pg/L	SW846 8290	aria t
1,2,3,4,7,8-HxCDF	ND	10	pg/L	SW846 8290	$(x_i) \stackrel{d}{\to} (x_i) \stackrel{d}{\to} (x_i) = 1$
2,3,4,6,7,8-HxCDF	ND	11	pg/L	SW846 8290	1.49
1,2,3,7,8,9-HxCDF	ND	12	pg/L	SW846 8290	5 -
1,2,3,4,6,7,8-HpCDF	ND	9.6	pg/L	SW846 8290	
Total TCDF	ND	2.9	pg/L	SW846 8290	
Total PeCDF	ND	12	pg/L	SW846 8290	et i e i e
Total HxCDF	ND .	12	pg/L	SW846 8290	
Total HpCDF	ND	12	pg/L	SW846 8290	
Total TCDD	ND	3.8	ba\r	SW846 8290	
Total PeCDD	ND	16	ba\r ba\r	SW846 8290	
1,2,3,7,8-PeCDD	ND	16	pg/L	SW846 8290	
Total HxCDD	ND	16	pg/L		
1,2,3,7,8,9-HxCDD	ND	15	pg/L	SW846 8290	
Total HpCDD	ND	19	pg/L	SW846 8290	
1,2,3,4,6,7,8-HpCDD	ND	19	pg/L	SW846 8290	*,
1,2,3,6,7,8-HxCDF	ND	9.6	pg/L	SW846 8290	
1,2,3,4,7,8,9-HpCDF	ND	12	pg/L	SW846 8290	
1,2,3,4,7,8-HxCDD	ND	16		SW846 8290	
1,2,3,6,7,8-HxCDD	ND	16	pg/L	SW846 8290	
2,3,7,8-TCDD	ND	3.8	pg/L	SW846 8290	
2,3,7,8-TCDF	ND		pg/L	SW846 8290	
	1417	2.9	pg/L	SW846 8290	
•	PERCENT	RECOVERY			•
INTERNAL STANDARDS	RECOVERY	LIMITS			
13C-2.3.7.8~TCDD	9.6	(10			

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY
13C-2,3,7,8-TCDD		LIMITS
	-86 √	(40 ~ 135)
13C-1,2,3,7,8-PeCDD	70	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	81	(40 - 135)
13C-OCDD	79	(40 - 135)
13C-2,3,7,8-TCDF	83	(40 - 135)
13C-1,2,3,7,8-PeCDF		
	71	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	94	(40 - 135)

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Volatiles

Client Lot #: E5F	270218 Work Or	<b>der #:</b> HETR91	AC Matri	ix: Water
LCS Lot-Sample#: E5G	010000-448	19 W		
Prep Date: 06/		<b>s</b> Date: 06/30/	05	
Prep Batch #: 518		s Time: 17:16		
Dilution Factor: 1	Instrum	ent ID: MSR		
Analyst ID: 015	5590			

PARAMETER	PERCEN RECOVE	TO 17 SEC. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	METHOD	
1.1-Dichloroethene	104	(65 - 135)	SW846 8260B	
Benzene	96	(75 - 125)	SW846 8260B	
Trichloroethene	98	(75 - 135)	SW846 8260B	
Toluene	99	(75 - 125)	SW846 8260B	
Chlorobenzene	101	(75 - 125)	SW846 8260B	
SURROGATE	n disem andre	PERCENT RECOVERY	RECOVERY LIMITS	in Arra
Bromofluorobenzene		96	(75 - 130)	
1,2-Dichloroethane-d4		90	(65 - 135)	
Toluene-d8	* <b>.</b>	99	(80 - 130)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE DATA REPORT

# GC/MS Volatiles

Client Lot #: LCS Lot-Sample#:		Work Order #: HETR91AC	Matrix WATER
Prep Date:	06/30/05	Analysis Date: 06/30/05	
Prep Batch #:	5182448	Analysis Time: 17:16	and the first property of the property of
Dilution Factor:		Instrument ID: MSR	
Analyst ID:	015590		THE STATE OF THE S

PARAMETER  1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	The state of the s	SPIKE AMOUNT 10.0 10.0 10.0 10.0	MEASURED  AMOUNT  10.4  9.64  9.80  9.91  10.1	UNITS  ug/L  ug/L  ug/L  ug/L  ug/L	PERCENT RECOVERY 104 96 98 99 101	METHOD SW846 8260B SW846 8260B SW846 8260B SW846 8260B SW846 8260B
SURROGATE Bromofluorobenzene 1,2-Dichloroethane-d Toluene-d8	14	sina Taking	PERCENT RECOVERY 96 90 99	RECOVERY LIMITS (75 - 130) (65 - 135) (80 - 130)		ing the second of the second o

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5F270218 Work Order #...: HEJ251AC-LCS Matrix..... WATE

LCS Lot-Sample#: E5F280000-591 HEJ251AD-LCSD

Prep Date...: 06/28/05 Analysis Date.: 06/30/05

Prep Batch #...: 5179591 Analysis Time..: 16:50
Dilution Factor: 1 Instrument ID..: MSS

Dilution Factor: 1 Instrument ID.:: N

	PERCENT	RECOVERY	•	RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Acenaphthene	83	(50 - 100)			SW846 8270C
	81	(50 - 100)	2.5	(0-30)	SW846 8270C
4-Chloro-3-methylphenol	79	(45 - 95)			SW846 8270C
	78	(45 - 95)	0.85	(0-30)	SW846 8270C
2-Chlorophenol	68	(45 - 95)			SW846 8270C
	• 67	(45 - 95)	2.0	(0-30)	SW846 8270C
1,4-Dichlorobenzene	50	(35 - 95)			SW846 8270C
• •	52	(35 - 95)	4.0	(0-30)	SW846 8270C
2,4-Dinitrotoluene	82	(50 - 115)			SW846 8270C
	82	(50 - 115)	0.35	(0-30)	SW846 8270C
4-Nitrophenol	34	(10 - 50)			SW846 8270C
	35	(10 - 50)	4.1	(0-30)	SW846 8270C
N-Nitrosodi-n-propyl-	76	(40 - 110)			SW846 8270C
amine	••			-	
•	73	(40 - 110)	3.6	(0-30)	SW846 8270C
Pentachlorophenol	75	(40 - 110)			SW846 8270C
<u> </u>	77	(40 - 110)	2.4	(0-30)	SW846 8270C
Phenol	27	(10 - 50)			SW846 8270C
	28	(10 - 50)	2.0	(0-30)	SW846 8270C
Pyrene	98	(50 - 120)			SW846 8270C
	91	(50 - 120)	7.0	(0-30)	SW846 8270C
1,2,4-Trichloro-	54	(35 - 105)		•	SW846 8270C
benzene		(		•	
	55	(35 - 105)	2.3	(0-30)	SW846 8270C
		(5555,		(0 00)	· <del>-</del>
·	•	PERCENT	RECOV	JERY .	
SURROGATE		RECOVERY	LIMI		
2-Fluorobiphenyl	•	75		- 110)	
2 I I do I o D I pilon j n		74		- 110)	1
2-Fluorophenol		42	-	- 75)	
		43		- 75)	•
Phenol-d5		28	-	- 60)	
indica do		28		- 60)	
2,4,6-Tribromophenol	•	84	•	- 125)	
5'4'0-TITDIOMOMENOT		84		- 125) - 125)	
Warnhamir Al A					
Terphenyl-d14		85	(35)	- 125)	

(Continued on next page)

81

(35 - 125)

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: E5F270218 Work Order #...: HEJ251AC-LCS Matrix.....: WATER

LCS Lot-Sample#: E5F280000-591 HEJ251AD-LCSD

SURROGATE PERCENT RECOVERY

Nitrobenzene-d5 RECOVERY

70 (40 - 110

 70
 (40 - 110)

 69
 (40 - 110)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5F270218 Work Order #...: HEJ251AC-LCS Matrix..... WATE

LCS Lot-Sample#: E5F280000-591 HEJ251AD-LCSD

Prep Date....: 06/28/05 Analysis Date..: 06/30/05
Prep Batch #...: 5179591 Analysis Time..: 16:50

Dilution Factor: 1 Instrument ID.:: MSS

Analyst ID....: 007050

	SPIKE	MEASURED	<b>}</b>	PERCENT			
PARAMETER	AMOUNT	TRUUMA	UNITS	RECOVERY	RPD	METHOI	)
Acenaphthene	100	83.3	ug/L	83		SW846	8270C
	100	81.2	ug/L	81	2.5	SW846	8270C
4-Chloro-3-methylphenol	100	78.9	ug/L	79		SW846	8270C
•	1.00	78.2	ug/L	78	0.85	SW846	8270C
2-Chlorophenol	100	68.1	ug/L	68		SW846	8270C
•	100	66.8	ug/L	67	2.0	SW846	8270C
1,4-Dichlorobenzene	100	49.6	սց/ւ	50		SW846	8270C
	100	51.6	սց/ւ	52	4.0	SW846	8270C
2,4-Dinitrotoluene	. 100	82.1	ug/L	82	•	SW846	8270C
•	100	81.8	ug/L	82	0.35	SW846	8270C
4-Nitrophenol	100	33.8	ug/L	34		SW846	8270C
	100	35.2	սց/ե	35	4.1	SW846	8270C
N-Nitrosodi-n-propyl- amine	100	76.1	ug/L	76		SW846	8270C
	100	73.4	ug/L	73	3.6	SW846	8270C
Pentachlorophenol	100	75.5	ug/L	<b>75</b>		SW846	8270C
	100	77.4	ug/L	77	2.4	SW846	8270C
Phenol	100	27.5	սց/Ն	27		SW846	8270C
	100	28.0	ug/L	28	2.0	SW846	8270C
Pyrene	100	97.6	ug/L	98		SW846	8270C
	100	91.0	ug/L	91	7.0	SW846	8270C
1,2,4-Trichloro- benzene	100	53.7	ug/L	54		SW846	8270C
	100	55.0	ug/L	55	2.3	SW846	8270C
			PERCENT	RECOVERY			
SURROGATE			RECOVERY	LIMITS		•	•
2-Fluorobiphenyl	-		75	(45 - 110	 ))		
			74	(45 - 110			
2-Fluorophenol			42	(10 - 75)			
· · · · · · · · · · · · · · · · · · ·	•		43	(10 - 75)			
Phenol-d5			28	(10 - 60)			
· .			28	(10 - 60)			
2,4,6-Tribromophenol		•	84	(30 - 125			71
			84	(30 - 125	-		
Terphenyl-d14			85	(35 - 125			

(Continued on next page)

81

(35 - 125)

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5F270218 Work Order #...: HEJ251AC-LCS Matrix..... WATER

LCS Lot-Sample#: E5F280000-591 HEJ251AD-LCSD

SURROGATEPERCENTRECOVERYNitrobenzene-d570(40 - 110)

69 (40 - 110)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### Trace Level Organic Compounds

Client Lot #...: E5F270218 Work Order #...: HE4VN1AC Matrix.....: WATER

LCS Lot-Sample#: G5G080000-327

 Prep Date....:
 07/08/05
 Analysis Date..:
 07/12/05

 Prep Batch #...:
 5189327
 Analysis Time..:
 19:36

 Dilution Factor:
 1
 Instrument ID..:
 1D5

Analyst ID....: 001970

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
1,2,3,7,8-PeCDD	89	(71 - 132)	SW846 8290
1,2,3,4,7,8-HxCDD	92	(69 - 133)	SW846 8290
1,2,3,6,7,8-HxCDD	111	(74 - 131)	SW846 8290
1,2,3,7,8,9-HxCDD	108	(68 - 148)	SW846 8290
1,2,3,4,6,7,8-HpCDD	104	(78 - 125)	SW846 8290
1,2,3,7,8-PeCDF	108	(76 - 129)	SW846 8290
2,3,4,7,8-PeCDF	105	(69 - 127)	SW846 8290
1,2,3,4,7,8-HxCDF	110	(71 - 134)	SW846 8290
1,2,3,6,7,8-HxCDF	136	(65 - 145)	SW846 8290
2,3,4,6,7,8-HxCDF	1.15	(64 - 167)	SW846 8290
1,2,3,7,8,9-HxCDF	106	(62 - 161)	SW846 8290
1,2,3,4,6,7,8-HpCDF	113	(75 - 129)	SW846 8290
1,2,3,4,7,8,9-HpCDF	112	(70 - 140)	SW846 8290
2,3,7,8-TCDD	91	(72 - 126)	SW846 8290
2,3,7,8-TCDF	102	(69 - 133)	SW846 8290
OCDD .	107	(74 - 131)	SW846 8290
OCDF	122	(70 - 136)	SW846 8290

	PERCENT	RECOVERY
INTERNAL STANDARD	RECOVERY	LIMITS
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	71	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	79	(40 - 135)
13C-OCDD	81	(40 - 135)
13C-2,3,7,8-TCDF	83	(40 - 135)
13C-1,2,3,7,8-PeCDF	70	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	99	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	90	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE DATA REPORT

# Trace Level Organic Compounds

Client Lot #...: E5F270218 Work Order #...: HE4VN1AC Matrix..... WATER

LCS Lot-Sample#: G5G080000-327

 Prep Date....: 07/08/05
 Analysis Date..: 07/12/05

 Prep Batch #...: 5189327
 Analysis Time..: 19:36

 Dilution Factor: 1
 Instrument ID..: 1D5

 Analyst ID....: 001970

PARAMETER		SPIRE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,2,3,7,8-PeCDD	in file of the state.	1000	893	pg/L	89	SW846 8290
1,2,3,4,7,8-HxCDD	and the second second	1000	921	pg/L	92	
1,2,3,6,7,8-HxCDD		1000	1110	pg/L	2,7	SW846 8290
1,2,3,7,8,9-HxCDD		1000	1080		111	SW846 8290
1,2,3,4,6,7,8-HpCDD		1000	1040	pg/L	108	SW846 8290
1,2,3,7,8-PeCDF	Alberta Berlin	1000		pg/L	104	SW846 8290
2,3,4,7,8-PeCDF			1080	pg/L	108	SW846 8290
1,2,3,4,7,8-HxCDF		1000	1050	pg/L	105	SW846 8290
	Addition of the	1000	1100	pg/L	110	SW846 8290
1,2,3,6,7,8-HxCDF		1000	1360	pg/L	136	SW846 8290
2,3,4,6,7,8-HxCDF		1000	1150	pg/L	115	SW846 8290
1,2,3,7,8,9-HxCDF		1000	1060	pg/L	106	
1,2,3,4,6,7,8-HpCDF		1000	1130	pg/L		SW846 8290
1,2,3,4,7,8,9-HpCDF		1000	1120		113	SW846 8290
2,3,7,8-TCDD	Maria Maria	200		pg/L	112	SW846 8290
2,3,7,8-TCDF	100		182	pg/L	91	SW846 8290
OCDD	4 1 4 4 2 7	200	203	pg/L	102	SW846 8290
OCDF		2000	2140	pg/L	107	SW846 8290
OCDE		2000	2430	pg/L	122	SW846 8290

INTERNAL STANDARD	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	71	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	79	
13C-OCDD		(40 - 135)
13C-2,3,7,8-TCDF	81	(40 - 135)
13C-1,2,3,7,8-PeCDF	83	(40 - 135)
	70	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	99	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	90	(40 - 135)

NOTE (S)

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC/MS Volatiles

Client Lot #: E5F27021	8 Work	Order #: HD7AM1	Ae-Ms <b>Mat</b>	rix:	WATER
MS Lot-Sample #: E5F22039		HD7AM1.			
Date Sampled: 06/21/05				Run #:	5182272
Prep Date: 06/30/05		sis Date: 07/01/	05		
Prep Batch #: 5182448		sis Time: 00:07	day of the		
Dilution Factor: 6.25	Analy	st ID: 015590	Ins	strument ID:	MSR
			-		
and the second s	PERCENT	RECOVERY	RPD		$T^{*}(T^{*})$
PARAMETER	RECOVERY	LIMITS RPD	LIMITS	METHOD	
1,1-Dichloroethene	112	(65 - 135)	44 3 34	SW846 8260B	
	114	(65 - 135) 1.4	(0-25)	SW846 8260B	200
Benzene	97	(75 - 1.25)		SW846 8260B	
	98	(75 - 125) 1.0	(0-25)	SW846 8260B	- 18 Jan 19
Trichloroethene	412 a	(75 - 135)	Angelia de la companya della companya de la companya de la companya della company	SW846 8260B	
	343 a	(75 - 135) 14	(0-25)	SW846 8260B	en verse
Toluene	100	(75 - 125)		SW846 8260B	-
	100	(75 - 125) 0.0	9 (0-25)	SW846 8260B	are e street
Chlorobenzene	98	(75 - 125)	erican de la companya	SW846 8260B	
	100	(75 - 125) 2.2	(0-25)	SW846 8260B	
,	ar green at	DEST CHERRIE	DECOMODS!		
GYPD C GY WY	7	PERCENT	RECOVERY LIMITS		217 522
SURROGATE	-	RECOVERY		0.1	to the World B
Bromofluorobenzene	er er i gerinde i de	96	(75 - 13	•	
	. ;	95	(75 - 13		e di Constanti
1,2-Dichloroethane-d4		92	(65 - 13	•	
		92	(65 ~ 13	· .	11 44 42 12
Toluene-d8		100	(80 - 13	• •	
		100	(80 - 13	0)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

# MATRIX SPIKE SAMPLE DATA REPORT

# GC/MS Volatiles

Client Lot #: E5F27021  MS Lot-Sample #: E5F22039  Date Sampled: 06/21/05  Prep Date: 06/30/05  Prep Batch #: 5182448  Dilution Factor: 6.25	0-003 11:52	Work Orde Date Rece Analysis Analysis Analyst I	ived: Date: Time:	HD7AM1AF 06/22/05 07/01/05 00:07	7-MSD 16:00 MS		: WATER: 5182272 nt ID: MSR	
PARAMETER 1,1-Dichloroethene	SAMPLE AMOUNT ND		MEASRD AMOUNT 70.2	UNITS ug/L	PERCNY RECVRY	?	METHOD SW846 8260B	- :
Benzene	ND ND ND	62.5 62.5 62.5	71.2 60.4 61.0	ug/L ug/L ug/L	114 97 98	1.4	SW846 8260B SW846 8260B SW846 8260B	
Trichloroethene Toluene	73 73 ND ND	62.5 62.5 62.5 62.5	330 288 62.5 62.6	ug/L ug/L ug/L ug/L	412 a 343 a 100	14	SW846 8260B SW846 8260B SW846 8260B SW846 8260B	· 1
Chlorobenzene	ND ND	62.5 62.5	61.4 62.7	ug/L ug/L	98 100	2.2	SW846 8260B SW846 8260B	
SURROGATE Bromofluorobenzene	A sergengel Light Server		COVERY	agra Pris	RECOVERY LIMITS (75 - 130	<del>-</del>		
1,2-Dichloroethane-d4		95 92			(75 - 130 (65 - 135	) )		
Toluene-d8		92 10( 10(			(65 - 135 (80 - 130 (80 - 130	)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results. Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.



355 Van Ness Ave. Suite 115 Torrance, CA 90501 • (310) 320-3211 • Fax (310) 320-1276 • myahya@crglabs.com

June 28, 2005

TO:

**Shawn Simmons** 

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> Floor Westminster, CA 92683

Re:

June 24-25, 2005 Samples:

CRG-EMS Project ID: M0524a

CRG Laboratories, Inc. is pleased to provide you with the enclosed analytical data reports for June 24-24, 2005 Power Plant water samples.

A total of eighteen water samples were received and analyzed for the following constituents:

- Total coliform bacteria by Multiple Tube Fermentation, MPN method (SM 9221B)
- Fecal coliform bacteria by Multiple Tube Fermentation, MPN method (SM 9221E)

Please let me know if you have any questions and thank you for using CRG-Environmental Microbiology Services.

Sincerely,

Moy Yahya Laboratory Manager

Attachment: Microbiology Results

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# **MICROBIOLOGY RESULTS**

CRG ID#: 26025 Replicate #B1

Project ID: M0524a

Batch ID 0625

Matrix:

Reagents

Sample

QAQC Description: Procedural Blank

**Client Name:** 

Southern California Edison

Shawn Simmons

Date Sampled:

Date Recieved:

25-Jun-05

Time Collected:

CONSTITUENT

Time Analyzed:

1730

Fecal Coliform / MTF 20

SM 9221E

**METHOD** 

RESULT

MPN/100 mL

UNIT

20

MDL

Total Coliform / MTF 20

SM 9221B

20 20

MPN/100 mL

20

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# **MICROBIOLOGY RESULTS**

CRG ID#: 26026

Project ID: M0524a

Batch ID 0625

Matrix:

Cultures

Sample

QAQC

Description: Positive Control

Replicate #PC1

Client Name:

Southern California Edison

Shawn Simmons

Date Sampled:

Date Recieved: Time Analyzed:

25-Jun-05

1730

Time Collected:

CONSTITUENT

SM 9221E

**METHOD** 

**PASS** 

RESULT

MPN/100 mL

UNIT

MDL. 20

Fecal Coliform / MTF 20 Total Coliform / MTF 20

SM 9221B

PASS

MPN/100 mL

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# MICROBIOLOGY RESULTS

CRG ID#: 26007

Project ID: M0524a

Batch ID 0624

Sample

Description:

**Client Name:** 

Southern California Edison

Shawn Simmons

Date Sampled:

24-Jun-05

Replicate #R1

**Date Recieved:** 

24-Jun-05

Time Collected:

1200

Time Analyzed:

1730

CONSTITUENT	METHOD	Гэг Гээн гороодогаас Сан Т	RESULT	UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E		< 20	0 MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B		< 2	0 MPN/100 mL	20

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mici		VILU.			

25 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	and at the arms	MICKUDIUI	LUGI KES	UL 13		Service Control	100
CRG ID#: 26008	Replicate #	R1 Project ID	: M0524a Batch	ID 0624	Matrix:	Seawater	1,11
Sample Out Description:	fall		Client Nan	Shawn Si	California Edis	son	
Date Sampled:	24-Jun-05	productions.	Date	Recieved:	24-Jun-05		
Time Collected:	1215	ing 1970 ng pina 4 Kabupatèn Bandaran Bandaran	Time	Analyzed:	1730		7'
CONSTITUENT		METHOD	RESULT	UNIT		MDL	
Fecal Coliform / MT	TF 20	SM 9221E	< 20	MPN/100 mi	L	20	
Total Coliform / MT	F 20	SM 9221B	< 20	MPN/100 ml	<u>L</u>	20	

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MICROBIOLOGY RESULTS						
CRG ID#: 26009	Replicate #	R1 Project ID:	M0524a Batch ID	0624	Matrix: Seawater	
Sample Intake Description:			Client Name:	Southern Ca Shawn Simi	alifornia Edison mons	188 - 1975 1 - 1
•	24-Jun-05 1510	Sparse services		ecieved: nalyzed:	24-Jun-05 1730	
CONSTITUENT	er to the top	METHOD		UNIT	MDL	
Fecal Coliform / MTF	20	SM 9221E	< 20 I	MPN/100 mL	20	
Total Coliform / MTF	20	SM 9221B	< 20	MPN/100 mL	20	

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# **MICROBIOLOGY RESULTS**

CRG ID#: 26010 Replicate #RI Project ID: M0524a Batch ID 0624 Matrix: Sample Outfall Client Name: Southern California Edison Description: Shawn Simmons **Date Sampled:** 24-Jun-05 **Date Recieved:** 24-Jun-05 Time Collected: 1500 Time Analyzed: 1730 CONSTITUENT METHOD RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20 Total Coliform / MTF 20 SM 9221B 20 MPN/100 mL 20

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new consideration of the second		MICRO	BIOLO	GY RES	SULTS		
CRG ID#: 2601	1 Replicate	RI Pr	oject ID: M	0524a Batcl	n ID 0624	Matrix:	Seawater
	ake		e i jedi	Client Na		alifornia Edisc	
Date Sampled: Time Collected:	24-Jun-05 1801				Recieved:	24-Jun-05 2240	A STATE OF THE STA
CONSTITUENT	and types over the	METHOD		RESULT	UNIT	,	<b>IDL</b>
Fecal Coliform / Mi	ſF 20	SM 9221E	eg e	< 20	MPN/100 mL		20
Total Coliform / MT	F 20	SM 9221B	S. 1	< 20	: MPN/100 mL		20

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			_	RESUL	
	N#117 "17	COLO	1.00.		
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		$\mathbf{v}$	'L\/\T	7 F 3 1 1 1	
			,	ILLUUL	_ , ,

CRG ID#: 26012 Replicate #RI Project ID: M0524a Batch ID 0624 Matrix: Seawater Sample Client Name: Description: Southern California Edison Shawn Simmons Date Sampled: 24-Jun-05 Date Recieved: 24-Jun-05 Time Collected: 1807 Time Analyzed: 2240 CONSTITUENT METHOD RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20:

20

MPN/100 mL

20

SM 9221B

Total Coliform / MTF 20

CRG Laboratories, Inc.
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## MICROBIOLOGY RESULTS

	MIOIXODIOEO	OT REGUETS	
CRG ID#: 26013 Replicate	R1 Project ID: M	0524a Batch ID 0624	Matrix: Seawater
Sample Intake Description:		Client Name: Southern C Shawn Sin	California Edison amons
Date Sampled: 24-Jun-05 Time Collected: 2110		Date Recieved: Time Analyzed:	24-Jun-05 2240
CONSTITUENT	METHOD	RESULT : UNIT	<b>MDL</b>
Fecal Coliform / MTF 20	SM 9221E	< 20 MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	< 20 MPN/100 mL	. 20

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## **MICROBIOLOGY RESULTS**

CRG ID#: 26014 Replicate #R1

Project ID: M0524a

Batch ID 0624

Matrix:

Seawater

Sample Description: Outfall

Outran

Client Name:

Southern California Edison

Shawn Simmons

Date Sampled:

24-Jun-05

Date Recieved:

24-Jun-05

Time Collected:

2103

Time Analyzed:

2240

				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CONSTITUENT	METHOD	RESULT	UNIT	MDL
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20.
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

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## **MICROBIOLOGY RESULTS**

	IIIIOIXOBIOES	,				
CRG ID#: 26015 Replicate	#RI Project ID: M	10524a Batch ID	0625	Matrix:	Seawater	1
Description:	Andrew All The Indian All Andrews	Client Name:	Southern C Shawn Sim	alifornia Edis mons	on	
Date Sampled: 25-Jun-05		Date Re	ecieved:	25-Jun-05	15 L 1	- val."
Time Collected: 0010		Time A	nalyzed:	0445	_ , 14	
CONSTITUENT	METHOD	RESULT	UNIT		MDL	er e e e e e e e e e e e e e e e e e e
Fecal Coliform / MTF 20	SM 9221E	110	MPN/100 mL	; · · · ·	20	
Total Coliform / MTF 20	SM 9221B	110,	MPN/100 mL		20	

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### **MICROBIOLOGY RESULTS**

CRG ID#: 26016

Project ID: M0524a

Batch ID 0625

Matrix:

Sample

Seawater

Description:

**Client Name:** 

Southern California Edison

Shawn Simmons

Date Sampled:

25-Jun-05

Replicate #RI

Date Recieved:

25-Jun-05

Time Collected:

0001

Time Analyzed:

0445

CONSTITUENT	METHOD	RESULT	UNIT	MDL
		· · · · · · · · · · · · · · · · · · ·		, AIDE
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 ml.	20

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

MICROBIOLOGY RESULTS									
CRG ID#: 26017	Replicate #R		Project ID:	M0524a	Batch ID	0625	Matrix:	Seawater	
Sample Intake Description:	Paramagas II (1996)		- 1. 1. - 1. 1. 1.	Clie	nt Name:	: Southern C Shawn Sim	alifornia Edis mons	•	i Liet ser <sup>t</sup> t Bur miljar
•	25-Jun-05 0310					ecieved: malyzed:	25-Jun-05 0445	10° 1	
CONSTITUENT	Her Committee	METHOD	uus Qusuu ya ahtiisa shaka Turu	RESUL	т.	UNIT	en pare e a vege	MDL	ent in
Fecal Coliform / MTF	20	SM 9221E		·	20	MPN/100 mL		20	
Total Coliform / MTF	20	SM 9221E	3	Ų,	20	MPN/100 mL		20	

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## **MICROBIOLOGY RESULTS**

CRG ID#: 26018 Replicate #R1 Project ID: M0524a Matrix: Seawater Sample Outfall **Client Name:** Southern California Edison Description: Shawn Simmons 25-Jun-05 Date Sampled: Date Recieved: 25-Jun-05 Time Collected: 0301 0445 Time Analyzed: CONSTITUENT **METHOD** RESULT UNIT MDL

20

20

MPN/100 mL

MPN/100 mL

20

SM 9221E

SM 9221B

Fecal Coliform / MTF 20

Total Coliform / MTF 20

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

MICROBIOLOGY RESULTS								
CRG ID#: 26019	Replicate	#R1 Project ID:	M0524a Batch ID	0625	Matrix:	Seawater		
Sample Inta Description:	ke	ระกับ ให้ เริ่ม การ์ 	Client Name:	Southern C Shawn Sim	alifornia Edise	on		
Date Sampled: Time Collected:	25-Jun-05 0610	en en en en en en en en en en en en en e	•	ecieved: nalyzed:	25-Jun-05 1030	Tangan di Kabupatèn Bandaran B		
CONSTITUENT		METHOD	RESULT	UNIT	ing green journal of the	MDL		
Fecal Coliform / Mi	FF 20	SM 9221E	< 20	MPN/100 mL		20		
Total Coliform / MT	F 20	SM 9221B	< 20	MPN/100 mL		20		

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#### MICROBIOLOGY RESULTS

Programme and the second	MICI	ROBIOLOGI	KESU	LIO	erian e e ge		
CRG ID#: 26020	Replicate #R1	Project ID: M0524a	Batch ID	0625	Matrix:	Seawater	
Sample Outfall Description:			Client Name:	Southern Ca Shawn Simi	alifornia Edis	on	
Date Sampled: 2	5-Jun-05	a 200 oktobrila	Date Re	cieved:	25-Jun-05	_ <del></del>	
Time Collected: 0	601	udio par Konstanto e e e e e e e e e e e e e e e e e e e	Time A	nalyzed:	1030	·	
CONSTITUENT	METHO	) RE	SULT	UNIT		MDL	
Fecal Coliform / MTF 2	20 SM 9221	E .	< 20 I	MPN/100 mL		20	
Total Coliform / MTF 2	0 SM 9221	В	< 20 [	MPN/100 mL		20	

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

#### **MICROBIOLOGY RESULTS** CRG ID#: 26021 Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater Sample Intake **Client Name:** Southern California Edison Description: Shawn Simmons Date Sampled: 25-Jun-05 **Date Recieved:** 25-Jun-05 1030 Time Collected: 0910 Time Analyzed: CONSTITUENT **METHOD RESULT** UNIT MDL MPN/100 mL Fecal Coliform / MTF 20 20 20 SM 9221E

20

MPN/100 mL

20

SM 9221B

Total Coliform / MTF 20

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### **MICROBIOLOGY RESULTS**

CRG ID#: 26022 Replicate #R1 Project ID: M0524a Batch ID 0625

Sample Outfall Client Name: Sou Sha

Southern California Edison

Matrix:

Shawn Simmons

Date Sampled:25-Jun-05Date Recieved:25-Jun-05Time Collected:0901Time Analyzed:1030

 CONSTITUENT
 METHOD
 RESULT
 UNIT
 MDL

 Fecal Coliform / MTF 20
 SM 9221E
 < 20</td>
 MPN/100 mL
 20

 Total Coliform / MTF 20
 SM 9221B
 < 20</td>
 MPN/300 mL
 20

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

<b>MICROBIOI</b>	LOGY	RESU	JLTS

CRG ID#: 26023 Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater Sample Client Name: Southern California Edison Description: Shawn Simmons Date Sampled: 25-Jun-05 Date Recieved: 25-Jun-05 **Time Collected:** 1220 Time Analyzed: 1340 CONSTITUENT **METHOD** RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E MPN/100 mL 20 20

. 20

MPN/100 mL

20

SM 9221B

Total Coliform / MTF 20

CRG Laboratories, Inc.
355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crgtabs.com

e e especia	MICROBIOL	LOGY I	RESL	JLTS	ranger of temper of	A
CRG ID#: 26024 Replicat	te #R1 Project iD:	M0524a	Batch II	0625	Matrix:	Seawater
Sample Outfall Description:		Clie	ent Name	: Southern C Shawn Sim	alifornia Edisor mons	1
Date Sampled: 25-Jun-05 Time Collected: 1201	e et puis de la residencia de la residencia de la residencia de la della della residencia d			lecieved: Analyzed:	25-Jun-05 1340	Egyptic of American Control of Co
CONSTITUENT	METHOD	RESU	LT	UNIT	M	IDL
Fecal Coliform / MTF 20	SM 9221E	<	20	MPN/100 mL		20
Total Coliform / MTF 20	SM 9221B	<	20	MPN/100 mL	\$·	20 * **********************************

# CRG Laboratories, Inc. 355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

### MICROBIOLOGY RESULTS

<u> </u>	MICITODIOEC	OI IVEOU	£10		
CRG ID#: 26007 Replicate	R2 (lab dup) Project ID: M	0524a Batch ID	0624	Matrix: Seawate	<del></del>
Sample Intake Description:	en en en en en en en en en en en en en e	Client Name:	Southern Ca Shawn Simr	lifornia Edison nons	
Date Sampled: 24-Jun-05	apar salabah salah Tiliji.	Date R	ecieved:	24-Jun-05	
Time Collected: 1200	s de la person	Time A	nalyzed:	1730	÷
CONSTITUENT	METHOD	RESULT	UNIT	MDL	
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20	. 1
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20	

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#### **MICROBIOLOGY RESULTS**

CRG ID#: 26024 Rep

Replicate #R2 (lab dup) Project ID: M0524a

Batch ID 0625

Matrix: Seawater

Sample

Description:

Outfall

...

RESULT

**Client Name:** 

•

Southern California Edison Shawn Simmons

Date Sampled:

25-Jun-05

Date Recieved:

25-Jun-05

Time Collected:
CONSTITUENT

1201

Time Analyzed:

UNIT

1340

.

SM 9221E

METHOD

20 MPN/100 mL

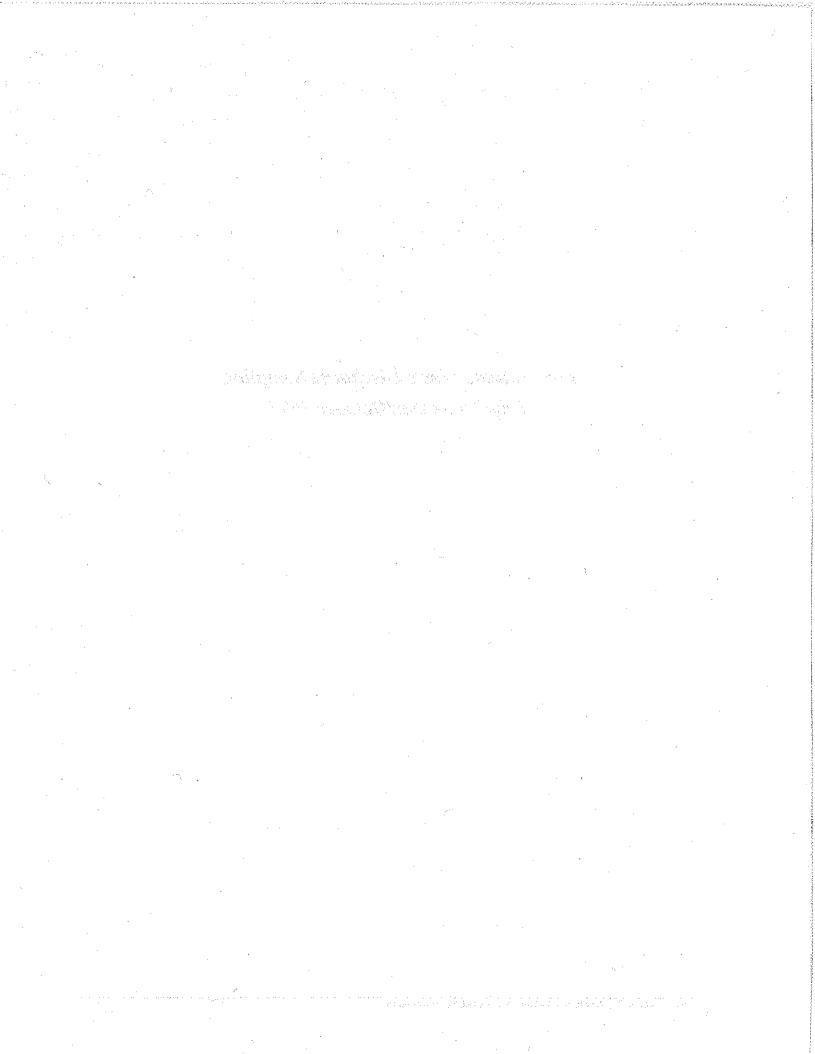
MDL

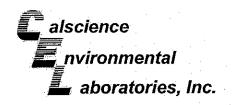
Fecal Coliform / MTF 20
Total Coliform / MTF 20

SM 9221B

20 MPN/100 mL

20 20 Low Volume Waste Discharge Sampling July/September/October 2005







July 28, 2005

Shawn Simmons Southern California Edison Company **Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Calscience Work Order No.: 05-07-1268 Subject:

Client Reference:

**Wellpoint System** 

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 7/22/2005 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the quidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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.

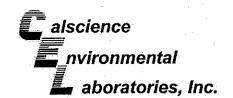
Sincerely.

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

Laboratory Director



#### **Analytical Report**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

07/22/05 05-07-1268

Project: Wellpoint System

Page 1 of 1

Client Sample Number		Lab Sa	imple Nun	nber Da Colle		Matrix		
Refention Basin	98 (1985) 1885 (1985) 1885 (1985) 1885 (1985) 1885 (1985)	05-01	<b>/-1268-1</b>	07/2	2/05 A	queous	Suggister Suggisters Pauling	Microsophia Marketonico
'arameter	<u>Result</u>	<u>RL</u>	<u>DE</u> :	Qual	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
Cyanide, Amenable Cyanide, Total Giochemical Oxygen Demand	ND ND 2.0	0.050 0.050 1.0	1 1 1		mg/L mg/L mg/L	N/A N/A 07/22/05	07/28/05 07/27/05 07/27/05	EPA 335.1 EPA 335.2 EPA 405.1
Method Blank			71 B 35	N/	A A	queous	HEADING SALE	
	<u>Result</u>		<u>DF</u>	Qual	<u>Units</u>	Date Prepared	Date Analyzed	<u>Method</u>
Cyanide, Amenable Cyanide, Total Biochemical Oxygen Demand	ND ND ND	0.10 0.050 1.0	1 1 1		mg/L mg/L mg/L	N/A N/A 07/22/05	07/28/05 07/27/05 07/27/05	EPA 335.1 EPA 335.2 EPA 405.1

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## **Quality Control - Duplicate**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received: Work Order No:

N/A 05-07-1268

Project: Wellpoint System

Matrix: Aqueous							
<u>Parameter</u>	<u>Method</u>	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL Qualifiers
Biochemical Oxygen Demand	EPA 405.1	Retention Basin	07/27/05	2.0	2.3	14	0-25



## **Quality Control - LCS/LCS Duplicate**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

N/A 05-07-1268

Project: Wellpoint System

Matrix: Aqueous	NUMBER OF THE STATE OF THE STAT	784							e e	
		Quality Control	<u>Date</u>	<u>Date</u>	LCS %	LCSD %	%REC	000	RPD	0
<u>Parameter</u>	<u>Method</u>	Sample ID	Extracted	<u>Analyzed</u>	REC	REC	CL	RPD	CL	<u>Qual</u>
Cyanide, Amenable	EPA 335.1	099-05-059-147	N/A	07/28/05	104	104	80-120	0 -	0-20	
Cyanide, Total	EPA 335.2	099-05-061-1,679	N/A	07/27/05	98	98	80-120	1	0-20	

RPD - Relative Percent Difference,



## Glossary of Terms and Qualifiers



Work Order Number: 05-07-1268

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<b>1</b>	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.
<b>3</b>	Recovery of the Matrix Spike or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Ĥ	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.
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.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.





RESULTS TO: INVOICE TO:

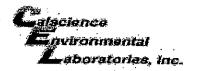
Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories							
7440 Lincoln Way							
Garden Grove, CA 92841							

Southern Calif. Edison P.O. Number: Please return and direct inquires to:		Q1033917 Shawn Simm		Release Number: A002 Tel: (714) 895-0525 Fax			
In all correspondence refer to p		Wellpoint Sy		Email: shawn.simmons@sce.com			
Sample(s) are submitted for tr				- i di la Caracia de la Caracia de Caracia de Caracia de Caracia de Caracia de Caracia de Caracia de Caracia d			
Sample ID	Date Collected	Time Collected	Description/Analytes				
Retention Basin	7/22/05	08/0		mical Oxygen Demand, EPA			
Retention Basin	7/22/05	0810	Total a	nd Amenable Cyanide, EPA 33	35.2		
Billion of the Asia Constitution of the Asia			i i				
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<u> San San San San San San San San San San</u>			100				
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distribution (in the contract of the contract	:						
special Instructions:					, , , , , , , , , , , , , , , , , , ,		
	Matri	is brackish	water.				
	·				<del></del>		
Chain of Custody:	A Wight Control		y di et	two transfers to the first			
Julian	Da	" /6 / (	1		Date:		
Relinquished By	Tb	ne:	0	Received By	Time:		
	Da	te: ,	1 1 K	2 Afana at	Date: 7/22/5		
Relinquished By	Tò	ne		Received By	Time:/ (2/5)		



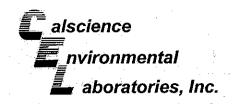
WORK ORDER #:

05-07-1286

Cooler \_\_\_/\_ of \_/\_

## SAMPLE RECEIPT FORM

DATE: 7/22/05
LABORATORY (Other than Calscience Courier): °C Temperature blank. °C IR thermometer. Ambient temperature.
Initial:
Not Applicable (N/A):
Yes No N/A  Initial:





August 18, 2005

Shawn Simmons
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Subject: Calscience Work Order No.:

05-07-1140

**Client Reference:** 

Long Beach Permit

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 7/20/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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.

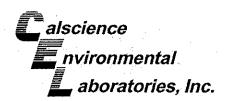
Sincerely,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

**Laboratory Director** 



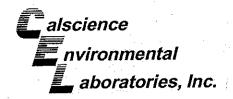


#### ANALYTICAL REPORT

Southern California Edison Company	Date Sampled: 07/19/09
Edison Chemical Services	Date Received: 07/20/09
7301 Fenwick Lane, 2nd Floor	Date Analyzed: 07/26/09
Westminster, CA 92683-5202	
•	Work Order No.: 05-07-1140
Attn: Shawn Simmons	Method: SM4500 Br-F
RE: Long Beach Permit	Page 1 of 1

All concentrations are reported in mg/L (ppm).

Sample Number	Bromide Concentration	State of the state	Reporting
Outfall Composite Method Blank	1.03 ND		0.20 0.10





## **QUALITY ASSURANCE SUMMARY**

Method SM4500 Br-B

Southern California Edison Company Page 1 of 1

Work Order No.: Date Analyzed:

05-07**-**1140 07/26/05

Matrix Spike/Matrix Spike Duplicate

Sample Spiked: Outfall Composite

MS%REC

MSD%REC

Control <u>Limits</u>

%RPD

Control <u>Limits</u>

Analyte
Bromide

123

123

70 - 130

0

0 - 25

**Laboratory Control Sample** 

<u>Analyte</u>

Conc. <u>Added</u> Conc. Rec.

%REC

Control <u>Limits</u>

Bromide

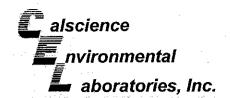
0.400

0.400

100

80 - 120

Mulhan



## **Analytical Report**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method:

Units:

07/20/05 05-07-1140 EPA 3510B EPA 8081A/8082 ug/L

Project: Long Beach Permit

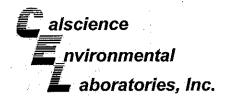
Page 1 of 1

Client Sample Number	11.1	201		Sample mber	Date Collected	Matrix	Date Prepared A	Date nalyzed	QC Ba	atch ID
Outfall Composite	100	District.	05-07-11	140-1	07/19/05	Aqueous	07/20/05	)7/25/05	05072	)L01
<u>Parameter</u>	Result	RL .	DF 9	Qual	<u>Parameter</u>		Result	RL	<u>DF</u>	<u>Qual</u>
Alpha-BHC	ND	0.10	1	100	4,4'-DDT		, ND	0.10	1	÷
Gamma-BHC	ND -	0.10	1	N	Endosulfan Sulfa	ate	ND	0.10	1	
Beta-BHC	ND	0.10	.avy.1		Methoxychlor		ND	0.10	1	
Heptachlor	ND	0.10	1		Chlordane	•	ND	1.0	1	
Delta-BHC	ND	0.10	1		Toxaphene	4	ND	2.0	, 1	2 P
Aldrin	ND	0.10	1		Endrin Ketone	1.5	ND	0.10	1	
Heptachlor Epoxide	ND SEE	0.10	- 1		Aroclor-1016	1	ND	1.0	1	ve di Si
Endosulfan I	ND	0.10	1		Aroclor-1221		ND	1.0	1	The Burns
Dieldrin	ND	0.10	1		Aroclor-1232	*	ND	1.0	1	
4,4'-DDE	ND	0.10	1		Aroclor-1242		ND	1.0	1	•
Endrin	ND	0.10	1 1		Aroclor-1248		ND	1.0	1	
Endrin Aldehyde	ND	0.10	1		Aroclor-1254		ND	1.0	1	
4,4'-DDD	ND	0.10	5 mg - 6 mg		Aroclor-1260	per in the state of the	ND	1.0	1	
Endosulfan II	ND	0.10	1		Aroclor-1262		ND	1.0	1	
Surrogates:	REC (%)	Control	g	Qual	Surrogates:		<u>REC (%</u>	Control		Qual
Sarraganas		Limits					* ;	<u>Limits</u>		1 W 1
Decachlorobiphenyl	78	50-135			2,4,5,6-Tetrachic	oro-m-Xylene	66	50-135		
Method Blank		1966	095-01-0	015-1,36	4 N/A	Aqueous	07/20/05	07/20/05	05072	OLO1
Parameter	Result	RL	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>		Result	RL	DF	Qual
Alpha-BHC	ND	0.10	1		4,4'-DDT		ND	0.10	. 1	(2 × 12
Gamma-BHC	ND	0.10	. 1		Endosulfan Sulfa	ate	ND	0.10	1	(10 miles)
Beta-BHC	ND	0.10	1		Methoxychlor		ND	0.10	1.	are, et 📜
Heptachlor	ND	0.10	1		Chlordane		ND	1.0~	1	
									1	,
Delta-BHC	ND	0.10	1		Toxaphene		ND	2.0	ı	
Delta-BHC Aldrin	ND ND	0.10 0.10	1 1		Toxaphene Endrin Ketone		ND ND	2.0 0.10	1	
Aldrin	ND ND ND				•				-	
Aldrin Heptachlor Epoxide	ND ND	0.10	1		Endrin Ketone		ND	0.10	1	
Aldrin Heptachlor Epoxide Endosulfan I	ND ND ND	0.10 0.10 0.10	1		Endrin Ketone Aroclor-1016		ND ND	0.10 1.0	1 1	
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin	ND ND ND ND	0.10 0.10	1 1 1		Endrin Ketone Aroclor-1016 Aroclor-1221		ND ND ND	0.10 1.0 1.0	1 1 1	
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE	ND ND ND ND ND	0.10 0.10 0.10 0.10 0.10	1 1 1 1		Endrin Ketone Aroclor-1016 Aroclor-1221 Aroclor-1232		ND ND ND ND	0.10 1.0 1.0 1.0	1 1 1	
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin	ND ND ND ND ND ND	0.10 0.10 0.10 0.10 0.10 0.10	1 1 1 1		Endrin Ketone Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242		ND ND ND ND ND	0.10 1.0 1.0 1.0 1.0	1 1 1 1	
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin Endrin Aldehyde	ND ND ND ND ND ND	0.10 0.10 0.10 0.10 0.10 0.10 0.10	1 1 1 1 1		Endrin Ketone Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248		ND ND ND ND ND	0.10 1.0 1.0 1.0 1.0 1.0	1 1 1 1 1	
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin Endrin Aldehyde 4,4'-DDD	ND ND ND ND ND ND ND	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	1 1 1 1 1 1 1		Endrin Ketone Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254		ND ND ND ND ND ND	0.10 1.0 1.0 1.0 1.0 1.0	1 1 1 1 1 1	
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin Endrin Aldehyde 4,4'-DDD Endosulfan II	ND ND ND ND ND ND ND ND ND ND	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	1 1 1 1 1 1 1 1	Qual	Endrin Ketone Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260 Aroclor-1262		ND ND ND ND ND ND ND	0.10 1.0 1.0 1.0 1.0 1.0 1.0 1.0	1 1 1 1 1 1	Qual
Aldrin Heptachlor Epoxide Endosulfan I Dieldrin 4,4'-DDE Endrin Endrin Aldehyde 4,4'-DDD	ND ND ND ND ND ND ND	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	1 1 1 1 1 1 1 1	Qual	Endrin Ketone Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260		ND ND ND ND ND ND ND ND	0.10 1.0 1.0 1.0 1.0 1.0 1.0 1.0	1 1 1 1 1 1	Qual

RL - Reporting Limit ,

DF - Dilution Factor ,

Qual - Qualifiers



### **Analytical Report**



Southern California Edison Company **Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received: Work Order No: 07/20/05

05-07-1140

Project: Long Beach	Permit			Page 1 of 1
Client Sample Number			ate ected Matrix	
Outfall Composite		05-07-11(40-1 07/1	9/05 Aqueous	
esa, " e de de		N. Haeto (1		
<u>'arameter</u>	Result	<u>RL DF Qual</u>	Units Date Prepared	Date Analyzed Method
fuoride	0.79	0.1	mg/L N/A	07/25/05 EPA 340.2
mmonia	1.9	0.1 1	mg/L N/A	07/25/05 EPA 350.2
otal Kjeldahl Nitrogen	3.8	0.5 × 1	mg/L N/A	07/26/05 EPA 351.3
hosphorus, Total	0.55	<b>0.1</b> 1999 1 1 1	mg/L 07/28/05	07/28/05 EPA 365.3
hemical Oxygen Demand	230	<b>5</b>	mg/L N/A	07/22/05 EPA 410.4
arbon, Total Organic	≥ 22	5 (15% - <b>10</b> %	mg/L N/A	07/20/05 EPA 415.1
urfactants	0.23	<b>0.1</b>	mg/L N/A	07/20/05 EPA 425.1
•	AT 1		1	
Method Blank		N. Carlotte and Ca	/A Aqueous	a Santagara
	AND THE PARTY OF T			
en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	A STATE OF THE STA		•	The section of
arameter	Result	RL DF Qual	Units Date Prepared	Date Analyzed Method
	ND	0.10 1	mg/L N/A	07/25/05 EPA 340.2
uoride mmonia	ND ND	0.10	mg/L N/A	07/25/05 EPA 350.2
otal Kjeldahi Nitrogen	ND ND	0.50	mg/L N/A	07/26/05 EPA 351.3
hosphorus, Total	ND ND	0.10	mg/L 07/28/05	07/28/05 EPA 365.3
hemical Oxygen Demand	ND	5.0	mg/L N/A	07/22/05 EPA 410.4
arbon, Total Organic	ND ND	0.50 1	mg/L N/A	07/20/05 EPA 415.1
urfactants	ND	0.10	mg/L N/A	07/20/05 EPA 425.1
uraqans	110	Will The State of the State of		J.,

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers



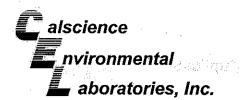
## **Quality Control - Spike/Spike Duplicate**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

05-07-1140

and the second second		Quality Control		<u>Date</u> MS		%REC	<u>RPD</u>
<u>Parameter</u>	<u>Method</u>	Sample ID	Analyzed E	xtracted RE	C REC	CL RP	D CL Qualifiers
Phosphorus, Total	EPA 365.3	Outfall Composite	07/28/05 7/	28/2005 11	1 112	70-130 1	0-25
Fluoride	EPA 340.2	05-07-1352-2	07/25/05	N/A 92	92	70-130 0	0-25
Carbon, Total Organic	EPA 415.1	05-07-1132-1	07/20/05	N/A 92	82	70-130 5	0-25



## **Quality Control - Duplicate**

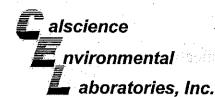


Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No:

N/A 05-07-1140

Order No: 05-07-1140

, Matrix: Aqueous						2 (145) (1 2 (145) (1
<u>Parameter</u>	<u>Method</u>	QC Sample ID	Date Analyzed	Sample Conc DUP Conc	RPD	RPD CL Qualifiers
Chemical Oxygen Demand	EPA 410.4	05-07-1289-1	07/22/05	1800 1800	0	0-25
Ammonia	EPA 350.2	05-07-0837-22	07/25/05	21 21	1	0-25
Total Kjeldahl Nitrogen	EPA 351.3	05-07-1132-1	07/26/05	0.84 0.84	0	0-25



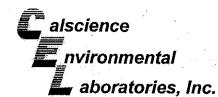
## nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received: Work Order No: Preparation: Method: N/A 05-07-1140 EPA 3510B EPA 8081A/8082

Quality Control Sample ID		Matrix	Inst	rument f	Date Prepared	Date Analyzed		LCS/LCSD Ba Number	tch
095-01-015-1,364		Aqueous	G	C 16	07/20/05	07/20/05		0507201.01	
<u>Parameter</u>		<u>LC</u>	S %REC	LCSD %RE	<u>C %RE</u>	<u>C.CL</u> I	RPD	RPD CL	Qualifiers
Gamma-BHC	- ;		105	108	50-	135	3	0-25	e Servicia North
Heptachlor			93	· 91	50-	135	2 .	0-25	Like to perfect
Endosulfan I			93	93	50-	135	0	0-25	
Dieldrin			72	70	50-	135	3	0-25	
Endrin	÷		86	79	50-	135	9	0-25	
4,4'-DDT			105	107	50-	135	2	0-25	
Aroclor-1260			113	109	50-	135	4	0-25	



## nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Date Received: Work Order No:

N/A

Matrix: A	queous			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					production of the state of the	Section Control
<u>Parameter</u>	en de de la companya	<u>Method</u>	Quality Control Sample ID	<u>Date</u> Extracted	<u>Date</u> <u>Analyzed</u>	LCS % REC	LCSD % REC	%REC CL	RPD CL Qual	
Surfactants		EPA 425.1	099-05-093-1,497	N/A	07/20/05	99	93	80-120	6 0-20	



## **Quality Control - Laboratory Control Sample**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

aboratories. Inc.

Date Received: Work Order No:

N/A 05-07-1140

Project: Long Beach Permit

Matrix: Aqueous	ALCOHOLOGICA	saurusideli sa			5 (04) 5 (19)				
<u>Parameter</u>	<u>Method</u>	Quality Control Sample ID	<u>Date</u> <u>Analyzed</u>	<u>Date</u> Extracted	Conc Added R	Conc decovered	LCS %Rec	%Rec CL	Qualifiers
Phosphorus, Total Fluoride Carbon, Total Organic	EPA 365.3 EPA 340.2 EPA 415.1	099-05-098-1,633 097-01-022-223 099-05-097-1,948	07/28/05 07/25/05 07/20/05	7/28/2005 N/A N/A	0.40 0.50	0.41 0.54 8.9	103 108 89	80-120 80-120 80-120	

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## Glossary of Terms and Qualifiers



Work Order Number: 05-07-1140

Qualifier	Definition
Quaimer	<u>Delinion</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.
<b>2</b> 	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 or Matrix Spike Duplicate 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.
1 4. <b>4</b> .8 14 14 14 14 14 14 14 14 14 14 14 14 14	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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	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.
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.





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683

### INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

1		/440 LH	ICOIII Way	
	•	Garden Gro	ve, CA 92841	
Southern Calif. Edison P.O. N Please return and direct inqui		Q103391 Shawn Simn		
In all correspondence refer to		ong Beach F		: (714) 895-0515
-				com
Sample(s) are submitted for t	reatment/dispos	ition as desc	ribed below.	
Sample ID	Date A	Time	Description/Analytes	
HAR	Collected	Collected		
No.		· · · · · ·		
Outfall Composite	7/18 to 7/19		Kjedahl Nitrogen, EPA 3131 351	13
Outline Composito	1710 10 7/13		Kjedani Midogen, EFA 3121 951	
Outfall Commonite	7/10 4- 7/10			
Outfall Composite	7/18 to 7/19	· · · · · · · · · · · · · · · · · · ·	Chemical Oxygen Demand, EPA 410	.4
		<u> </u>	The state of the s	·
Outfall Composite	7/18 to 7/19		Total Organic Carbon, EPA 415.1	
- CO-THAIRMINE BUILDING				
Outfall Composite	7/18 to 7/19		Ammonia-N, EPA 350.2	
Outfall Composite	7/18 to 7/19		Fluoride, Bromide, MBAS	
4				
			The state of the s	
				<del></del>
	1	<u>l</u>		· · · · · · · · · · · · · · · · · · ·
·				
Special Instructions:				<del></del>
	Masses			····
	Mauix	is seawater		
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Chain of Custody	· · · · · · · · · · · · · · · · · · ·			
X (Bun	Dat	e: 7/20/06		Date:
	Tin	1e: 305	( Received By	Time:
Relinquished By				
Relinquished By			I had a	
Relinquished By  Relinquished By	Dat	e:	Wohat cre	Date: 7-10-6



1140) RI

RESULTS TO:
Facsimile: (714) 895-0515
Power Production Chemical
Southern California Edison

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683

### INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

		(	arden Grove	, CA 92841		
1	Southern Calif. Edison P.O. Nu Please return and direct inquir In all correspondence refer to p	es to: Soroject: Lo	Q1033917 Shawn Simmoong Beach Pe	rmit Email: s	ease Number: A000 14) 895-0525 Fax hawn.simmons@sce	: (714) 895-0515_
	Sample(s) are submitted for tre	Date		bed below. Description/Analy	tos 3	
	Sample ID	Collected	Collected	DescriptionAnaly		
	Outfall Composite	7/18 to 7/19		Total Phosphorus	, EPA 365.3	
	Outfall Composite	7/18 to 7/19		Pesticides/PCBs,	EPA 8081/8082	
- - - - -	Outfall Composite	7/18 to 7/19		Radiochemistry,	Fotal Alpha and To	tal Beta
	Outfall Composite	7/18 to 7/19		Radiochemistry,	Fotal Radium, Rad	ium 226
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
L		<u> </u>				
[	Special Instructions:					
	Pesticides: Aldrin, Chlordan sulfan, Endosulfan sulfate, E BHC, gamma-BHC, delta BI Matrix is seawater.	ndrin, Endrin a	ldehyde, Hep	tachlor, Heptachlo	or epoxide, alpha-B	HC, beta-
	Chain of Custody	<u>-</u>				
	XUX		nte: 7/20/05			Date:
,	Relinquished By		me: '30'\$	Re	ceived By	Time:
V	Relinquished By		nte: me	L COMO	oceived By	Time:



**WORK ORDER #**:

05-07-1140

Cooler \_\_\_\_ of \_\_\_

## SAMPLE RECEIPT FORM

CLIENTS. Ca. Faison	DATE: 7/20/05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided.  Chilled, cooler without temperature blank.  Chilled and placed in cooler with wet ice.  Ambient and placed in cooler with wet ice.  Ambient temperature.  °C Temperature blank.	ABORATORY (Other than Calscience Courier):  C Temperature blank.  C IR thermometer.  Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact) :	Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples.  Sample container label(s) consistent with custody papers.  Sample container(s) intact and good condition.  Correct containers for analyses requested.  Proper preservation noted on sample label(s).  VOA vial(s) free of headspace.  Tedlar bag(s) free of condensation.	
COMMENTS:	



# Paragon Analytics

# Radiochemistry Case Narrative Gross Alpha/Beta

# CalScience Environmental Laboratories

05-07-1140 PA WO 0507214

- 1. This report consists of the analytical results for one water sample received by Paragon on 7/23/05.
- This sample was prepared according to Paragon Analytics procedure SOP702R17.
- The sample analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytics procedure SOP724R8. The analyses were completed on 8/3/05. Gross alpha results are referenced to <sup>241</sup>Am. Gross beta results are referenced to <sup>90</sup>Sr/Y.
- 4. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
- 5. The requested MDC for gross alpha/beta for sample Outfall Composite (PA ID 0507214-1) was not achieved due to the presence of elevated levels of dissolved / suspended solids native to the sample. The requested method limits the amount of sample solids residue taken for analysis to 5 mg/cm². If desired, alternative methodologies for gross alpha are available which can generally address solids interference in water samples. These samples were counted for a maximum count time of 1000 minutes and results are reported without further qualification. This sample is identified with an "M" or "M3" flag on the final reports. The reported gross alpha/beta activity for samples with an "M3" flag exceeds the achieved MDC.
- No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician

Radiochemistry Final Data Review

Date (

Date Date

# Gross Alpha/Beta Analysis by GFPC

### PAI 724 Rev 8 Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: AB050727-2MB

Sample Matrix: WATER

Prop SOP: PAI 702 Rev 17

Date Collected: 27-Jul-05 Date Prepared: 27-Jul-05

Date Analyzed: 02-Aug-05

Prep Batch: AB050727-2

QCBatchID: AB050727-2-3

Run ID: AB050727-2A

Count Time: 1000 minutes

Final Allquot: 200 ml Result Units: pCl/l

Flie Name: ABB0802

سس			· · · · · · · · · · · · · · · · · · ·		1
	CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
	12587-46-1	GROSS ALPHA	0,18 +/- 0.26	0.42	U
	12587-47-2	GROSS BETA	-0.03 +/- 0.60	1.00	U

#### Comments:

- Qualificis/Flags:
- U Rosalt is loss than the tample specific MDC.
- Y1 Chemical Yield is in dontrol at 100-110%. Quantilative Yield is assumed.
- Y2 Chemical Yield outside default lunits.
- LT Result is loss than Requested MDC, ground than sample specific MDC.

Spoile verdda

TPU - Total Propagated Uncorrainty (see PAI SOP 713)

MDC - Mirimum Detectable Concentration (see PAI SOP 700)

BDL - Bolow Delection Limit

M. Requested MDC not mot

8 - Anniyle concontration greater than MDC.

R3 - Analylo concentration greater than MDC but less than Requested MDC.

Data Package ID: AB0507214-1

Paragon Analytics LIMS Version: 5.213A

Page 1 of 1,

# Gross Alpha/Beta Analysis by GFPC

**PAI 724 Rev 8** Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: AD050727-2LCS

Sample Matrix: WATER

Prep SOP; PAI 702 Rev 17

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 02-Aug-05

Prop Batch: AB050727-2

QCBatchID: AB050727-2-3

Run ID: AB050727-2A

Count Time: 90 minutes

Final Aliquot: 200 ml

Result Units: pCl/l

File Name: ABA0802

•	71.A.A.O.				Service of the servic			
	CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
	12587-40-1	GROSS ALPHA	174 +/- 29	2	248	70.2	70 - 130	ρ
	12587-47-2	GROSS BETA	188 +/- 31	6	234	80.5	70 - 130	Р,М3

### Comments:

#### QualificralFlagal

- U Result is less than the sample specific MDC.
- LT Rusull is less than Requested MDC, greater than sample specific MDC.
- V1 Chamical Yield is in control of 100-116%. Quantitative Yield is assumed,
- Y? Chrincal Yield outside default limits
- 1. I CB Recovery before tower control lunit.
- H LCS Recovery above upper control limit
- P LCS Recovery within control limits.
- M . The requested MDC was not mot.
- M3 The requested MDC was not mot, but therepended activity is prestur than the repented MDC:

Data Package ID: AB0507214-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOF 709)

Date Printed: Thursday, August 18, 2005

Paragon Analytics LIMS Version: 5.213A

Page 1 of 1

### **Gross Alpha/Beta Analysis by GFPC**

PAI 724 Rev 8 Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Field ID: Outfull Composite

Lab ID: 0507214-1

Sample Matrix: WATER

Prep SOP: PAI 702 Rev 17

Date Collected: 19-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 02-Aug-05

Prep Batch: AB050727-2

QCBatchID: A8050727-2-3

Run ID; AB050727-2A

Count Time: 1000 minutes Report Basis: Unfiltered Final Aliquot: 3.00 ml

Prep Basis: Unfiltered Moisture(%): NA

Result Units: pCi/l File Name: ABB0802

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-2 +/- 19	35	U,M
12587-47-2	GROSS BETA	224 +/- 56	65	M3

#### Comments:

#### Qualiflers/Flogs:

- U Result in less than the sample specific MDC.
- Y1 Chamical Yield in in control of 100-110%. Quantifulive Yield is assumed.
- V2 Chemical Yield outside defguli fimits.
- TT Result is isse than Requested MDC, groater than sample specific MDC.
- Mis Thin requirelled MDC was not mat, but the reported netwing is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- 1PU Total Propagated Uncertainty (soc PAI SOP 743)
- MOC Minimum Octorioble: Concentration (soo PAI SOP 709)
- RDE Balow Detection Until

Data Package ID: AB0507214-1



# Paragon Analytics

# Radiochemistry Case Narrative <sup>226</sup>Radium by EPA Method 903.1(m)

### CalScience Environmental Laboratories

05-07-1140 Paragon WO 0507214

- This report consists of the analytical results for 1 water sample received by Paragon on 7/23/2005.
- 2. This sample was prepared and analyzed according to Paragon Analytics procedures SOP783R5. The analysis was completed on 8/4/2005.
- 3. The analysis result for this sample is reported in units of pCi/L. The sample was not filtered prior to analysis.
- Sample volume was insufficient to allow preparation of a duplicate. A Laboratory Control Sample Duplicate (LCSD) was prepared in lieu of a client sample duplicate.
- 5. Paragon Analytics follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.
- 6. No further anomalous situations were encountered during the preparation or analysis of this sample. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician

Date

Radiochemistry Final Data Review

Data

### **PAI 783 Rev 5** Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lib ID: RE050728-1MD

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 26-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep.Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 mt Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.02 +/- 0.19	0.36	U

### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	13740	12710	ug	92.5	40 - 110 %	

#### Comments:

Qualitiers#lags:

U - Heault is less than the sample specific NDC.

Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assigned,

V2 - Chamical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

TPU - Total Propagated Unpertainty (see PAI SOP 743)

MDC - Minimum Delebisble Concentration (see PAI SOF 709)

NDL - Bislow Oalection Limit

M - Requested MDC not met.

R - Analytic concentration greater than MOC.

03 Analyte concentration greater than MDC but loss than Requested MDC.

Data Package ID: REM0507214-1

**PAI 783 Rev 5** Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: RE050726-1LCS

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 26-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Auc-05

Prop Batch; RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 ml Result Units: pCi/l

File Namo: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	43 +/- 11	0	48.1	90.2	80 - 120	Р

### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	13740	13670	ug	99.5	40 - 110 %	

#### Comments:

#### QualificrofFlogs:

- 11 Result is loss them the sample specific MDC.
- 1.1 Passult is toss than Requested MDC, greater than sample specific MDC.
- Y1 Chemical Yield in in control at 100 110%. Quantitative Yield is assumed
- Y2 Chrenical Yield outside default limits.
- L. LCS Recovery below lawns control limit.
- 11 CCS Hocovery above apper control final.
- P LCS Recovery within control limits.
- Mill The render-Sad MDC was not met.
- M3. The requested MDC was not mot, but thereported octivity is greater than the reported MDC,

Data Package ID: REM0507214-1

Abbreviations:

TPU - Total Propagated Uncortainty (see PAI SOP 743)

MDC - Minimum Detoctable Concentration (see PAI SOP 709)

PAI 783 Rev 5
Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: RE050725-1LCSD

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collectod: 26-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 ml Result Units: pCl/l

File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13092-63-3	Ra-226	43 +/- 11	0	48.1	88.3	80 - 120	P

### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	13740	13280	ug	96.7	40 - 110 %	

#### Comments:

Qualifier.JFlags:

U - Reput is less than the stample specific MDC.

17 - Hereift is less than Regionsted MDC, preater than sample specific MDC.

Y1 - Crigmical Yield Is in control of 100-110%, Cognitivitive Yield is assumed.

Y2 - Chemical Yield outside default limits.

LCS Nacovery below lower control limit.

It - LCS Resevery above upper earlied limit.

P - LOS Resovery will in control limits

M - The resposited MDC was not mat.

M3 - The requested MDC was not met, but thereported octivity to greater than the reported MDC.

Data Package ID: REM0507214-1

Abbreviations:

TPU - Yotal Propagated Uncortainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SQP 709)

PAI 783 Rev 5 **Duplicate Sample Results (DER)** 

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Field IO:

Lab ID: RE000726-ILCSD

Sample Matrix: WATER

Prep SOP: PAI 763 Rev 5

Date Collected: 26-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Final Aliquot: 995 ml Prep Basis: Unfiltored

Moisture(%): NA Result Units: pCi/l

File Name: Manual Entry

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	43 +/- 11	43 +/- 11	0.02	2.13	Р

#### Comments:

Depticate Qualificas/Flags:

U - Besub la lesa Bron the sample specific MDC.

V1. Chemical Violetis in control at 100-110%. Quantitative yield is assumed.

Yo. Charmal Yield outside default limits

W. DER is growing their Warning Limit of 1/2

D. DER a greater their Control Limit of 2.13

LT - Result is that than Request MDC, greater than sample specific MDC

M - Requested MOC not met,

M3 - The respected MDG were not met, but the reported activity is give the than the reported MDG.

LCS Re-revery below lower control limit.

H - LCS Recevery above uppor evolvet limit

P - CCS, Mishrix Stoke Recovery within control famile,

N. Miking Solbe Recovery detailed control lemits

Data Package ID: REM0507214-1

: thouselveridge

TPU - Total Propagated Uncertainty (see PAI SOF 743)

DER - Doplicale Error Ratio (see PAI SOP 715)

**6DL - Below Oxidection Limit** 

NR - Not Reported

Date Printed: Monday, August 08, 2005

Paragon Analytics LIMS Version: 5,207A

Page 1 of 1

PAI 783 Rev 5 Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Field ID: Outfall Composite

Lab ID: 0507214-1

Sample Matrix: WATER

Prep SOP: PAI 783 Rev 5

Date Collected: 19-Jul-05

Date Prepared: 26-Jul-05

Date Analyzed: 04-Aug-05

Prep Batch: RE050726-1

QCBatchID: RE050726-1-1

Run ID: RE050805-1A

Count Time: 15 minutes

Report Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered Moisture(%): NA

Result Units: pCi/l

File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13032-63-3	Ra-226	0.10 +/- 0.18	0.31	U

### **Chemical Yield Summary**

	Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
į	BARIUM	13860	13450	ug	97.1	40 - 110 %	

#### Comments:

#### Ougliflers/Flans:

- U Result is less than the sample specific MOC.
- Y1 Chancel Yield is in control at 100-10%. Outphitative Yield is assumed.
- V2 Chan col Yield outside default limits:
- 1) Ploquit is for a thum Progression MDC, greater than sample specific MQC.
- M3 The requested MDC was not mot, but the reported activity is greater than the reported MDC.
- Mi-The requested MOC was not met.

#### Abtroviations

- TPU Total Propagated Uncertainty (See PAI SOP 743)
- MDC Minimum Detectable Concentration (see PA' SOP 709)
- (Vit. Finlow Detection Unit

Data Package ID: REM0507214-1



# Paragon Analytics

# Radiochemistry Case Narrative Total Alpha Emitting Radium (Ra-226)

### CalScience Environmental Laboratories

05-07-1140 PA WO 0507214

- 1. This report consists of the analytical results for one water sample received by Paragon on 7/23/05.
- 2. This sample was prepared according to Paragon Analytics procedure SOP712R12.
- 3. The sample was analyzed for the presence of Total Alpha Emitting Radium Isotopes according to Paragon Analytics procedure SOP724R8. The analyses were completed on 7/31/05.
- 4. This test is a screen for Radium-226 and could show high bias in sample results if other alpha emitting isotopes of radium are contained in the sample (esp. Ra-224 and Ra-223).
- 5. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
- 6. The tracer recovery of 101% and 102% for the method blank (MB) and laboratory control sample (I.CS), respectively, associated with batch TR050727-1 are within the requested 30-110% limit. However, in such cases PAI assumes a 100% quantitative recovery in the calculations. While the 'Tracer Yield' on the report form shows the observed recovery (101% and 102%), a 'Y1' flag signifies this calculation convention. Results are submitted without further qualification.
- 7. Paragon Analytics follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.
- No further anomalous situations were encountered during the preparation or analysis of this sample. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Rathochemistry Instrument Technician

Date Date

Radiochemistry Final Data Review

8/18/27

Date

### **Total Radium Analysis by GFPC**

### **PAI 724 Rev 8** Method Blank Results

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: TR050727-1MB

Sample Matrix: WATER

Prop SOP: PAI 712 Rev 12

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 31-Jul-05

Prep Batch: TR050727-1

QCBatchID: TR050727-1-1

Run ID: TR050727-1A

Count Time: 400 minutes

Final Aliquot: 995 ml Result Units: pCi/l

File Name: TRB0731

CASN	O Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7440-14	-4 TOTAL RADIUM	0.012 +/- 0.028	0.057	Y1.U

### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
DARIUM	13850	14030	บg	101	40 - 110 %	Y1

#### Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 Chamient Yield is in control at 100-110%. Our nhitative Yield is assumed.

Y2 - Chemical Yield outside default limits

LT - Noculi is less from Requested MDC, greater than sample specific MDC.

Abbreviations;

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Bejuw Detection Limit

at - Requested MDC not mat.

8 - Analyte concontration greater than MDC.

03 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: TR0507214-1

### **Total Radium Analysis by GFPC**

PAI 724 Rev 8
Laboratory Control Sample(s)

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Lab ID: TR050727-1LCS

Sample Matrix: WATER

Prep SOP: PAI 712 Rev 12

Date Collected: 27-Jul-05

Date Prepared: 27-Jul-05

Date Analyzod: 31-Jul-05

Prep Batch: TR050727-1

QCBatchID: TR050727-1-1

Run ID: TR050727-1A

Count Time: 400 minutes

Final Aliquot: 995 ml

Result Units: pCi/l File Name: TRB0731

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier	
7410-11-4	TOTAL RADIUM	44 +/- 11	- 0	50.2	87.8	75 - 125	P,Y1	

### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	13850	14100	чg	102	40 - 110 %	Y1

### Comments:

#### Qualifiers/Flags:

- U Regulate less than the storopte specific MOC.
- L1 Result in liess than Requested MDC, greater than sample specific MDC.
- Y1 Chamiest Yield is in control of 100-110%, Quantitative Yield is assumed.
- Y2 Chemical Yield unbide default limits.
- L LCS Rarovery Isslow lower control limit.
- H LCS Recovery above upper control limit.
- P LCS Rucquery within control limits.
- M. The requested MDC won not met,
- Id's The requested MDC was not real, but increported activity is greater than the reported MDC.

Data Package ID: TR0507214-1

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Delectable Concentration (see PAI SOI\* 709)

### **Total Radium Analysis by GFPC**

PAI 724 Rev 8
Sample Results

Lah Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

ClientProject ID: 05-07-1140

Floid ID: Outfall Composite

Lab ID: 0507214-1

Sample Matrix: WATER

Prop SOP: PAI 712 Rev 12

Date Collected: 19-Jul-05

Date Prepared: 27-Jul-05

Date Analyzed: 31-Jul-05

Prep Batch: TR050727-1

QCBatchID: TR050727-1-1 Run ID: TR050727-1A

Count Time: 400 minutes

Roport Basis: Unfiltered

Final Aliquot: 995 ml

Prep Basis: Unfiltered

Moisture(%): NA

Result Units: pCi/l

File Name: TR80731

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7440-14-4	TOTAL RADIUM	0.64 +/- 0.18	0.06	រេ

### **Chemical Yield Summary**

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
DARIUM	13970	13380	ug	95.7	40 - 110 %	

#### Comments:

#### QualiforniFlags:

- $\Omega \to Reput Is igns than the sample specific MDC.$
- V1 Chemica, Yield is in control at 100-110%. Quantilative Yield is assumed.
- Y2 Chemical Yield outside default limits
- 1.1 Passuli is tens than Pequested MPC, greater than sample specific MDC.
- 1.63 The requested MDC was not met, but the reported activity is greater then the reported MDC.
- Mi- The requested MUC was not mat.

#### Althopytotions

- 17% Total Prepagated Unconstitly (see IPAI SOP 743)
- MDC Mahmum Delectable Concentration (see PAI SOP 709)
- PDL Below Detection Limit

Data Package ID: TR0507214-1

TEL: (714) 895-5494 . FAX: (714) 894-7501 aboratories, inc. ndrommental

7440 LINCOLN WAY

**GARDEN GROVE, CA 92841-1432** 

FedEx to:

Fort Collins, CO 80524 225 Commerce Drive Paragon Analytics

CHAIN OF CUSTODY RECORD

07/22/05	P.
	+
DATE:	PAGE:

05-07-1140 7/22/05 QUOTE NO.: P.O. NO.: REQUESTED ANALYSIS Date: CLIENT PROJECT NAME / NUMBER Steven L. Lane sampler(s): (signature) PROJECT CONTACT 05-07-1140 Radium 226, EPA 903.1 Total Radium, EPA 9320 Received by: (Signature) Received by: (Signature) Received by: (Signature) Gross alpha/beta, EPA 900.0 Con ☐ 5 DAYS ☐ 10 DAYS Matrix ≷ TIME E-MAIL Requested TAT = Radiochemistry Standard (21 calendar days) SAMPLING 07/19/05 ARCHIVE SAMPLES UNTIL DATE 72 HR Calscience Environmental Laboratories, Inc. LOCATION/ DESCRIPTION SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) 48HR Garden Grove, CA 92841-1427 24 HR RWOCB REPORTING Outfall Composite SAMPLE 1D Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) 7440 Lincoln Way SAME DAY TURNAROUND TIME LAB USE ONLY

Ref: SL Dep: SUBCONTRACT

Date: 07/22/2005 Wgt: 30.6 LBS

SHIPPING: SPECIAL: HANDLING: TOTAL: 00.0

99.25 22.92 0.00

Sves: PRIORITY SATURDAY

355 Van Ness Ave., Suite 115, Torrance, CA 90501-1206 (310) 320-3211 FAX (310) 320-1276 myahya@crglabs.com

### **MICROBIOLOGY RESULTS**

CRG ID#: 26479 Replicate	#B1 Project ID:	. М0524ь Е	Satch ID 0719	Matrix:	Reagents	21 11 11 11
Sample QAQC Description: Procedural Blank		Clien	t Name: Southern Shawn Si	California Edi	son	t trope to the
Date Sampled: Time Collected:		1	Date Recieved: Time Analyzed:	19-Jul-05 13:15		:
CONSTITUENT	METHOD	RESUL	T UNIT	- 1	MDL	
Fecal Coliform / MTF 20	SM 9221E		20 MPN/100 ml		20	: :
Total Coliform / MTF 20	SM 9221B		20 MPN/100 mi	<u>.</u> 1	20	

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#### MICROBIOLOGY RESULTS CRG ID#: 26480 Project ID: M0524b Matrix: Cultures Sample **QAQC Client Name:** Southern California Edison Description: Positive Control Shawn Simmons Date Sampled: Date Recieved: 19-Jul-05 13:15 **Time Collected:** Time Analyzed: RESULT CONSTITUENT METHOD UNIT MDL SM 9221E **PASS** MPN/100 mL 20 Fecal Coliform / MTF 20 **PASS** MPN/100 mL 20 Total Coliform / MTF 20 SM 9221B

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#### MICROBIOLOGY RESULTS CRG ID#: 26461 Batch ID 0718 Matrix: Sample Southern California Edison **Client Name:** Description: Shawn Simmons 18-Jul-05 **Date Recieved: Date Sampled:** 18-Jul-05 17:30 **Time Collected:** 12:20 Time Analyzed: RESULT MDL **METHOD** UNIT CONSTITUENT SM 9221E MPN/100 mL 20 Fecal Coliform / MTF 20 20 SM 9221B MPN/100 mL Total Coliform / MTF 20 20

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### MICROBIOLOGY RESULTS

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CRG ID#: 26462	2 Replicate	#RI Projec	ID: M0524b	Batch	ID 0718	Matrix:	Seawater
Sample Out Description:	tall	e de la divinió de de la composició de la composició de la composició de la composició de la composició de la c La composició de la composició	Cli	ent Nan	Southern Ca	lifomia Edis nons	on
Date Sampled: Time Collected:	18-JuI-05 12:20	in the stage of the Compatibility of the stage of the stage of the stage of	Ann manning		Recieved:	18-Jul-05 17:30	
CONSTITUENT		METHOD	RESU	ILT	UNIT	·	MDL
Fecal Coliform / M	TF 20	SM 9221E	<	20	MPN/100 mL		<b>20</b> - Markali (1974)
Total Coliform / MT	F 20	SM 9221B	· <	20	MPN/100 mL		20

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#### **MICROBIOLOGY RESULTS** CRG ID#: 26463 Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Sample Southern California Edison Client Name: Description: Shawn Simmons 18-Jul-05 18-Jul-05 **Date Recieved:** Date Sampled: 17:30 Time Analyzed: Time Collected: 15:00 CONSTITUENT **METHOD** RESULT UNIT MDL 20 MPN/100 mL Fecal Coliform / MTF 20 SM 9221E

20

MPN/100 mL

SM 9221B

Total Coliform / MTF 20

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MICROBIOLOGY RESULTS									
CRG ID#: 26464 Replicate #R1	Project ID: M0524b Batch ID	0718	Matrix: Seawater						
Sample Outfall Client Name: Southern California Edison Description: Shawn Simmons									
Date Sampled: 18-Jul-05	1,000	ecieved: nalyzed:	18-Jul-05 17:30						
CONSTITUENT METH	OD RESULT	UNIT	MDL						
Fecal Coliform / MTF 20 SM 92	21E < 20	MPN/100 mL	1 <u>ò</u> 1						
Total Coliform / MTF 20 SM 92	21B < 20	MPN/100 mL	20						

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#### MICROBIOLOGY RESULTS CRG ID#: 26465 Replicate #R1 Project ID: M0524b Batch ID 0718 Seawater Sample Client Name: Southern California Edison Description: Shawn Simmons Date Sampled: 18-Jul-05 **Date Recieved:** 18-Jul-05 Time Collected: 18:00 Time Analyzed: 22:30 CONSTITUENT **METHOD** RESULT UNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20

SM 9221B

MPN/100 mL

20

20

Total Coliform / MTF 20

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aran ya ya saya sa a	alberen krasin	MICKORIOL	OGY RESULT	Simple in the second	<u> Projectiva (</u>
CRG ID#: 2646	6 Replicate	R1 Project ID:	M0524b <b>Batch ID</b> 071	8 Matrix:	Seawater
Sample Ou Description:	tfall			outhern California Edis nawn Simmons	son
Date Sampled:	18-Jul-05	The maran Migricka	Date Reciev	ed: 18-Jul-05	for the state of the
Time Collected:	18:30	and the factor of the second	Time Analyz	ed: 22:30	September 1997

RESULT

20

UNIT

MPN/100 mL

MPN/100 mL

MDL

METHOD

SM 9221E

SM 9221B

CONSTITUENT

Fecal Coliform / MTF 20

Total Coliform / MTF 20

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#### MICROBIOLOGY RESULTS CRG ID#: 26467 Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater Sample **Client Name:** Southern California Edison Description: Shawn Simmons 18-Jul-05 Date Recieved: 18-Jul-05 **Date Sampled: Time Collected:** 21:00 Time Analyzed: 22:30 CONSTITUENT **METHOD RESULT** UNIT MDL Fecal Coliform / MTF 20 20 MPN/100 mL SM 9221E 20 Total Coliform / MTF 20 SM 9221B 20 MPN/100 mL

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MICROBIOLOGY RESULTS								
CRG ID#: 26468	Replicate	#R1	Project ID: M	0524b Batch	ID 0718	Matrix: S	Seawater	
Sample Outfor Description:	in thank.	elettini.		Client Nan	ne: Southern C Shawn Sim	alifornia Edison mons	ti je stak ti kali sit	
Date Sampled:	18-Jul-05	Andreas	Section 1	Date	Recieved:	18-Jul-05		
Time Collected:	21:15	Part of the second	and the second of the second o	Time	Analyzed:	22:30		
CONSTITUENT		METHOD	1 3 13 43	RESULT	UNIT	М	DL	
Fecal Coliform / MTI	F 20	SM 9221E		< 20	MPN/100 mL	·*	20	
Total Californ / MTE	- 90	CM 0224B		~ 30	MDM/400 ml	e .	20 Sept. 25 Apr. 1	

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### MICROBIOLOGY RESULTS

	1.14	10,1,0,1	.00.00			- ' ' '		97.2
CRG ID#: 26469	9 Replicate	#R1	Project ID: M	0524b В	Batch ID	0719	Matrix:	Seawater
Sample Inta Description:	ike	agradient voor de state van de state van de state van de state van de state van de state van de state van de s Note tot van de state va		Client	t Name:	Southern Ca Shawn Simi	llifornia Ediso nons	on
Date Sampled: Time Collected:	19-Jul-05 00:00		and the state of t		Date Re Time Ar	cieved:	19-Jul-05 04:30	
CONSTITUENT			a more grandanina san			UNIT.		
Fecal Coliform / M		SM 92211	<b>≣</b> ;	· <	20 N	//PN/100 mL		20
Total Coliform / MT	TF 20	SM 92211	3	<	20 N	/IPN/100 mL		20

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MICROBIOLOGY RESULTS										
CRG ID#: 26470	Replicate a	IRI I	Project ID:	М0524Ъ	Batch I	<b>D</b> 0719	Matrix:	Seawater		
Sample Outfi Description:	all	general de la composition della	Clie	nt Nam	Southern Ca Shawn Simi	nlifornia Edise mons	on (222) 1 			
Date Sampled: Time Collected:	19-Jul-05 00:10	An and see	· .			Recieved: Analyzed:	19-Jul-05 04:30	i especializati		
CONSTITUENT		METHOD		RESU	LT	UNIT		MDL 19 38 S		
Fecal Coliform / MT	F 20	SM 9221E		<	20	MPN/100 mL		20 1 1 1 1 1 1 1 1 1 1		
Total Coliform / MTF	= 20	SM 9221B	**.	<	20	MPN/100 mL		20		

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#### **MICROBIOLOGY RESULTS** CRG ID#: 26471 Replicate #R1 Batch ID 0719 Sample Intake Client Name: Southern California Edison Description: Shawn Simmons Date Recieved: 19-Jul-05 Date Sampled: 19-Jul-05 04:30 Time Collected: 03:00 Time Analyzed: CONSTITUENT **METHOD** RESULT ÚNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20 Total Coliform / MTF 20 SM 9221B MPN/100 mL 20

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MICROBIOLOGY RESULTS							
CRG ID#: 26472 Replicate	#R1 Project ID: M	0524b Batch ID 0719	Matrix: Seawater				
Sample Outfall Description:	ti i versegti i verse kriji i ti Versegti i	Client Name: Southern Shawn S	California Edison immons				
Date Sampled: 19-Jul-05 Time Collected: 03:10	The state of the s	Date Recieved: Time Analyzed:	19-Jui-05 04:30				
CONSTITUENT	METHOD	RESULT UNIT	MDL				
Fecal Coliform / MTF 20	SM 9221E	< 20 MPN/100 m	<b>10</b> 20 m (1,10 m) when m				
Total Coliform / MTF 20	SM 9221B	< 20 MPN/100 m	ıL 20				

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### **MICROBIOLOGY RESULTS**

			H1 1,3 1,1 1	AT I A KIND OF	and the state of t			
CRG ID#: 26473	3 Replicate	#R1 P	roject ID: M	)524b Batcl	1 <b>ID</b> 0719	Matrix:	Seawater	
Sample Inta Description:	ike			Client Na	me: Southern Ca Shawn Simi		son	
Date Sampled:	19-Jul-05	American Section	2.14	Date	e Recieved:	19-Jul-05		
Time Collected:	06:10			Tim	e Analyzed:	10:30	1.4.4	
CONSTITUENT		METHOD		RESULT	UNIT	* 4	MDL	
Fecal Coliform / M	TF 20	SM 9221E		< 20	MPN/100 mL		20	
Total Coliform / MT	F 20	SM 9221B		< 20	MPN/100 mL	-	20	

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#### **MICROBIOLOGY RESULTS** CRG ID#: 26474 Replicate #R1 Project ID: M0524b Matrix: Sample Outfall **Client Name:** Southern California Edison Description: Shawn Simmons Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05 06:00 10:30 Time Collected: Time Analyzed: **RESULT** CONSTITUENT **METHOD** UNIT MDL Fecal Coliform / MTF 20 SM 9221E 20 MPN/100 mL 20 Total Coliform / MTF 20 SM 9221B MPN/100 mL 20 20

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### **MICROBIOLOGY RESULTS**

CRG ID#: 26475 Repli	icate #R1 Project ID:	M0524b Batch ID	0719	Matrix:	Seawater
Sample Intake Description:		Client Name	: Southern C Shawn Sim	alifornia Edisc mons	on .
Date Sampled: 19-Jul- Time Collected: 09:00	05		ecieved: Inalyzed:	19-Jul-05 10:30	
CONSTITUENT	METHOD	RESULT	UNIT		MDL
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL		20
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL		20

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e entity of a least entity.	100000000000000000000000000000000000000	MICRO	BIOLO	GY RES	JLTS			
CRG ID#: 26476	Replicate #	R1 P	roject ID: M	0524ь Batch I	<b>D</b> 0719	Matrix:	Seawater	
Sample Outfa Description:	<b>n</b> 771 11	radio i	ng sha	Client Nam	Southern (	California Edisonmons	on .	eriore de la composition della
Date Sampled:	19-Jul-05			Date l	Recieved:	19-Jul-05		
Time Collected:	09:10	province province of the second secon	r of	Time	Analyzed:	10:30	18,000	
CONSTITUENT		METHOD	DV sE	RESULT	UNIT	]	MDL	
Fecal Coliform / MTF	20	SM 9221E	in e	< 20	MPN/100 mL	· -	20	er Disar

MPN/100 mL

20

Total Coliform / MTF 20

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## MICROBIOLOGY RESULTS

2		207 2 7 7		20.00				•	
CRG ID#: 26477	Replicate	#R1	Project ID:	M0524b	Batch II	0719	Matrix:	Seawater	• .
Sample Intake Description:	* * * * **			Clien	t Name	: Southern Ca Shawn Simr		on	
Date Sampled:	19-Jul-05	Lister (M.194)	1.44		Date R	lecieved:	19-Jul-05	d	1. (
Time Collected:	12:02	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A : 197		Time A	Analyzed:	13:15	* 2	
CONSTITUENT	. ,	METHOD		RESUL	T	UNIT	er så ett ut "	MDL	
Fecal Coliform / MTF	20	SM 9221E		<	20	MPN/100 mL		20	: [ ++.1]
Total Coliform / MTF	20	SM 9221B	· ·	<	20	MPN/100 mL		20	

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## **MICROBIOLOGY RESULTS**

CRG ID#: 2647	8 Replicate	#R1	Project ID:	M0524b <b>Batc</b>	h <b>ID</b> 0719	Matrix:	Seawater
Sample Our Description:	tfall in a state of	as and a constant and	e de la sección	Client Na	me: Southern Co	alifornia Edis mons	on
Date Sampled:	19-Jul-05	i nakawansii		Date	e Recieved:	19-Jul-05	
Time Collected:	12:00	en en en en en en en en en en en en en e	na nai Ny senandana	Tim	e Analyzed:	13:15	the Albert & Co
CONSTITUENT		METHOD	( A. A. A. A. A. A. A. A. A. A. A. A. A.	RESULT	UNIT		MDL
Fecal Coliform / M	TF 20	SM 9221E	* .	20	MPN/100 mL		20
Total Coliform / MT	F 20	SM 9221B	11 -	20	MPN/100 mL	÷	20

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## MICROBIOLOGY RESULTS

		III.O. COBIO	-001	101	<u> </u>		
CRG ID#: 2646	1 Replicate		M0524b	Batch i	<b>D</b> 0718	Matrix:	Seawater
Sample Inta Description:	The following	and out of the second of the s	Clie	nt Name	Southern C	alifornia Edis mons	on
Date Sampled:	18-Jul-05	atmost public or 1		Date F	Recieved:	18-Jui-05	Transport
Time Collected:	12:20	den <mark>Strager</mark> ic.		Time .	Analyzed:	17:30	
CONSTITUENT	n i Mariana Na	METHOD	DEGII		UNIT	a a se Tos	MDL
Fecal Coliform / M	TF 20	SM 9221E	<	20	MPN/100 mL		20
Total Coliform / MT	F 20	SM 9221B	<	20	MPN/100 ml.		20

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### **MICROBIOLOGY RESULTS**

CRG ID#: 26478

Project ID: M0524b

Batch ID 0719

Matrix:

Seawater

Sample Description:

Outfall

Client Name:

Southern California Edison

Shawn Simmons

Date Sampled:

19-Jul-05

Date Recieved:

19-Jul-05

Time Collected:

12:00

Time Analyzed:

13:15

 CONSTITUENT
 METHOD
 RESULT
 UNIT
 MIDIL

 Fecal Coliform / MTF 20
 SM 9221E
 < 20</td>
 MPN/100 mL
 20

 Total Coliform / MTF 20
 SM 9221B
 < 20</td>
 MPN/100 mL
 20



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August 15, 2005

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683

Re:

CRG Project ID:

P25130

SCE Project:

Wellpoint System

ATTN: Mr. Shawn Simmons

CRG Marine Laboratories is pleased to provide you with the enclosed analytical data report for your Wellpoint System Project. According to the chain-of-custody, 2 water samples were received intact and cool at CRG on July 25, 2005. Per your instructions, the samples were analyzed for:

Total Metals By ICPMS Using EPA Method 1640

Please don't hesitate to call if you have any questions and thank you very much for using our laboratory for your analytical needs.

Regards, Misty B. Mercier Project Manager

Misty B. Mercier Digitally signed by Misty B. Mercier DN: CN = Misty B. Mercier, C = US, Q = CRG Marine Laboratories, Inc. Date: 2005.08.15 12:09:26 -07'00'

Reviewed and Approved

## DATA REPORT

Paggar Labarata Janasa Labarata

# **CRG Marine Laboratories, 9uc.** 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

## Trace Metals

Client: Southern California Edi	thern Calif	ornia Edison				Ö	RG Pro	CRG Project ID:	25130
CRG ID#; 26609 Replicate #: R1	60	Sample Description:	Plant 2	Wellpoint System	stem	ÖÖÖ	Date Sampled: Date Received:	d: 22-Jul-05	5 07:55
Batch ID: 2513	25130-12053	Matrix:	Seawater			Č	Date Processed:		15
Instrument: ICPMS #1 HP 4500	4S #1 HP 4500	Analyst:	P. Hershelman			Da	Date Analyzed:		55
CONSTITUENT		FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)		Total	EPA 1640	0.191	hg/L	0.01	0.015	-	¥
Arsenic (As)		Total	EPA 1640	2.87	µg/L	0.01	0.015	<del>T</del>	¥
Beryllium (Be)		Total	EPA 1640	Q	µg/L	0.005	0.01	<del>-</del>	Ą
Cadminm (Cd)		Total	EPA 1640	0.031	hg/L	0.005	0.01	-	¥N
Chromium (Cr)		Total	EPA 1640	0.555	µg/L	0.005	0.01	· •••	¥.
Copper (Cu)		Total	EPA 1640	1.28	Hg/L	0.005	0.01	<b>-</b>	٩
Lead (Pb)		Total	EPA 1640	0.555	hg/L	0.005	0.01	~	¥
Mercury (Hg)		Total	EPA 1631E	0.00158	µg/L	0.00005	0.0001	Ψ-	Ϋ́
Nickel (Ni)		Total	EPA 1640	0.364	hg/L	0.005	0.01	-	A A
Selenium (Se)		Total	EPA 1640	0.022	hg/L	0.01	0.015	τ-	ΑΝ
Silver (Ag)		Total	EPA 1640	ON.	hg/L	0.005	0.01	τ-	NA
Thallium (TI)		Total	EPA 1640	2	µg/L	0.005	0.01	-	Ą
Vanadium (V)		Total	EPA_1640	5.01	hg/L	0.005	0.01	-	¥
Zinc (Zn)		Total	EPA 1640	78.2	hg/L	0.005	0.01	-	Y Y
						,	2		

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26609

# 

Client:	Southern Ca	Client: Southern California Edison	-			၁	RG Pro	CRG Project ID:	25130
CRG ID#: 266 Replicate #: R2 Batch ID: 25- instrument: ICF	CRG ID#: 26609 Replicate #: R2 Batch ID: 25130-12053 Instrument: ICPMS #1 HP 4500	Sample Description: Matrix: 0 Analyst:	Plant 2 idon: Wellpoint System Seawater P. Hershelman	Wellpoint System	ystem		Date Sampled: Date Received: Date Processed: Date Analyzed:	d: 22-Jul-05 id: 25-Jul-05 sed: 02-Aug-05 d: 04-Aug-05	5 07:55 5 15 15
CONSTITUENT	int	FRACTION	METHOD	RESULT	UNITIS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	. (q.	Total	EPA 1640	0.143	hg/L	0.01	0.015	1	NA
Arsenic (As)		Total	EPA 1640	2.86	hg/L	. 0.01	0.015	-	Ą
Beryllium (Be)	(e)	Total	EPA 1640	Q	hg/L	0.005	0.04		Ą
Cadminm (Cd)	( <del>Q</del>	Total	EPA 1640	0.032	µg/L	0.005	0.01	_	¥
Chromium (Cr)	<del>ر</del> ن)	Total	EPA 1640	0.585	µg/L	0.005	0.01	·	Ą
Copper (Cu)		Total	EPA 1640	1.05	µg/L	0.005	0.01	~	¥ X
Lead (Pb)		Total	EPA 1640	0.527	µg/L	0.005	0.01	_	Ą
Mercury (Hg)	-	Total	EPA 1631E	0.00159	µg/L	0.00005	0.0001	<b>.</b>	¥
Nickel (NI)		Totaí	EPA 1640	0.391	µg/L	0.005	0.01	₹-	¥
Selenium (Se)	(ө.	Total	EPA 1640	0.116	µg/L	0.01	0.015	-	¥ V
Silver (Ag)	÷	Total	EPA 1640	9	hg/L	0.005	0.01		ΑΝ
Thallium (TI)	<u>ن</u> ــــــــــــــــــــــــــــــــــــ	Total	EPA 1640	<u>Q</u>	µg/L	0,005	0.01	<b></b>	Ϋ́
Vanadium (V)	9	Total	EPA 1640	5.02	hg/L	0.005	0.01	•	A A
Zinc (Zn)		Total	EPA 1640	79.5	µg/L	0.005	0.01	-	NA
	-								
									1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

2 26609

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## 

Client:	Client: Southern California Edi	fornia Edison				Ö	रG Pro	CRG Project ID:	25130
CRG ID#: 26 Replicate #: R1	<b>26610</b> R1	Sample Description:	Tank Farm Wellpoint System	Wellpoint System	stem	Da Da	Date Sampled: Date Received:	1: 22-Jul-05 d: 25-Jul-05	5 07:15
Batch ID: Instrument:	Batch ID: 25130-12053 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman			<u> </u>	Date Processed: Date Analyzed:	ed: 02-Aug-05 d: 04-Aug-05	15 15
CONSTITUENT	Ţ.	FRACTION	метнор	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	(	Total	EPA 1640	0.195	hg/L	0.01	0.015	-	¥
Arsenic (As)		Total	EPA 1640	7,09	µg/L	0.01	0.015	· · · · · · · · · · · · · · · · · · ·	NA N
Beryllium (Be)		Total	EPA 1640	9	µg/L	0.005	0.01	-	NA A
Cadmium (Cd)	5	Total	EPA 1640	E0.008	hg/L	0.005	0.01	~	AN
Chromium (Cr)	· (2	Total	EPA 1640	0.375	µg/L	0.005	0.01	-	NA N
Copper (Cu)		Total	EPA 1640	0.346	ng/L	0.005	0.01	-	NA
Lead (Pb)		Total	EPA 1640	0.141	ng/L	0.005	0.01	-	NA
Mercury (Hg)		Total	EPA 1631E	2	ng/L	0.00005	0.0001	<del>.</del>	N A
Nickel (Ni)		Total	EPA 1640	0.386	hg/L	0.005	0.01	~	NA
Selenium (Se)		Total	EPA 1640	2	ng/L	0.01	0.015	-	NA.
Silver (Ag)		Total	EPA 1640	: <del>Q</del>	hg/L	0.005	0.01	-	NA.
Thallium (TI)		Total	EPA 1640	Q	µg/L	0.005	0.01	_	Ą
Vanadium (V)		Total	EPA 1640	1.7	hg/L	0.005	0.01	~	¥.
Zinc (Zn)	-	Total	EPA 1640	3.08	µg/L	0.005	0.01	· ·	¥

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26610 R1

# CRG Marine Laboratories, Inc. 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

## Taloe Metals

Client: Southern California Edi	alifornia Edison				0	RG Pro	CRG Project ID:	25130
27	Sample Description:		LCM-CRG Seawater	awater	۵۵	Date Sampled: Date Received:	id: ad:	
Batch ID: 25130-12053 Instrument: ICPMS #1 HP 4500	Matrix: 00 Analyst:	Seawater P. Hershelman		,	۵۵	Date Processed: Date Analyzed:	sed: 02-Aug-05 ed: 04-Aug-05	05 05
CONSTITUENT	FRACTION	МЕТНОВ	RESULT	UNITS	MDL	ÆĽ	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	0.095	µg/L	0.01	0.015	-	NA
Arsenic (As)	Total	EPA 1640	1,34	hg/L	0.01	0.015	_	NA
Beryllium (Be)	Total	EPA 1640	N	hg/L	0.005	0.01	-	AN
Cadmium (Cd)	Total	EPA 1640	0.115	µg/L	0.005	0.01	· <u></u>	ĀŅ
Chromium (Cr)	Total	EPA 1640	0.255	µg/L	0.005	0.01	<del>-</del>	NA
Copper (Cu)	Total	EPA 1640	0.839	µg/L	0.005	0.01		AN
Lead (Pb)	Total	EPA 1640	0.029	Hg/L	0.002	0.01	-	\ V
Mercury (Hg)	Total	EPA 1631E	0.00021	hg/L	0.00005	0.0001		₹ Z
Nickel (Ni)	Total	EPA 1640	0.302	µg/L	0.005	0.0	<b>~</b>	Ą
Selenium (Se)	Total	EPA 1640	0.084	Hg/L	0.01	0.015	Ţ-	Ą.
Silver (Ag)	Total	EPA 1640	. ·	µg/L	0.005	0.01		ĄN
Thallium (TI)	Total	EPA 1640	0.019	µg/L	0.005	0.01	~	Ϋ́
Vanadium (V)	Total	EPA 1640	2.04	hg/L	0.005	0.01	<b>-</b>	¥
Zinc (Zn)	Total	EPA 1640	2.58	µg/L	0.005	0.01	·	V.

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

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# (CRG Marine Laboratories, 9uc. 2020 Dei Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

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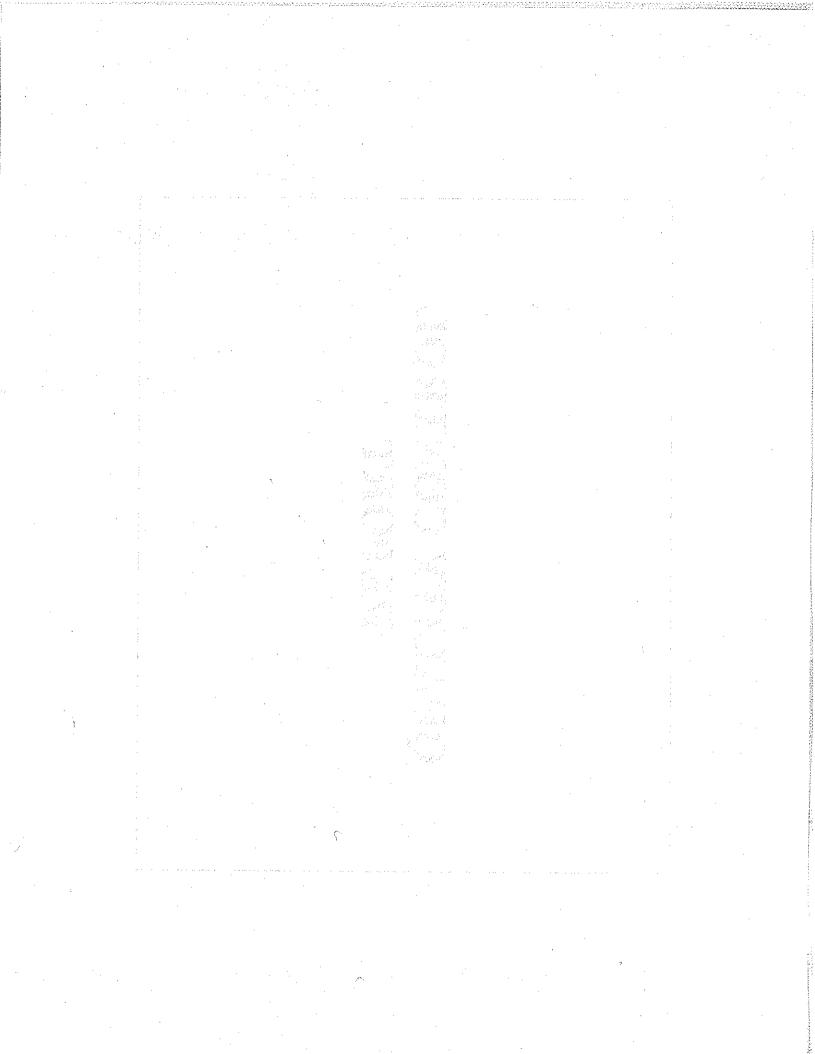
Client:	Client: Southern California Edi.	ornia Edison				บ	RG Pro	CRG Project ID:	25130
CRG ID#: 26611 Replicate #: LCM2	<b>26611</b> LCM2	Sample Description:	QAQC : Wellpoint System	LCM-CRG Seawater	ieawater	۵ ۵	Date Sampled: Date Received:		
Batch ID: Instrument:	Batch ID: 25130-12053 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman			۵۵	Date Processed: Date Analyzed:	sed: 02-Aug-05 ed: 04-Aug-05	05
CONSTITUENT	TN	FRACTION	МЕТНОВ	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	6	Total	EPA 1640	0.134	hg/L	0.01	0.015	-	NA
Arsenic (As)	-	Total	EPA 1640	1.51	µg/L	0.01	0.015	<b>*</b>	Ą
Beryllium (Be)		Total	EPA 1640	2	hg/L	0.005	0.01	<b>-</b>	¥
Cadmium (Cd)	(F)	Total	EPA 1640	0,113	hg/L	0.005	0.01	₩	AN
Chromium (Cr)	£	Total	EPA 1640	0.285	Hg/L	0.005	0.01	· <del>-</del>	Ą
Copper (Cu)		Total	EPA 1640	0.818	hg/L	0.005	0.01	τ-	AN
Lead (Pb)		Total	EPA 1640	0.011	µg/L	0.005	0.01	· ·	Ą
Mercury (Hg)		Total	EPA 1631E	0.00015	hg/L	0.00005	0.0001	-	Ϋ́
Nickel (Ni)		Total	EPA 1640	0.286	hg/L	0.005	0.01	~	Ϋ́
Selenium (Se)	·	Total	EPA 1640	Q	µg/L	0.01	0.015	~	AN
Silver (Ag)		Total	EPA 1640	Q	hg/L	0.005	0.01	τ-	AN
Thallium (TI)		Total	EPA 1640	0.016	hg/L	0.005	0.01	τ-	NA
Vanadium (V)	•	Total	EPA 1640	2.12	hg/L	0.005	0.01	·	NA
Zinc (Zn)		Total	EPA 1640	1.38	μg/L	0.005	0.01	~	NA

MDL=Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

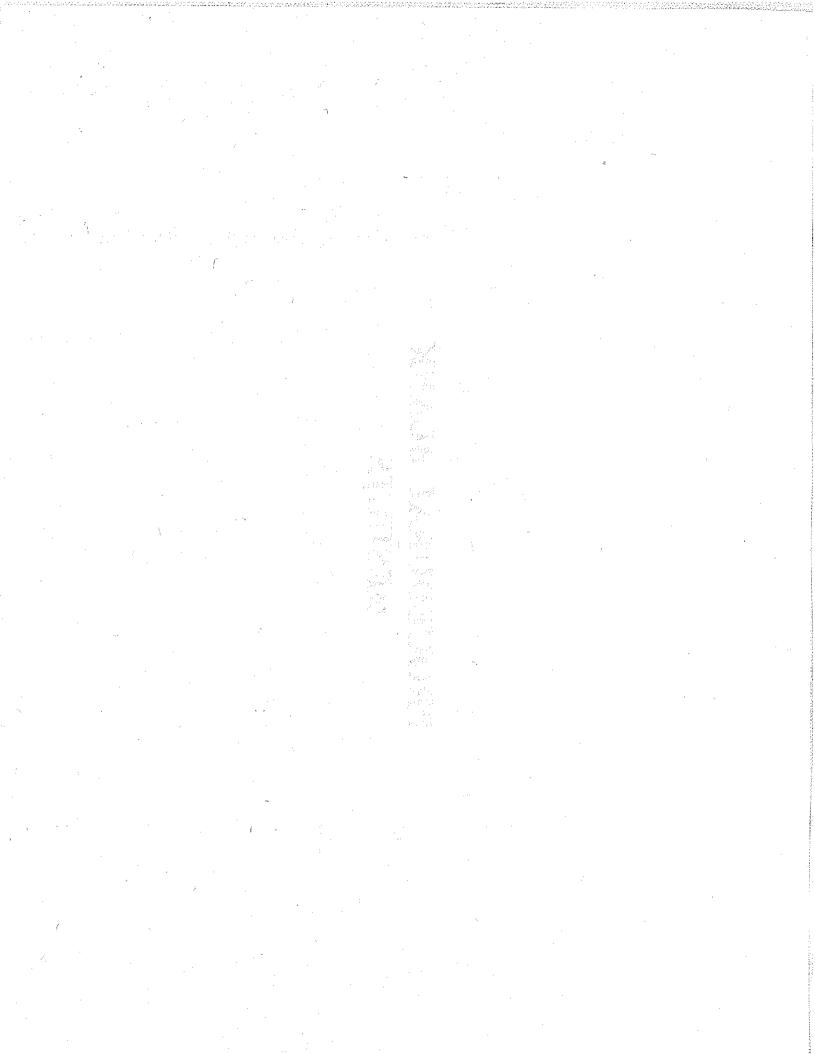
California ELAP Certificate # 2261 LCM2 26611

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## QUALITY CONTROL REPORT



## PROCEDURAL BLANK RESULTS



# **CEG Marine Laboratories, 9uc.** 2020 Del Amo Blvd., Sulte 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

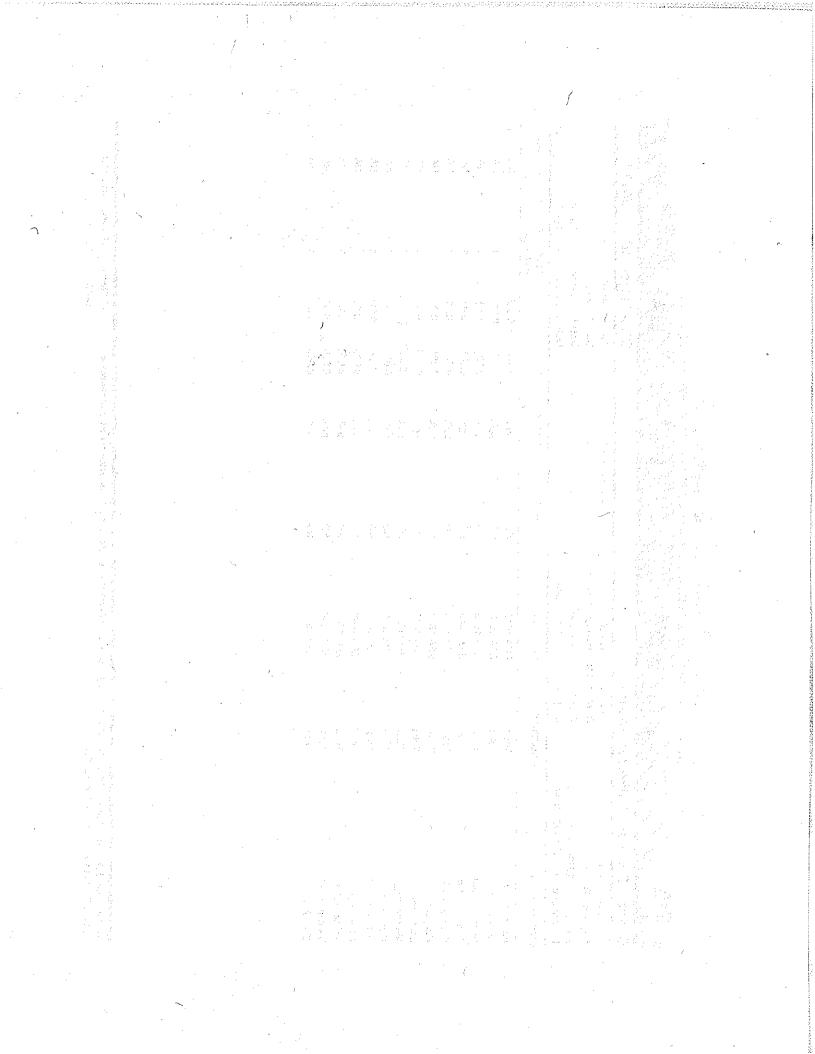
## Trace Melels

Client: Southern California Edi	fornia Edison				C	२G Pro	CRG Project ID:	25130
CRG ID#: 26608 Replicate #: B1	Sample Description:	QAQC Wellpoint System	Procedural Blank	ank	Da	Date Sampled: Date Received:	÷ ë	
<b>Batch ID:</b> 25130-12053 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	DI Water P. Hershelman			D D	Date Processed: Date Analyzed:	sed: 02-Aug-05	05 05
CONSTITUENT	FRACTION	МЕТНОВ	RESULT	UNITIS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	Q	hg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	Q.	µg/L	0.01	0.015	-	NA
Beryllium (Be)	Total	EPA 1640	Q	µg/L	0.005	0.01	-	NA
Cadmium (Cd)	Total	EPA 1640	QN	µg/L	0.005	0.01	₩.	ΑN
Chromium (Cr)	Total	EPA 1640	S	µg/L	0.005	0.01	-	ΝΑ
Copper (Cu)	Total	EPA 1640	Q	µg/L	0.005	0.01	τ-	ΝΑ
Lead (Pb)	Total	EPA 1640	S	µg/L	0.005	0.01	-	NA AN
Mercury (Hg)	Total	EPA 1631E	Q.	µg/L	0.00005	0.0001	<del></del>	NA A
Nickel (NI)	Total	EPA 1640	9	hg/L	0.005	0.01	·	NA
Selenium (Se)	Total	EPA 1640	Q	hg/L	0.01	0.015	-	ΑN
Silver (Ag)	Total	EPA 1640	2	hg/L	0.005	0.01	· -	AN
Thallium (TI)	Total	EPA 1640	2	hg/L	0.005	0.0	<del>.</del> ·	V NA
Vanadium (V)	Total	EPA 1640	QN O	µg/L	0.005	0.01	-	N N
Zinc (Zn)	Total	EPA 1640	Q	hg/L	0.005	0.01	-	Ϋ́

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

26608



## ACCURACY DATA

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# 2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 orglabs@sboglobal.net

## 

Client: Sot	Client: Southern California Edison	Edison				CRG Project ID:	25130
CRG ID#: 26611		Sample Description:	Sample QAQC Description: Wellnoint System		LCM-CRG Seawater	Date Sampled:	
Replicate #: LCS	25130-12053	Matrix:	Seawater		•	**	02-Aug-05
	AS #1 HP 4500	Analyst:	P. Hershelman		ν.		04-Aug-05
CONSTITUENT	FRACTION	ME	METHOD %	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Antimony (Sh)	Total	EPA	EPA 1640	74	25 µg/L	44 - 107%	PASS
Arcenic (Ac)	Total	Ød∃	EPA 1640	75	20 µg/L	71 - 114%	PASS
Repulling (Be)	Total	EPA	EPA 1640	78	20 µg/L	62 - 113%	PASS
Cadmine (Cd)	Total	EPA	EPA 1640	. 102	25 µg/L	69 - 120%	PASS
Chromium (Cr)	Total	EPA	EPA 1640	94	20 µg/L	85 - 133%	PASS
Conner (Cir)	Total	EP	EPA 1640	97	25 µg/L	72 - 128%	PASS
Lead (Ph)	Total	EPA	EPA 1640	115	25 µg/L	56 - 116%	PASS
Mercury (Ha)	Total	EPA	EPA 1631E	96	0.0125 µg/L	68 - 117%	PASS
Nickel (Ni)	Total	EP/	EPA 1640	96	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EP/	EPA 1640	83	25 µg/L	55 - 110%	PASS
Silver (Ad)	Total	4EP/	EPA 1640	82	20 µg/L	66 - 125%	PASS
Thalling (TI)	Total	EP/	EPA 1640	91	20 µg/L	66 - 110%	PASS
Vanadium (V)	Total	/d3	EPA 1640	102	20 µg/L	85 - 133%	PASS
Zinc (Zn)	Total	EP/	EPA 1640	71	20 µg/L	62 - 108%	PASS
<b>)</b>			•				

MDL=Method Detection Limit (CFR 40 Part 136); RL=Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND=Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261

LCS1

26611

## CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

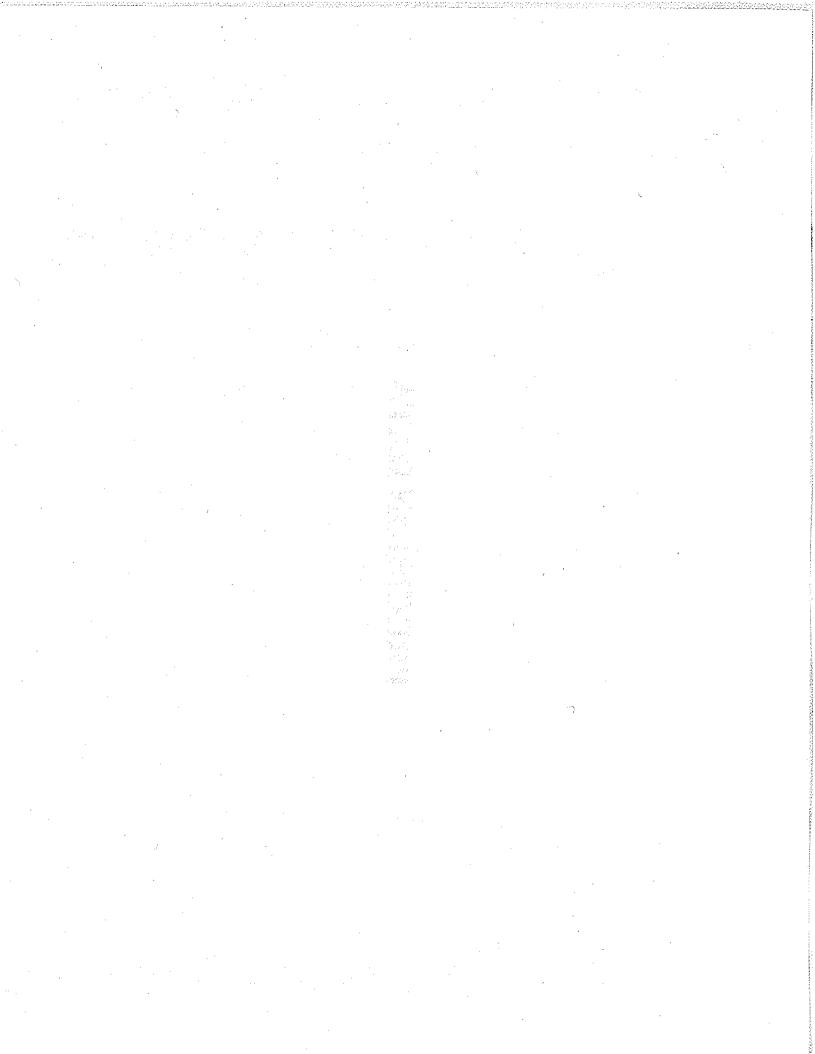
					race Metals	S			
Client:	Client: Southern California Edison	lifornia L	<b>Edison</b>				CRG Project ID:	25130	ſ
CRG ID#: 26611 Replicate #: LCS2 Batch ID: 25130 Instrument: ICPMS	CRG ID#: 26611  Replicate #: LCS2  Batch ID: 25130-12073  Instrument: ICPMS #1 HP 4500		Sample Description: Matrix: Analyst:	QAQC Wellpoint System Seawater P. Hershelman	ш.	LCM-CRG Seawater	Date Sampled:  Date Received:  Date Processed: 02-Au Date Analyzed: 04-Au	02-Aug-05 04-Aug-05	1
CONSTITUENT		FRACTION	METHOD	нор	% RECOVERY	TRUE VALUE	NCE E	COMMENT	1
Antimony (Sb)	િ	Total	EPA 1640	1640	74	25 µg/L	44 - 107%	PASS	1
Arsenic (As)		Total	EPA 1640	1640	73	20 µg/L	71 - 114%	PASS	
Beryllium (Be)	· (€	Total	EPA 1640	1640	74	20 µg/L	62 - 113%	PASS	
Cadmium (Cd)	<del>Q</del>	Total	EPA 1640	1640	104	25 µg/l.	69 - 120%	PASS	
Chromium (Cr)	<del>3</del>	Total	EPA 1640	1640	92	20 µg/L	85 - 133%	PASS	
Copper (Cu)		Total	EPA 1640	1640	100	25 µg/L	72 - 128%	PASS	
Lead (Pb)		Total	EPA:1640	1640	114	25 µg/L	56 - 116%	PASS	
Mercury (Hg)		Total	EPA 1631E	1631E	100	0.0125 µg/L	68 - 117%	PASS	
Nickel (Ni)		Total	EPA 1640	1640	26	25 µg/L	68 - 118%	PASS	
Selenium (Se)	(6	Total	EPA 1640	1640	88	25 µg/L	55 - 110%	PASS	
Silver (Ag)		Total	EPA 1640	1640	06	20 µg/L	66 - 125%	PASS	
Thallium (TI)		Total	EPA 1640	1640	06	20 µg/L ¬	66 - 110%	PASS	
Vanadium (V)	(	Total	EPA 1640	1640	100	20 µg/L	85 - 133%	PASS	
Zinc (Zn)		Total	EPA 1640	1640	. 29	.20 µg/L	62 - 108%	PASS	

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261 26611

LCS2

## PRECISION DATA



# ORG Marine Laboratories, 9uc. 2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

	<b>.</b>		Trac	Trace Metals	: :					
Client:	Client: Southern California E	rnia Edison					CRG Project ID:		25130	
CRG ID#:	26609	Sample Description:	Plant 2 Wellpoint System	Wellpo	Wellpoint System		Date Sampled: Date Received:	22-Jul-05 25-Jul-05	07:55	
Batch ID: Instrument:	Batch ID: 25130-12053 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman				Date Processed: Date Analyzed:	02-Aug-05 04-Aug-05		
CONSTITUENT	TN	FRACTION	МЕТНОБ	. R	. R2	% RPD	ACCEPTANCE		COMMENT	
				hg/L	ng/L					
Antimony (Sb)		Total	EPA 1640	0.191	0.143	53	0 - 30%	_	PASS	
Arsenic (As)		Total	EPA 1640	2.87	2.86	0	0 - 30%	_	PASS	
Cadmium (Cd)	Ŕ	Total	EPA 1640	0.031	0.032	ო	0 - 30%	_	PASS	
Chromitm (Cr)	` <del>[</del>	Total	EPA 1640	0.555	0.585	9	0 - 30%		PASS	
Copper (Cu)	· -	Total	EPA 1640	1.28	1.05	20	0 - 30%		PASS	
Lead (Pb)		Total	EPA 1640	0.555	0.527	വ	0 - 30%	_	ASS	
Mercury (Ha)		Total	EPA 1631E	0.00158	0.00159	<del>-</del>	0 - 30%		PASS	
Nickel (Ni)	8	Total	EPA 1640	0.364	0.391	7	0 - 30%	_	PASS	
Selenium (Se)	(e)	Total	EPA 1640	0.022	0.116	136	0 - 30%		FAIL	
Vanadium (V)	` \	Total	EPA 1640	5.01	5.02	0	0 - 30%		PASS	
7inc (7n)		Total	EPA 1640	78.2	79.5	7	0 - 30%		PASS	
( - ) ( - )					*** **	•				

California ELAP Certificate # 2261

## CRG Marine Laboratories, Inc.

2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

			Trace Metals	e Metals	IIS.			
Client:	Southern California Edison	fornia Edison				0	CRG Project ID:	25130
CRG ID#:	26611	Sample Description:	QAQC Wellpoint System	CCM-C	LCM-CRG Seawater		Date Sampled: Date Received:	
Batch ID: Instrument:	Batch ID: 25130-12053 Instrument: ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman			. A A	# .	02-Aug-05 04-Aug-05
CONSTITUENT	L	FRACTION	МЕТНОБ	LCM1 LCM1	LCM2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	(c	Total	EPA 1640	0.095	0.134	34	0 - 30%	FAIL
Arsenic (As)	-	Total	EPA 1640	1.34	1.51	12	0 - 30%	PASS
Cadmium (Cd)	- ਹਿ	Total	EPA 1640	0.115	0.113	, (V	0 - 30%	PASS
Chromium (Cr)	£	Total	EPA 1640	0.255	0.285	1	0 - 30%	PASS
Copper (Cu)	•	Total	EPA 1640	0.839	0.818	ო	0 - 30%	PASS
Lead (Pb)		Total	EPA 1640	0.029	0.011	06	0 - 30%	FAIL
Mercury (Hg)		Total	EPA 1631E	0.00021	0.00015	33	0 - 30%	FAIL
Nickel (Ni)		Total	EPA 1640	0.302	0.286	ις	0 - 30%	PASS
Thallium (TI)		Total	EPA 1640	0.019	0.016	17	0 - 30%	PASS
Vanadium (V)	•	Total	EPA 1640	2.04	2.12	4	0 - 30%	PASS
Zinc (Zn)		Total	EPA 1640	2.58	1.38	61	0 - 30%	FAIL
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MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

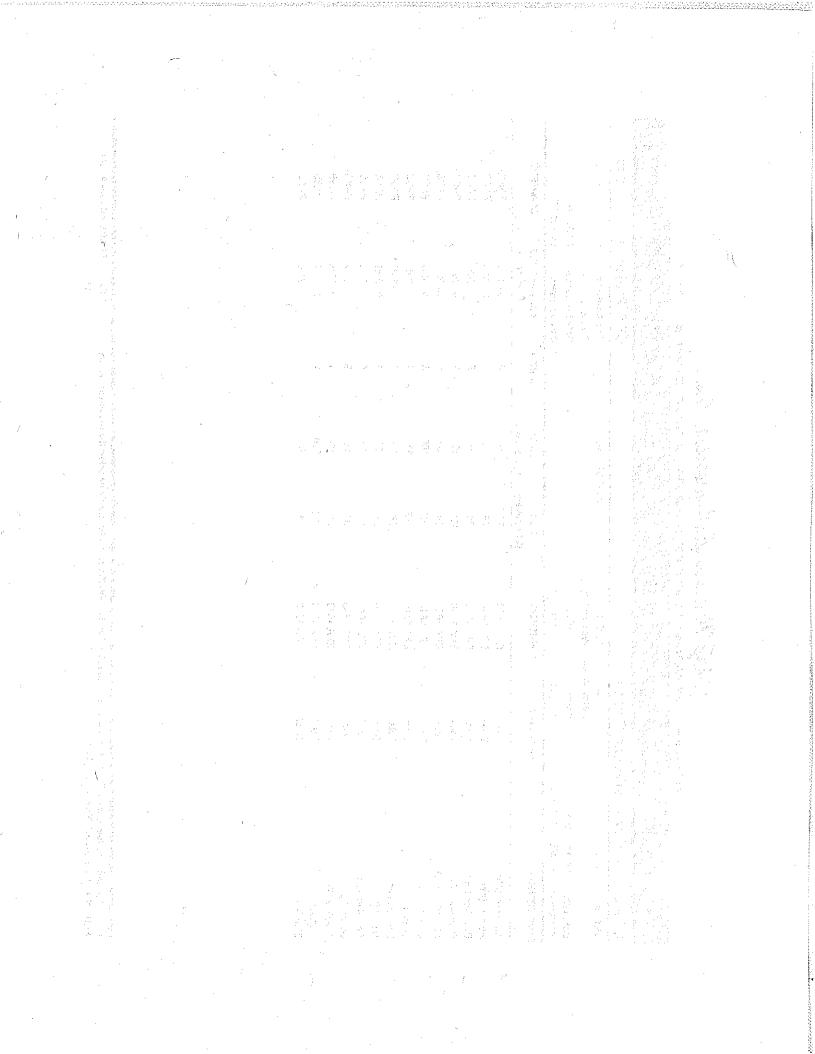
California ELAP Certificate # 2261 26611

# ORG Marine Laboratories, 9nc. 2020 Del Amo Bivd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

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Client:	Client: Southern California Edison	ornia Edison				)	CRG Project ID:	D: 25130	
CRG ID#:	26611	Sample Description:	QAQC Wellpoint System	о-WO7	LCM-CRG Seawater	u	Date Sampled: Date Received:		
Batch ID: Instrument:	<b>Batch ID:</b> 25130-12053 <b>Instrument:</b> ICPMS #1 HP 4500	Matrix: Analyst:	Seawater P. Hershelman		2.		Date Processed: Date Analyzed:	02-Aug-05 04-Aug-05	
CONSTITUENT	FZ	FRACTION	МЕТНОБ	LCS1 % Recovery	LCS2 % Recovery	% RPD	ACCEPTANCE RANGE	COMMENT	
Antimony (Sb)	(q	Total	EPA 1640	74	74	0	0 - 30%	PASS	
Arsenic (As)		Total	EPA 1640	75	73	ო	0 - 30%	PASS	
Beryllium (Be)	(e)	Total	EPA 1640	78	74	5	0 - 30%	PASS	
Cadminm (Cd)	<b>'Q</b>	Total	EPA 1640	102	104	8	0 - 30%	PASS	
Chromium (Cr)	(તે	Total	EPA 1640	46	95	-	0 - 30%	PASS	
Copper (Cu)		Total	EPA 1640	97	100	ო	0 - 30%	PASS	
Lead (Pb)		Total	EPA 1640	115	114	<del>-</del>	0 - 30%	PASS	
Mercury (Hg)		Total	EPA 1631E	96	100	4	0 - 30%	PASS	
Nickel (Ni)	**	Total	EPA 1640	96	26	Ψ.	0-30%	PASS	
Selenium (Se)	(e)	Total	EPA 1640	83	88	9	0 - 30%	PASS	
Silver (Ag)		Total	EPA 1640	. 82	90	თ	0 - 30%	PASS	
Thallium (TI)	_	Total	EPA 1640	91	06	-	0 - 30%	PASS	
Vanadium (V)	()	Total	EPA 1640	102	100	7	0 - 30%	PASS	
Zinc (Zn)		Total	EPA 1640	71	29	တ	0 - 30%	PASS	

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.



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### RESULTS TO:

Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> Floor Westminster, CA 92683-5202

### INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

CRG Marine Laboratories, Inc. 2020 Del Amo Blvd., Suite 200 Torrance, CA 90503

	To	orrance, CA	90503
Southern Calif. Edison P.O. Number Please return and direct inquires to:	Shav	4, Release A	Tel: (714) 895-0525 Fax: (714) 895-051
In all correspondence refer to projec	t: Wellp	oint System	Email: snawn.simmons@sce.com
Sample(s) are submitted for treatme	nt/disposition	as described	
Sample ID	Date Collected	Time Collected	Description/Analytes
Plant 2 Wellpoint System	7-22-05	0755	Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn
			By EPA 1640
Tank Farm Wellpoint System	7-12-05	0715	Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn
			By EPA 1640
			Sample matrix is brackish
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a. · · · · · · · · · · · · · · · · · · ·	n I na ta	· ·	36609-266
Special Instructions:			
Analytical report shall include b	oth ML and	MDL for e	ach analyte.
Sample results greater than or equa	I to the report	ed ML, sha	l be reported as measured.
The estimated concentration shall b	e reported if	the result is	$<$ ML, but $\ge$ MDL.
		-	
<u> </u>			1
Chain of Custody:	•	1.95	N 000
Juli-	Date:	25-63	Date: 7/2-5/6
Relinquished By	Time:	67)	Received By Time:
	Date:		Date:
Relinquished By	Time		Received By Time:



STL Los Angeles 1721 South Grand Avenue Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921 www.stl-inc.com

August 16, 2005

STL LOT NUMBER: **E5G270407** PO/CONTRACT: V2033901

Shawn Simmons
Southern California Edison Com
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683

Dear Mr. Simmons,

This report contains the analytical results for the two samples received under chain of custody by STL Los Angeles on July 26, 2005. These samples are associated with your Wellpoint System project.

STL Los Angeles certifies that the test results provided in this laboratory meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the cooler received for this project can be found on the Project Receipt Checklist. Historical control limits for the LCS are used to define the estimate of uncertainty for a method. All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

Preliminary results were sent via facsimile on August 12, 2005.

This report shall not be reproduced except in full, without the written approval of the laboratory.

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This report contains		pages.



### **CASE NARRATIVE**

1) The following were found upon samples receipt:

- Sampling date and time were not listed on the chain of custody. The laboratory used the relinquished date as the sampling date.

- The 8270C bottles were labeled as having Sodium Thiosulfate. But pH is neutral.

The above situations were brought to your attention on July 30, 2005.

2) Method 8321A was performed at STL Denver. Located at 4955 Yarrow Street, Arvada, CO 80002. Telephone No.: 303-736-0100.

The reporting limits for both samples were elevated due to matrix problem.

There was insufficient sample volume provided to prepare a project-specific MS/MSD for 8270C analysis. A duplicate LCS has been prepared to provide accuracy and precision measurement for the samples in this project.

If you have any questions, please feel free to call me at (714) 258-8610.

Sincerely,

Marisol Tabirara Project Manager

cc: Project File





MAIL REPORT AND ONE ~ COPY OF INVOICE TO:

MAIL ORIGINAL AND ONE COPY OF INVOICE TO:

Attn.: Shawn Simmons Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

E56270407

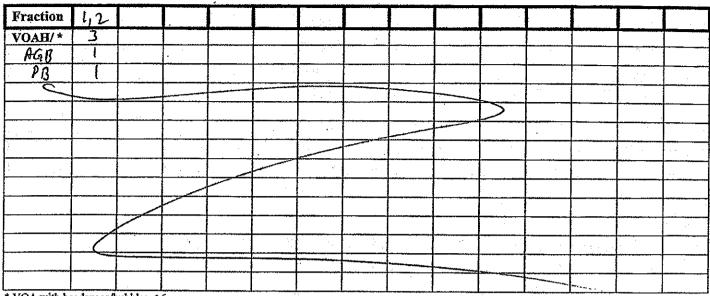
## SAMPLE ANALYSIS MEMORANDUM TO:

Severn Trent Laboratories (STL)

	1721 So	uth Grand Av	venue	
	Santa	Ana, CA 92	705	
			<del></del>	
Southern Calif. Edison P.O. Number:	V/203	3901	SCE Accounting:	1220-6358-097-098
Please return and direct inquires to:	S. Sin		Tel: (714) 895-0525	
In all correspondence refer to project:	Wellpoin		Email: shawn.simmons	
In the Control of the	VI CIIPCII			
Sample(s) are submitted for treatment/	disposition as o	described belo	IW.	A grande of
	-	·		
Sample ID	Date	Time	Description/Analytes	
	Collected	Collected -		
Plant 2 Wellpoint System	. :		Perchlorate by EPA Met	hod 8321A
Tank Farm Wellpoint System			Perchlorate by EPA Met	hod 8321A
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			fee of the same of the same	1944 Me
Plant 2 Wellpoint System			VOCs by Method 8260I	3, 3 x 40-mL vials
Tank Farm Wellpoint System			VOCs by Method 8260I	3, 3 x 40-mL vials
Plant 2 Wellpoint System			SVOCs by Method 8270	), 1-L glass
Tank Farm Wellpoint System			SVOCs by Method 8270	), 1-L glass
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STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 7-27-05	
LIMS Lot #: £54270407 Quote #: 53770	
Client Name: S. C. E. Project:	
Received by: AU Date/Time Received: 7-26-05 10:15	
Delivered by: Client STL DHL Fed Ex UPS Other	
Denvered by . Lg Onone _ br _ britial/	
Custody Seal Status Cooler:	
Custody Seal Status Cooler: [Intact [Broken [D]None	
Custody Seal Status Samples: Intact Broken Wone	<del></del>
Custody Seal #(s):	
Sampler Signature on COC Yes No	<del></del> .
IR Gun # Correction Factor C IR passed daily verification Yes No	
Temperature - BLANK $\leq 0$ °C +/- $\leq 0$ CF = $\frac{4.6 \text{ °C}}{\text{C}}$	
Temperature - COOLER (°C°C°C°C) =avg °C +/CF =°C	
Samples outside temperature criteria but received within 6 hours of final sampling Yes	
Sample Container(s): STL-LA 4 Client	
One COC/Multiple coolers: Yes-# coolers All within temp criteria Yes No 4N/A	
One or more coolers with an anomaly:  Yes - (fill out PRC for each)	
Samples: DIntact Broken Other	·
pH measured: Wes Anomaly (if checked, notify lab and file NCM)	
Anomalies: No Yes - complete CUR and Create NCM NCM #	
Complete shipment received in good condition with correct temperatures, containers, labels, volumes	
preservatives and within method specified holding times. Yes	
Labeled by: Labeling checked	
***************************************	erija Grafi
Turn Around Time: RUSH-24HR RUSH-48HR RUSH-72HR MORMAL	/s
Short-Hold Notification: pH Wet Chem Metals (Filter/Pres) Encore >1/2 HT expired.	
Outside Analysis(es) (Test/Lab/Date Sent Out):	
Perchlorate	
	*
**************************************	
Headspace Anomaly DN/A 7-27-00	SAV
Lab ID Container(s) # Headspace Lab ID Container(s) # Headspace	
> 6mm	
	m



\* VOA with headspace/bubbles < 6mm

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Re	ceipt Anomaly Form N/A 7-27-05-144
COOLERS     □ Not Received (received COC only)     □ Leaking     □ Other:	- CUSTODY SEALS (COOLER(S) CONTAINER(S)  U None U Not Intact U Other  U Other
TEMPERATURE (SPECS 4 ± 2°C)  □ Cooler Temp(s) □ Temperature Blank(s)  CONTAINERS	CHAIN OF CUSTODY (COC)     □ Not relinquished by Client; No date/time relinquished     □ Incomplete information provided     □ Other □ COC not received — notify PM
☐ Leaking ☐ Voa Vials with Bubbles > 6mm ☐ Broken ☐ Extra ☐ Without Labels ☐ Other:	■ LABELS  □ Not the same ID/info as in COC  □ Incomplete Information □ Markings/Info illegible □ Torn
SAMPLES  □ Samples NOT RECEIVED but listed on COC □ Samples received but NOT LISTED on COC □ Logged based on Label Information □ Logged based on info from other samples on COC □ Logged according to Work Plan □ Logged on HOLD UNTIL FURTHER NOTICE	☐ Will be noted on COC—Client to send samples with new COC ☐ Mislabeled as to tests, preservatives, etc. ☐ Holding time expired — list sample ID and test ☐ Improper container used ☐ Not preserved/Improper preservative used ☐ Improper pH Lab to preserve sample and document ☐ Insufficient quantities for analysis ☐ Other
The 8270 bottles are	labeled as having Sodrum
☐ Corrective Action Implemented: ☐ Client Informed: verbally on	: □ In writing on By:ample(s) processed "as is."
Logged by/Date:	PM Review/Date: MT 7 30 07



# Analytical Report

E5G270407

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# **ANALYTICAL REPORT**

Wellpoint System

Lot #: E5G270407

Shawn Simmons

Southern California Edison Com

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara Project Manager

August 12, 2005

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# **EXECUTIVE SUMMARY - Detection Highlights**

#### B5G270407

		ALMINIO STATES	. *	REPORTING		ANALYTICAL	
•	PARAMETER	The second second second second second second second second second second second second second second second se	RESULT	LIMIT U	NITS	METHOD	~~~~
	NO	DETECTABLE PARAMETE	RS				

# **METHODS SUMMARY**

# E5G270407

PARAMETER	[184] (200 m) 20	ANALY METHO		PREPAI METHOI	RATION D
Semivolatile Organic Volatile Organics by 8321A Perchlorate IC	y GC/MS		8270C 8260B 8321A	SW846	3510C 5030B/826 8321A

#### References:

SW846

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

#### E5G270407

WO # SAM	PLE# CLIENT SAMPLE ID	grand that the second of			CIME
HGERP 0		: system Int system	· · · · · · · · · · · · · · · · · · ·	07/26/05 07/26/05	
		* * *		State of the	

#### NOTE (S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit,
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

#### Client Sample ID: PLANT 2 WELLPOINT SYSTEM

#### GC/MS Volatiles

Lot-Sample #:	E5G270407-001.	Work Order #	: HGERP1AA	Matrix	W
n-1 6	05/05/05	· · · · · · · · · · · · · · · · · · ·	- 07/06/05 30-	10 MG Dave #	- 603600

Date Sampled...: 07/26/05 Date Received..: 07/26/05 10:18 MS Run #.....: 5216399

Prep Date....: 08/03/05 Analysis Date..: 08/04/05

Prep Batch #...: 5216667 Analysis Time..: 03:30

Dilution Factor: 1

Analyst ID...: 015590 Instrument ID.:: MSQ
Method.....: SW846 8260B

	and the second	REPORTING	i ur i i i i i i i i i i i i i i i i i i	a de material de la caractería de la car
PARAMETER	RESULT	LIMIT	UNITS	MDL
Chloromethane	ND (2.2) Stept per sole.	.2.0 <sub>1.131111111111</sub>	ug/L	0.30
Chloroethane	The street was a second	2.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
1,1-Dichloroethene	ND	1.0	ug/L	0.30
Methylene chloride	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
Chloroform	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
Carbon tetrachloride	ND	1.0	ug/L	0.30
Benzene	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
Bromodichloromethane	ND.	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
1,2-Dichloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chlorobenzene	ND	1.0	ug/L	0.30
Ethylbenzene	ND	1.0	ug/L	0.20
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Xylenes (total)	ND	1.0	ug/L	0.80
Vinyl chloride	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Acrolein	ND	20	ug/L	12
Acrylonitrile	ND	20	ug/L	10
2-Chloroethyl vinyl ether	ND .	5.0	ug/L	2.0
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Bromofluorobenzene	90	$(75 \sim 130)$		

•	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Bromofluorobenzene	90	(75 ~ 130)		
1,2-Dichloroethane-d4	106	(65 - 135)		
Toluene-d8	. 92	(80 - 130)		

#### Client Sample ID: PLANT 2 WELLPOINT SYSTEM

#### GC/MS Semivolatiles

Lot-Sample #...: E5G270407-001 Work Order #...: HGERP1AC

Date Sampled...: 07/26/05

Prep Date....: 07/28/05 Prep Batch #...: 5209573

Dilution Factor: 1

Analyst ID....: 007050

Matrix..... W Date Received..: 07/26/05 10:18 MS Run #.....:

Analysis Date..: 07/29/05

Analysis Time..: 13:04

Instrument ID..: MSS

Method.....: SW846 8270C

10 m			4.	REPOR	TING		
PARAMETER		RESULT	e	LIMIT		UNITS	MDL
N-Nitrosodimethylamine	1.1	ND	.3 -	20		ug/L	7.0
Benzidine		ND		20	110	ug/L	13
1,2-Diphenylhydrazine		ND		10		ug/L	2.0
(as Azobenzene)			4.5		4.31	2.	
Acenaphthene	1200	ND		10		ug/L	3.0
Acenaphthylene	1.5	ND	*	10	s (2	ug/L	2.0
Anthracene	1.0	ND	÷ .	10	197	ug/L	2.0
Benzo(a) anthracene	251	ND		10	1.2	ug/L	2.0
Benzo(b) fluoranthene	14 <u>(</u> 1	ND		10	.:	ug/L	5.0
Benzo(k) fluoranthene		ND	į.	10	.*	ug/L	5.0
Benzo(ghi)perylene	1.50	ND		10	4,7	ug/L	2.0
Benzo (a) pyrene	1	ND	•	10		ug/L	2.0
Benzoic acid		ND		50		ug/L	20
Benzyl alcohol	1 1	ND		10		ug/L	5.0
bis(2-Chloroethoxy)	42 5.00	ND	\$ .	1.0		ug/L	2.0
methane					-, 177	-	
bis(2-Chloroethyl)-	1.5	ND		10		ug/L	3.0
ether	200						
bis(2-Chloroisopropyl)	- N. P. C.	ND		10	11	ug/L	4.0
ether						-	
bis(2-Ethylhexyl)	1.1 ° 1.	ND		10		ug/L	4.0
phthalate	100					-	
4-Bromophenyl phenyl	100	ND	•	10	·	ug/L	2.0
ether					**		
Butyl benzyl phthalate		ND	•	10		ug/L	4.0
Carbazole	10 m	ND		10		ug/L	2.0
4-Chloroaniline	1, 1,	ND		10		ug/L	3.0
4-Chloro-3-methylphenol	100	ND		10	100	ug/L	2.0
2-Chloronaphthalene	and the	ND		10		ug/L	3.0
2-Chlorophenol		ND		10		ug/L	3.0
4-Chlorophenyl phenyl	2.5%	ND	7	10		ug/L	2.0
ether			•				
Chrysene	£ 15	ND		10		ug/L	2.0
Dibenz(a,h)anthracene	100	ND		10		ug/L	5.0
Dibenzofuran	1 1 1	ND	. 17	10		ug/L	2.0
Di-n-butyl phthalate		ND		10		ug/L	2.0
1,2-Dichlorobenzene		ND	•	10		ug/L	3.0

#### Client Sample ID: PLANT 2 WELLPOINT SYSTEM

#### GC/MS Semivolatiles

	2.7	131	REPO	RTING			
PARAMETER	RESU	LT		T	UNITS	MDL	er er er er er er er er er er er er er e
1,3-Dichlorobenzene	ND		10		ug/L	2.0	
1,4-Dichlorobenzene	ND		10	- 14,445	ug/L	3.0	
3,3'-Dichlorobenzidine	ND		50	J. 1145	ug/L	5.0	
2,4-Dichlorophenol	ND		10		ug/L	5.0	
Diethyl phthalate	ND	ereciae	10		ug/L	2.0	
2,4-Dimethylphenol	ND	godga.	10	A straight	ug/L	5.0	1.00 mg/s/2.00 m
Dimethyl phthalate	ND		10	.5	ug/L	2.0	
4,6-Dinitro-	ND	7.5	50	5.4	ug/L	1.0	
2-methylphenol		f .		e .	_	e gyent e	
2,4-Dinitrophenol	ND	*	50		ug/L	15	Bridge Committee
2,4-Dinitrotoluene	ND		10	+1.44	ug/L	2.0	
2,6-Dinitrotoluene	ND	0.0	10		ug/L	2.0	
Di-n-octyl phthalate	ND	.5	10		ug/L	4.0	and the second
Fluoranthene	ND		10	200	ug/L	2.0	*
Fluorene	ND		10	2,141	ug/L	2.0	
Hexachlorobenzene	ND		10	1.57	ug/L	5.0	
Hexachlorobutadiene	ND		10	44.1	ug/L	2.0	a sa tarah keleb
Hexachlorocyclopenta-	ND		50		ug/L	6.0	
diene				:			ing a second control of the second control o
Hexachloroethane	ND		10		ug/L	3.0	44 - 25 - 24 25
Indeno(1,2,3-cd)pyrene	ND		10	+ .1	ug/L	2.0	
Isophorone	ND		10		ug/L	3.0	y and the second
2-Methylnaphthalene	. ND		10		ug/L	3.0	and the second
2-Methylphenol	ND		10		ug/L	5.0	y 180
3-Methylphenol &	ND		10		ug/L	2.0	
4-Methylphenol					_		
Naphthalene	ND	4	10	. 1	ug/L	3.0	and the second
2-Nitroaniline	ND		50		ug/L	10	
3-Nitroaniline	ND	1.	50		ug/L	5.0	1.1
4-Nitroaniline	ND		50		ug/L	10	
Nitrobenzene	ND	. *	10		ug/L	5.0	4
2-Nitrophenol	ND		10,		ug/L	4.0	e e e
4-Nitrophenol	ND		50		ug/L	10	
N-Nitrosodiphenylamine	ND		10		ug/L	2.0	
N-Nitrosodi-n-propyl-	ND		10		ug/L	4.0	
amine				+4,			and the same
Pentachlorophenol	ND		50		ug/L	10	ing and the second
Phenanthrene	ND		10		ug/L	2.0	
Phenol	ND		10		ug/L	2.0	
Pyrene	ND	4	10	11	ug/L	3.0	
1,2,4-Trichloro-	ND		10	**	ug/L	5:0	
benzene	•			1.4	-		
2,4,5-Trichloro-					ug/L	5.0	

(Continued on next page)

phenol

# Client Sample ID: PLANT 2 WELLPOINT SYSTEM

# GC/MS Semivolatiles

Lot-Sample #: E5G270407-001	Work Order	#:	HGERP1AC	Matrix.	••••••	W
PARAMETER	RESULT	i t <sup>ir</sup> iki me j		UNITS	MDL	
2,4,6-Trichloro- phenol	ND (24.27)	12	10 Gregoria (1922) - 1940	ug/L	2.0	
SURROGATE	PERCENT RECOVERY		RECOVERY LIMITS			anta a mala
2-Fluorobiphenyl 2-Fluorophenol Phenol-d5	66 41 26		(45 - 110) (10 - 75 ) (10 - 60 )			
2,4,6-Tribromophenol Terphenyl-d14	90 77		(30 - 125) (35 - 125)			
Nitrobenzene-d5	68		(40 - 110)			

### Client Sample ID: PLANT 2 WELLPOINT SYSTEM

# HPLC ..... step sk

Lot-Sample #: E5G270407-001 Date Sampled: 07/26/05 Prep Date: 08/05/05 Prep Batch #: 5218074 Dilution Factor: 10 Analyst ID: 004626	Date Received: Analysis Date: Analysis Time:	07/26/05 10:18 08/06/05 18:46 LCMS1	MS Run #	: W
PARAMETER Perchlorate	RESULT ND	REPORTING LIMIT UNI 0.10 ug/		OL

#### Client Sample ID: TANK FARM WELLPOINT SYSTEM

#### GC/MS Volatiles

Lot-Sample #...: E5G270407-002 Work Order #...: HGEVQ1AA Matrix..... W

Date Sampled...: 07/26/05 Date Received..: 07/26/05 10:18 MS Run #..... 5216399

Prep Date....: 08/03/05 Analysis Date..: 08/04/05 Prep Batch #...: 5216667 Analysis Time..: 03:54

Dilution Factor: 1

Analyst ID....: 015590 Instrument ID..: MSQ

Method : . SW846 8260B

			4.15	REPOR	RTING		•	
PARAMETER		RESULT	Ç SA	LIMIT	•	UNITS	MDL	
Chloromethane		ND	11 N	2.0		ug/L	0.30	taring the second
Chloroethane		ND		2.0		ug/L	0.30	er er er er er er er er er er er er er e
Bromomethane		ND	e e	2.0		ug/L	1.0	a de tagazena a
1,1-Dichloroethene		ND		1.0		ug/L	0.30	C.VP
Methylene chloride		ND	1	1.0		ug/L	0.30	- 1The first 1
trans-1,2-Dichloroethene		ND		1.0	•	ug/L	0.30	
1,1-Dichloroethane	11	ND	Ex-	1.0	1.57	ug/L	0.20	$(\gamma,\gamma) \in \mathcal{P}(\mathcal{P}^{1}, \gamma, \gamma, \gamma, \gamma)$
Chloroform	•	ND	e e	1.0		ug/L	0.30	Definition Administra
1,1,1-Trichloroethane		ND		1.0	114	ug/L	0.20	11.79 <i>u</i> f s
Carbon tetrachloride		ND	•	1.0		ug/L	0.30	i singlikan e
Benzene		ND		1.0	• *	ug/L	0.30	200 年5. )5.C有的
Trichloroethene	: . · ·	ND ·	į.	1.0	***	ug/L	0.30	ing Newson
1,2-Dichloropropane	- 1	ND		1.0	1.19	ug/L	0.30	man alba da
Bromodichloromethane		ND	-	1.0	11	ug/L	0.30	
cis-1,3-Dichloropropene	* *	ND ·		1.0		ug/L	0.30	
Toluene		ND		1.0		ug/L	0.30	ti mari e ti
1,1,2-Trichloroethane	11.1	ND	÷	1.0		ug/L	0.30	
1,2-Dichloroethane		ND		1.0		ug/L	0.40	
Tetrachloroethene		ND		1.0	,	ug/L	0.30	
Dibromochloromethane		ND		1.0		ug/L	0.40	
Chlorobenzene	.*	ND		1.0		ug/L	0.30	
Ethylbenzene		ND		1.0		ug/L	0.20	1. 4. 1.
trans-1,3-Dichloropropene	-	ND		1.0	+ 417	ug/L	0.50	
Xylenes (total)		ND		1.0		ug/L	0.80	
Vinyl chloride		ND		1.0		ug/L	0.30	
Bromoform		ND		1.0		ug/L	0.30	
1,1,2,2-Tetrachloroethane	. *	ND		1.0		ug/L	0.40	a service
Acrolein		ND		20		ug/L	12	
Acrylonitrile	. 7.	ND	•	20	1	ug/L	10	a de la desta de la composición della composició
2-Chloroethyl vinyl ether		ND		5.0	11.5	ug/L	2.0	ta it in the
								i i se e provincia
		PERCEI	T	RECO\	ÆRY			****
SURROGATE		RECOVI	ERY	LIMI	'S	_		175
Bromofluorobenzene		90		(75 -	- 130)			the second second
1,2-Dichloroethane-d4	· · · · ·	106	: .	(65 -	- 135)			* 22.
Toluene-d8		97	. :"	(80 -	- 130)		•	de destruir de

#### Client Sample ID: TANK FARM WELLPOINT SYSTEM

#### GC/MS Semivolatiles

Lot-Sample #...: E5G270407-002 Work Order #...: HGEVQ1AC Matrix.....: W

Date Sampled...: 07/26/05 Date Received..: 07/26/05 10:18 MS Run #....:

Prep Date....: 07/28/05 Analysis Date..: 07/29/05

Prep Batch #...: 5209573 Analysis Time..: 13:33

Dilution Factor: 1

Analyst ID....: 007050 Instrument ID..: MSS

Method..... SW846 8270C

		Medical State	REPORTING		
PARAMETER		RESULT	LIMIT	UNITS	MDL
N-Nitrosodimethylamine	$T^*x=$	ND	20	ug/L	7.0
Benzidine	1 1 1	ND	20	ug/L	13
1,2-Diphenylhydrazine	$\mathcal{P}(Y,y_{1})$	ND	10	ug/L	2.0
(as Azobenzene)	1000		41.7	_	
Acenaphthene		ND	10	ug/L	3.0
Acenaphthylene	1.5	ND	10	ug/L	2.0
Anthracene	100	ND ::	10	ug/L	2.0
Benzo(a)anthracene	191	ND .	10	ug/L	2.0
Benzo(b)fluoranthene	7 - 5 -	ND	10	ug/L	5.0
Benzo(k)fluoranthene	14	ND	10	ug/L	5.0
Benzo(ghi)perylene	2 5.25	ND	10	ug/L	2.0
Benzo(a)pyrene		ND	10	ug/L	2.0
Benzoic acid	ar iya	ND	50	ug/L	20
Benzyl alcohol	14, 14	ND	10	ug/L	5.0
bis(2-Chloroethoxy)	44.	ND	10	ug/L	2.0
methane	10.3	•	.41.		44.17.27
bis(2-Chloroethyl)-		ND	10	ug/L	3.0
ether			1.0		Comprehensive Annest
bis(2-Chloroisopropy1)	44,75	ND	10	ug/L	4.0
ether	•				Amphaga a taga
bis(2-Ethylhexyl)	7	ND	10	ug/L	4.0
phthalate	455				and the second
4-Bromophenyl phenyl	33	ND	10	ug/L	2.0
ether		er e			the state of the state of the
Butyl benzyl phthalate		ND	10	ug/L	4.0
Carbazole		ND	10	ug/L	2.0
4-Chloroaniline		ND	10	ug/L	3.0
4-Chloro-3-methylphenol	in a	ND	10	ug/L	2.0
2-Chloronaphthalene		ND	10	ug/L	3.0
2-Chlorophenol		ND	10	ug/L	3.0
4-Chlorophenyl phenyl		ND	10	ug/L	2.0
ether		13 3 4 5 7 13 1	4 1 1 4 A		
Chrysene		ND	10	ug/L	2.0
Dibenz(a,h)anthracene		ND	10	ug/L	5.0
Dibenzofuran		ND	10	ug/L	2.0
Di-n-butyl phthalate	į.	ND	10	ug/L	2.0
1,2-Dichlorobenzene		ND	10	ug/L	3.0

# Client Sample ID: TANK FARM WELLPOINT SYSTEM

#### GC/MS Semivolatiles

Lot-Sample #...: E5G270407-002 Work Order #...: HGEVQ1AC Matrix..... W

•	gwar tha an arait	REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
1,3-Dichlorobenzene	ND	10	ug/L	2.0
1,4-Dichlorobenzene	ND	10	ug/L	3.0
3,3'-Dichlorobenzidine	ND	50	ug/L	5.0
2,4-Dichlorophenol	ND A CARACTER	10	ug/L	5.0
Diethyl phthalate	ND	10	ug/L	2.0
2,4-Dimethylphenol	ND	10	ug/L	5.0
Dimethyl phthalate	ND	10	ug/L	2.0
4,6-Dinitro-	ND	50	ug/L	10
2-methylphenol	e Serve Tuese	31.17	<u>.</u>	State Berger States
2,4-Dinitrophenol	ND	50	ug/L	15
2,4-Dinitrotoluene	ND	10	ug/L	2.0
2,6-Dinitrotoluene	ND	10	ug/L	2.0
Di-n-octyl phthalate	ND	1.0	ug/L	4.0
Fluoranthene	ND	10	ug/L	2.0
Fluorene	ND	10	ug/L	2.0
Hexachlorobenzene	ND	10	ug/L	5.0
Hexachlorobutadiene	ND	10	ug/L	2.0
Hexachlorocyclopenta-	ND	50	ug/L	6.0
diene			3,	· · ·
Hexachloroethane	ND	10	ug/L	3.0
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	2.0
Isophorone	ND	10	ug/L	3.0
2-Methylnaphthalene	ND	10	ug/L	3.0
2-Methylphenol	ND	10	ug/L	5.0
3-Methylphenol &	ND	10	ug/L	2.0
4-Methylphenol			•	•
Naphthalene	ND	10	ug/L	3.0
2-Nitroaniline	ND	50	ug/L	10
3-Nitroaniline	ND	50	ug/L	5.0
4-Nitroaniline	ND	50	ug/L	10
Nitrobenzene	ND	10	ug/L	5.0
2-Nitrophenol	ND	10	ug/L	4.0
4-Nitrophenol	ND	50	ug/L	10
N-Nitrosodiphenylamine	ND	10	ug/L	2.0
N-Nitrosodi-n-propyl-	ND	10	ug/ь	4.0
amine	<del></del>			
Pentachlorophenol	ND	50	ug/L	10
Phenanthrene	ND	10	ug/L	2.0
Phenol	ND	10	ug/L	2.0
Pyrene	ND	10	ug/L	3.0
1,2,4-Trichloro-	ND	10	ug/L	5.0
benzene	<del></del>	<del></del>		
2,4,5-Trichloro-	ND	10	ug/L	5.0
phenol	<del></del>	<del></del> .	g,	
t				

#### Client Sample ID: TANK FARM WELLPOINT SYSTEM

#### GC/MS Semivolatiles

PARAMETER	Sec. 2	RESULT	REPORTING LIMIT U	nits	MDL ( page 1 to 1
2,4,6-Trichloro-		ND		ıg/L	2.0 ///bassain a
phenol		# \$ 15°	4.6		gradient state of the first state of
			*1 *	+ 2	TO 1000 ARTHUR 1975年1980年1970年1
No. of the English	44 7 2 274	PERCENT	RECOVERY		an exclusive dinari
SURROGATE	- 1. 1	RECOVERY	LIMITS		第134 年 作時中一時以来。
2-Fluorobiphenyl	234.	69	(45 - 110)		Sept. Commence of the second
2-Fluorophenol		38	(10 - 75)		The standard are been
Phenol-d5	÷ 11	27	(10 - 60.)		$\omega = \frac{2}{\pi} = \lim_{n \to \infty} (t + t^n)$
2,4,6-Tribromophenol		100	(30 - 125)		In the same of the same
Terphenyl-d14	$\chi_{i,j} \neq \chi_{i,j} \chi$	84	(35 - 125)		3.1 2.2 2 2 3 3 3
Nitrobenzene-d5	+1	64	(40 - 110)		See Section 1985
4. C .		.* . *			The second of the second

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Carlotte Harris Harris

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# Client Sample ID: TANK FARM WELLPOINT SYSTEM

### HPLC

Lot-Sample #: E5G270407-00	Work Order #: HGEVQ1AD Matrix W
Date Sampled: 07/26/05	Date Received: 07/26/05 10:18 MS Run # 5218035
Prep Date: 08/05/05	Analysis Date: 08/06/05
Prep Batch #: 5218074	Analysis Time: 19:06
Dilution Factor: 10	
Analyst ID: 004626	Instrument ID: LCMS1
	Method SW846 8321A
• .	REPORTING
PARAMETER	RESULT LIMIT UNITS MDL
Perchlorate	ND 0.10 ug/L 0.022

# SEVERN STL

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QA/QC

# **QC DATA ASSOCIATION SUMMARY**

a. M. Waler, Brights.

#### E5G270407

#### Sample Preparation and Analysis Control Numbers

	e e e e e e e e e e e e e e e e e e e	ANALYTICAL	LEACH	PREP	
SAMPLE#	MATRIX	METHOD	BATCH #	BATCH #	MS RUN#
			The state of the s		
001	W	SW846 8260B		5216667	5216399
	W	SW846 8270C		5209573	
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	W	SW846 8321A		5218074	5218035
1.47			Co.	.*	. *
002	W	SW846 8260B	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	5216667	5216399
10 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15 mg 15	W	SW846 8270C		5209573	
1000	W	SW846 8321A	2	5218074	5218035
		and the second	•		
100	Programme and the second	and the second second	* w		200

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#### GC/MS Volatiles

Client Lot #...: E5G270407

MB Lot-Sample #: E5H040000-667

Analysis Date..: 08/03/05

Dilution Factor: 1

Work Order #...: HG1HM1AA

Prep Date....: 08/03/05

Prep Batch #...: 5216667

Analyst ID..... 015590

Matrix....: WATER

Analysis Time..: 21:06

Instrument ID..: MSQ

		REPORTING	<b>G</b> arangan	•
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Chloromethane	ND	2.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Bromomethane	ND ND	2.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND ·	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Acrolein	ND	20	ug/L	SW846 8260B
Acrylonitrile	ND	20	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Bromofluorobenzene	88	(75 - 13	0)	
1,2-Dichloroethane-d4	. 98	(65 - 13	5).	
Toluene-d8	93	(80 - 13	0)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### GC/MS Semivolatiles

Client Lot #...: E5G270407

MB Lot-Sample #: E5G280000-573

Analysis Date..: 07/29/05

Dilution Factor: 1

Work Order #...: HGHML1AA

Prep Date....: 07/28/05

Prep Batch #...: 5209573

Analyst ID....: 007050

Matrix....: WATER

Analysis Time..: 11:38

Instrument ID..: MSS

Control of the	177144	4.	REPORTING	***		
PARAMETER	RESULT		LIMIT	UNITS	METHOD	
Benzidine	ND	-	20	ug/L	SW846 8270C	
N-Nitrosodimethylamine	ND		20	ug/L	SW846 8270C	
1,2-Diphenylhydrazine	ND	9	10	ug/L	SW846 8270C	
(as Azobenzene)						
Acenaphthene	ND **		10	ug/L	SW846 8270C	
Acenaphthylene	ND	1	10	ug/L	SW846 8270C	
Anthracene	ND		10	ug/L	SW846 8270C	
Benzo (a) anthracene	ND	$\epsilon_{i}$	10	ug/L	SW846 8270C	
Benzo(b) fluoranthene	ND		10	ug/L	SW846 8270C	
Benzo(k) fluoranthene	ND	45.	10	ug/L	SW846 8270C	
Benzo (ghi) perylene	ND		10	ug/L	SW846 8270C	
Benzo (a) pyrene	ND :		10	ug/L	SW846 8270C	and the same
Benzoic acid	ND	1	50	ug/L	SW846 8270C	
Benzyl alcohol	ND		10	ug/L	SW846 8270C	
bis(2-Chloroethoxy)	ND	17	10	ug/L	SW846 8270C	
methane	7.399	1.0				
bis(2-Chloroethyl)-	ND		10	ug/L	SW846 8270C	
ether	•		-			1.14.11
bis(2-Chloroisopropyl)	ND		10	ug/L	SW846 8270C	
ether	4 TA1	1.4				
bis(2-Ethylhexyl)	ND	٠.	10	ug/L	SW846 8270C	
phthalate	18 mm				· .	
4-Bromophenyl phenyl	ND ·		10	ug/L	SW846 8270C	
ether						
Butyl benzyl phthalate	ND	+ ,	10	ug/L	SW846 8270C	
Carbazole	ND		10	ug/L	SW846 8270C	
4-Chloroaniline	ND		10	ug/L	SW846 8270C	
4-Chloro-3-methylphenol	ND		10	ug/L	SW846 8270C	
2-Chloronaphthalene	ND		10	ug/L	SW846 8270C	
2-Chlorophenol	ND		10	ug/L	SW846 8270C	
4-Chlorophenyl phenyl	ND		10	ug/L	SW846 8270C	
ether	$+T^{n,s}$					
Chrysene	ND		10	ug/L	SW846 8270C	
Dibenz(a,h)anthracene	ND		10	ug/L	SW846 8270C	
Dibenzofuran	ND		10	ug/L	SW846 8270C	1 3
Di-n-butyl phthalate	ND		10	ug/L	SW846 8270C	
1,2-Dichlorobenzene	ND		10	ug/L	SW846 8270C	
1,3-Dichlorobenzene	ND		10	ug/L	SW846 8270C	
1,4-Dichlorobenzene	ND		10	ug/L	SW846 8270C	
3,3'-Dichlorobenzidine	ND		50	ug/L	SW846 8270C	
= 1 ·						

#### GC/MS Semivolatiles

Work Order #...: HGHML1AA Matrix..... WATER Client Lot #...: E5G270407

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PARAMETER	RESULT	LIMIT	UNITS	METHOD			
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270C			
Diethyl phthalate	ND	10	ug/L	SW846 8270C			
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270C			
Dimethyl phthalate	ND	10	ug/L	SW846 8270C			
4,6-Dinitro-	ND	50	ug/L	SW846 8270C			
2-methylphenol	NAME OF THE PERSON OF THE PERS	4.45	7.3				
2,4-Dinitrophenol	ND	50	ug/L	SW846 8270C			
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270C			
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270C			
Di-n-octyl phthalate	ND	10	ug/L	SW846 8270C			
Fluoranthene	ND	10	ug/L	SW846 8270C			
Fluorene	ND	10	ug/L	SW846 8270C			
Hexachlorobenzene	ND	10	ug/L	SW846 8270C			
Hexachlorobutadiene	ND	10	ug/L	SW846 8270C			
Hexachlorocyclopenta-	ND	50	ug/L	SW846 8270C			
diene				Service Commence			
Hexachloroethane	ND	10	ug/L	SW846 8270C			
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C			
Isophorone	ND	10	ug/L	SW846 8270C			
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C			
2-Methylphenol	ND	10	ug/L	SW846 8270C			
3-Methylphenol &	ND	10	ug/L	SW846 8270C			
4-Methylphenol							
Naphthalene	ND:	10	ug/L	SW846 8270C			
2-Nitroaniline	ND	50	ug/L	SW846 8270C			
3-Nitroaniline	ND:	50	ug/L	SW846 8270C			
4-Nitroaniline	ND	50	ug/L	SW846 8270C			
Nitrobenzene	ND	10	ug/L	SW846 8270C			
2-Nitrophenol	ND	10	ug/L	SW846 8270C			
4-Nitrophenol	ND	50	ug/L	SW846 8270C			
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C			
N-Nitrosodi-n-propyl-	ND	10	ug/L	SW846 8270C			
amine	1.,						
Pentachlorophenol	ND	50	ug/L	SW846 8270C			
Phenanthrene	ND	10	ug/L	SW846 8270C			
Phenol	ND	10	ug/L	SW846 8270C			
Pyrene	ND	10	ug/L	SW846 8270C			
1,2,4-Trichloro-	ND	10	ug/L	SW846 8270C			
benzene	2.00	*** *	-5, - 1-:				
2,4,5-Trichloro-	ND	10	ug/L	SW846 8270C			
phenol			<b>3.</b>				
2,4,6-Trichloro-	ND	10	ug/L	SW846 8270C			
phenol			<del></del>	gradient de la companya de la companya de la companya de la companya de la companya de la companya de la compa			

#### GC/MS Semivolatiles

Client Lot #: E5G270407	Work Order #	.: HGHML1AA	Matrix WATER
PARAMETER	RESULT	REPORTING LIMIT UNITS	METHOD 42
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	e street to Post of
2-Fluorobiphenyl 2-Fluorophenol Phenol-d5	73 38 2 24	_	- Annual Control (本語) - Annual Control (本語) - Annual Control (本語)
2,4,6-Tribromophenol Terphenyl-d14 Nitrobenzene-d5	89 87		
NOTE(S):			

Calculations are performed before rounding to avoid round-off errors in calculated results.

HPLC

Client Lot #...: E5G270407

MB Lot-Sample #: R5H060000-074

Analysis Date..: 08/06/05

Dilution Factor: 1

Work Order #...: HG4RC1AA

Prep Date....: 08/05/05

Prep Batch #...: 5218074

Analyst ID....: 004626

Matrix.... WATER

Analysis Time..: 14:43

Instrument ID.:: LCMS1

REPORTING

PARAMETER
Perchlorate

RESULT

LIMIT 0.010 UNITS ug/L METHOD

SW846 8321A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Volatiles

Client Lot #:	E5G270407	Work Order #:	HG1HM1AC		Matrix WATER
LCS Lot-Sample#:	E5H040000-667			1, 11	and the state of the supplied of the state of
Prep Date:	08/03/05	Analysis Date:	08/03/05		
Prep Batch #:	5216667	Analysis Time:	20:18		
Dilution Factor:	1	Instrument ID:	MSQ		
Maria Tananda 200	045500				

Analyst ID....: 015590

t at	\$1115 H	PER	CENT	RECOVERY		ž.		,
PARAMETER	7.5 (6.5) 3. 3. (1.5)	REC	OVERY	LIMITS		METHOD		
1,1-Dichloroethe	ene	91		(65 - 135)	in t	SW846 8	260B	
Benzene	21.67	78	•	(75 - 125)		SW846 8	260B	
Trichloroethene	4.3	79		(75 - 135)	: :	SW846 8	260B	- 4
Toluene	135	80		(75 - 125)	- :	SW846 8	260B	
Chlorobenzene	17.	78		(75 - 125)		SW846 8	260B	
J		STATE CONTRACTOR	***	PERCENT		RECOVER	Y	
SURROGATE		a dy ari	770	RECOVERY		LIMITS		
Bromofluorobenze	ene			94		(75 - 1	30)	1.18
1,2-Dichloroetha	ane-d4	fix from the con-		92		(65 - 1	35)	ž.,
Toluene-d8		e y		96°		(80 - 1	30)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### GC/MS Volatiles

Client Lot #...: E5G270407 Work Order # ...: HG1HM1AC Matrix..... WATER

LCS Lot-Sample#: E5H040000-667

Prep Date....: 08/03/05 Analysis Date ..: 08/03/05 Prep Batch #...: 5216667 Analysis Time..: 20:18 Dilution Factor: 1 Instrument ID..: MSQ

Analyst ID....: 015590

	SPIKE	MEASURED	Contract to the Contract of th	PERCENT	
PARAMETER	TRIUOMA	AMOUNT	UNITS	RECOVERY	METHOD
1,1-Dichloroethene	10.0	9.14	ug/L	91	SW846 8260B
Benzene	10.0 mg	7.83	ug/L	78	SW846 8260B
Trichloroethene	10.6 cap.	7.87	ug/L	<b>79</b> Fater	SW846 8260B
Toluene	10.0 mg/j	8.01	ug/L	80	SW846 8260B
Chlorobenzene	11 200 0 2 10.0 (n m	7.75	ug/L	78	SW846 8260B
•	TO THE STATE OF TH	PERCENT	RECOVERY		

	Y11,413,614	PERCENT	RECOVERY
SURROGATE	<u> </u>	RECOVERY	LIMITS
Bromofluorobenzene		94	(75 - 130)
1,2-Dichloroethane-d4		92	(65 - 135)
Toluene-d8	$(\mathcal{F}_{\mathcal{F}}}}}}}}}}$	96	(80 - 130)

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5G270407 Work Order #...: HGHML1AC-LCS Matrix.....: WATER

LCS Lot-Sample#: E5G280000-573 HGHML1AD-LCSD

Prep Date....: 07/28/05 Analysis Date..: 07/29/05
Prep Batch #...: 5209573 Analysis Time..: 10:40

Dilution Factor: 1 Instrument ID..: MSS

Analyst ID....: 007050

	PERCENT	RECOVERY	RPD	
PARAMETER	RECOVERY	LIMITS R	PD LIMITS	METHOD
Acenaphthene	85	(50 <del>-</del> 100)		SW846 8270C
	83	(50 - 100) 2	2.5 (0-30)	SW846 8270C
4-Chloro-3-methylphenol	85	(45 - 95)		SW846 8270C
	-88	(45 - 95) 2	(0-30)	SW846 8270C
2-Chlorophenol	70	(45 - 95)		SW846 8270C
<del>-</del> ,	68	(45 - 95) 2	2.4 (0-30)	SW846 8270C
1,4-Dichlorobenzene	60	(35 - 95)		SW846 8270C
	55	(35 - 95) 7	7.5 (0-30)	SW846 8270C
2,4-Dinitrotoluene	95	(50 - 115)	•	SW846 8270C
	97	(50 - 115) 2	2.3 (0-30)	SW846 8270C
4-Nitrophenol	35	(10 - 50)		SW846 8270C
- · · ·	37	(10 - 50)	5.5 (0-30)	SW846 8270C
N-Nitrosodi-n-propyl- amine	78	(40 - 110)		SW846 8270C
	80	(40 - 110) 2	2.4 (0-30)	SW846 8270C
Pentachlorophenol	95	(40 - 110)	•	SW846 8270C
	1.03	(40 - 110)	3.2 (0-30)	SW846 8270C
Phenol	26	(10 ~ 50)	•	SW846 8270C
•	27	(10 - 50) 1	L.1 (0-30)	SW846 8270C
Pyrene	90	(50 - 120)	•	SW846 8270C
_	93	(50 - 120) 2	2.8 (0-30)	SW846 8270C
1,2,4-Trichloro- benzene	65	(35 - 105)		SW846 8270C
	59	(35 - 105)	9.2 (0-30)	SW846 8270C

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
2-Fluorobiphenyl	82	(45 - 110)
	79	(45 - 110)
2-Fluorophenol	43	(10 - 75)
	42	(10 - 75)
Phenol-d5	26	(10 - 60)
	26	(10 - 60)
2,4,6-Tribromophenol	97	(30 - 125)
	99	(30 - 125)
Terphenyl-d14	82	(35 - 125)
	86	(35 - 125)

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5G270407 Work Order #...: HGHML1AC-LCS Matrix.....: WATER LCS Lot-Sample#: E5G280000-573 HGHML1AD-LCSD

31.7

 SURROGATE
 RECOVERY

 Nitrobenzene-d5
 76
 (40 - 110)

 74
 (40 - 110)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

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#### LABORATORY CONTROL SAMPLE DATA REPORT

#### GC/MS Semivolatiles

Client Lot #...: E5G270407 Work Order #...: HGHWL1AC-LCS Matrix.....: WATE

LCS Lot-Sample#: E5G280000-573 HGHML1AD-LCSD

Prep Date....: 07/28/05 Analysis Date..: 07/29/05
Prep Batch #...: 5209573 Analysis Time..: 10:40

Dilution Factor: 1 Instrument ID..: MSS

Analyst ID....: 007050

	SPIKE	MEASURED	1	PERCENT			
PARAMETER	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	METHOD	4
Acenaphthene	100	85.3	ug/L	85	97.7	SW846 8270C	about the
-	100	83.2	ug/L	83	2.5	SW846 8270C	e
4-Chloro-3-methylphenol	100	85.1	ug/L	85		SW846 8270C	
	100	87.6	ug/L	88	2.9	SW846 8270C	
2-Chlorophenol	100	70.1	ug/L	70		SW846 8270C	
<u> </u>	100	68.5	ug/L	68	2.4	SW846 8270C	
1,4-Dichlorobenzene	100	<b>59.7</b>	ug/L	60		SW846 8270C	
	100	55.4	ug/L	55	7.5	SW846 8270C	
2,4-Dinitrotoluene	100	94.8	ug/L	95		SW846 8270C	
•	100	97.0	ug/L	97	2.3	SW846 8270C	
4-Nitrophenol	100	34.8	ug/L	35		SW846 8270C	
<del>-</del>	100	37.2	ug/L	37	6.5	SW846 8270C	
N-Nitrosodi-n-propyl-	100	78.4	ug/L	78		SW846 8270C	•
amine							
	100	80.3	ug/L	80	2.4	SW846 8270C	
Pentachlorophenol	100	94.6	ug/L	95		SW846 8270C	
	100	103	ug/L	1.03	8.2	SW846 8270C	
Phenol	100	26.3	ug/L	26		SW846 8270C	
	100	26.6	ug/L	27	1.1	SW846 8270C	
Pyrene	100	90.0	ug/L	90		SW846 8270C	
	100	92.5	ug/L	93	2.8	SW846 8270C	
1,2,4-Trichloro- benzene	100	65.2	ug/L	65		SW846 8270C	
	100	59.5	ug/L	59	9.2	SW846 8270C	

	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
2-Fluorobiphenyl	82	(45 - 110)		
<del>"</del> "	79	(45 - 110)		
2-Fluorophenol	43	(10 - 75)		
	42	(10 - 75)		
Phenol-d5	. 26	(10 - 60)		
	. 26	(10 ~ 60)		
2,4,6-Tribromophenol	97	(30 ~ 125)		
	99	(30 - 125)		
Terphenyl-d14	82	(35 - 125)		
•	86	(35 - 125)		

### LABORATORY CONTROL SAMPLE DATA REPORT

#### GC/MS Semivolatiles

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Client Lot #...: E5G270407 Work Order #...: HGHML1AC-LCS Matrix..... WATER

LCS Lot-Sample#: E5G280000-573 HGHML1AD-LCSD

SURROGATE PERCENT RECOVERY

RECOVERY LIMITS

76 (40 - 110)

Nitrobenzene-d5 76 (40 - 110) 74 (40 - 110)

NOTE(S):

Salar Balance

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### HPLC

Client Lot #...: E5G270407 Work Order #...: HG4RC1AC Matrix...... WATER

LCS Lot-Sample#: R5H060000-074

Prep Date....: 08/05/05 Analysis Date..: 08/06/05
Prep Batch #...: 5218074 Analysis Time..: 15:03

Dilution Factor: 1 Instrument ID.:: LCMS1

Analyst ID....: 004626

PERCENT

PARAMETER RECOVERY LIMITS METHOD

Perchlorate 99 (70 - 130) SW846 8321A

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### HPLC

Client Lot #...: E5G270407 Work Order #...: HG4RC1AC

LCS Lot-Sample#: R5H060000-074

Prep Date....: 08/05/05 Analysis Date..: 08/06/05

Prep Batch #...: 5218074 Analysis Time..: 15:03 Dilution Factor: 1

Instrument ID..: LCMS1

Analyst ID....: 004626

SPIKE MEASURED PERCENT PARAMETER

UNITS RECOVERY METHOD Perchlorate 0.0987 ug/L 99 SW846 8321A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC/MS Volatiles

Client Lot #:	the state of the s	Work Order #:	the state of the s	Matrix:	WATER
MS Lot-Sample #:			HGJHQ1AD-MSD		
Date Sampled:	07/27/05 15:00	Date Received:	07/28/05 19:00	MS Run #:	5216399
Prep Date:		Analysis Date:	08/04/05		the second of the
Prep Batch #:		Analysis Time:	01:06		1.7
Dilution Factor:	1	Analyst ID:	015590	Instrument ID:	MSQ
	PERCEI	NT RECOVERY	RPD	· .	

PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD	100
1,1-Dichloroethene	55 a	(65 - 135)			SW846 8260B	
	45 a	(65 - 135)	3.5	(0-25)	SW846 8260B	
Benzene	84	(75 - 125)		•	SW846 8260B	1
	79	(75 - 125)	6.0	(0-25)	SW846 8260B	
Trichloroethene	0.0 MSB	(75 - 135)			SW846 8260B	
	0.0 MSB	(75 - 135)	0.0	(0-25)	SW846 8260B	
Toluene	84	(75 - 125)		•	SW846 8260B	
	80	(75 - 125)	4.5	(0-25)	SW846 8260B	
Chlorobenzene	81	(75 - 125)			SW846 8260B	
ik mis satikaken 19. e. manmi kakawa	78	(75 - 125)	3.3	(0-25)	SW846 8260B	
				i i		1.54
and the second of the second o	•	PERCENT		RECOVERY		
SURROGATE	<u> </u>	RECOVERY		LIMITS		
Bromofluorobenzene	THE STATE OF THE S	94		(75 - 130	<del>))</del>	
	•'	97		(75 - 130	))	
1,2-Dichloroethane-d4	er en en en en en en en en en en en en en	94		(65 - 135	i)	6.4
•	71	96	.1	(65 - 135	i)	
Toluene-d8		96		(80 - 130	1)	
• .		. 98		(80 - 130	)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

a Spiked analyte recovery is outside stated control limits.

### MATRIX SPIKE SAMPLE DATA REPORT

#### GC/MS Volatiles

Client Lot #: E5G27040  MS Lot-Sample #: E5G29013  Date Sampled: 07/27/05  Prep Date: 08/03/05  Prep Batch #: 5216667  Dilution Factor: 1	8-001 15:00 E	ate Rec malysis	ceived: Date: Time:	HGJHQ1AI 07/28/05 08/04/05 01:06	O-MSD 5 19:00 MS 1	Run #	: WATER: 5216399 ant ID.:: MSQ
	SAMPLE	SPIKE	MEASRD		PERCNT		
PARAMETER	TRUOMA	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD
1,1-Dichloroethene	22	10.0	27.9	ug/L	55 a		SW846 8260B
	22	10.0	27.0	սց/ե	45 a	3.5	SW846 8260B
Benzene	ND	10.0	8.37	ug/L	84		SW846 8260B
ettivas ar utilaksadi.	ND	10.0	7.88	ug/L	79	6.0	
Trichloroethene	84	10.0	100	ug/L	. 0.0		SW846 8260B
production of the state of the		alifiers	s: MSB	/-	A	0.0	SW846 8260B
4.4 多元 (新) (新)	84	10.0	wan	ug/L	0.0	0.0	DNOSO OFON
n waa na marata ka		llifier:	8.42	ug/L	84		SW846 8260B
Toluene	ND	10.0		ug/L	80 -	4 5	SW846 8260B
Chlorobenzene	0.52	10.0	8.60	ug/L	81		SW846 8260B
Caroropenzene	0.52	10.0	8.32	ug/L	78	3.3	SW846 8260B
		•		11.44	4		
		1	PERCENT		RECOVERY	. "	
SURROGATE		-	RECOVERY	**	LIMITS	_	
Bromofluorobenzene			94		(75 - 130		era er i er er er er er er er er er er er er er
· ·			97		(75 - 130	•	
1,2-Dichloroethane-d4			94		(65 - 135 (65 - 135		
			96 96		(80 - 130)	-	•
Toluene-d8			98		(80 - 130		7 N.S.

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

a Spiked analyte recovery is outside stated control limits.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

# HPLC

Client Lot #: E5	G270407 Work	Order #: HGEQ	81AC-MS Mat	rix	WATER
MS Lot-Sample #: E5		11/21:17	81AD-MSD	$(x,t^{\alpha}) = (x_{\alpha}, \dots, x_{\alpha}) \in \mathbb{R}^{n}$	Na Line
Date Sampled: 07	/25/05 13:20 Date 1	Received: 07/2	6/05 10:15 MS	Run #:	5218035
Prep Date: 08		sis Date: 08/0			
Prep Batch #: 52	18074 <b>Analy</b> :	sis Time: 18:0	6	$\mathcal{F} = \{ \{ \{ \{ \} \} \} \mid \{ \{ \} \} \} \} $	1.17.20.20.3
Dilution Factor: 10	Analyz	st ID: 0046:	26 Tan	trument ID:	T CMC1
Director Factor: 10	wigt A:	DC ID UU40.		Cremectic Th. :	TICHOT
PARAMETER	PERCENT RECOVERY	RECOVERY	RPD		LICHSI
	PERCENT	RECOVERY LIMITS RI (50 - 150)		METHOD SW846 8321A SW846 8321A	LICUSI

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## MATRIX SPIKE SAMPLE DATA REPORT

#### HPLC

Client Lot #: MS Lot-Sample #: Date Sampled: Prep Date: Prep Batch #: Dilution Factor:	E5G270405-001 07/25/05 13:20 08/05/05 5218074		HGEQ81AD-MSD 07/26/05 10:15 08/06/05 18:06	Matrix: WATER  MS Run #: 5218035  Instrument ID.:: LCMS1
PARAMETER Perchlorate	SAMPI AMOUN 2.3 2.3	T AMT AMOUNT	5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

<sup>.</sup> Bold print denotes control parameters





July 28, 2005

Shawn Simmons
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Subject:

**Calscience Work Order No.:** 

Client Reference:

05-07-1269

**Wellpoint System** 

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 7/22/2005 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane Laboratory Director

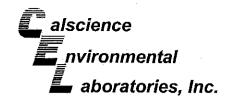
CA-ELAP ID: 1230

**NELAP ID: 03220CA** 

**CSDLAC ID: 10109** 

SCAQMD ID: 93LA0830

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





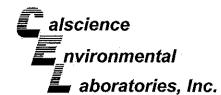
Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method:

07/22/05 05-07-1269 EPA 5030B DHS LUFT

Project: Wellpoint System

Page 1 of 1

Trojecti Tronponti Oyetetii					<u> </u>		rayerori
Client Sample Number		Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Plant 2 Wellpoint System	(384) 111 (1) (1)	05-07-1269-1	07/22/05	Aqueous	07/25/05	07/25/05	050725B01
<u>Parameter</u>	Result	RL	DF	Qual	<u>Units</u>		
TPH as Gasoline	ND	100	1		ug/L		:
Surrogates:	REC (%)	Control Limits		<u>Qual</u>			
1,4-Bromofluorobenzene	75	49-133					
Tank Farm Wellpoint System	T., 1863 (sk)	05-07-1269-2	07/22/05	Aqueous	07/25/05	07/25/05	050725B01
<u>Parameter</u>	Result	<u>RL</u>	<u>DE</u>	Qual	<u>Units</u>		
TPH as Gasoline	ND	100	F (1.16)		ug/L		3 6 7 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
Surrogates:	REC (%)	Control Limits		Qual	17 mg		
1,4-Bromofluorobenzene	. 76	49-133					
Method Blank	The state of the s	098-03-006-7,266	N/A	Aqueous	07/25/05	07/25/05	050725B01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
TPH as Gasoline	ND	100	1		ug/L		
Surrogates:	REC (%)	<u>Control</u>		Qual			
1,4-Bromofluorobenzene	73	<u>Limits</u> 49-133					And Control of the State of the





Southern California Edison Company

**Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor Date Received:

07/22/05

Work Order No: Preparation:

05-07-1269 **EPA 3510C** 

Westminster, CA 92683-5202

Method:

**DHS LUFT** 

Project: Wellpoint System

Page 1 of 1

Client Sample Numb	er		Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed QC B	atch ID
Plant 2 Wellpoint :	System		05-07-1269-1	07/22/05	Aqueous	07/25/05	07/26/05 0507	25B07
Comment(s):		hromatographic patteri the unknown hydroca						
<u>Parameter</u>		<u>Result</u>	` <u>ŔĹ</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
TPH as Diesel		420	100	1 5		ug/L		
Surrogates:		REC (%)	<u>Control</u> Limits		Qual			
Decachlorobiphenyl	•	74	51-141					

Tank Farm Wellp	ioint System 05-07:1269-2 07/22/05 Aqueous 07/25/05 07/26/05 0507:	25B07
Comment(s):	-The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard.	Properties
	Over-thatian of the contraction by decombinately in the property can be and come the property of the decombinate	**

<u>Parameter</u>

Result

از (s) <u>RL</u>

<u>DF</u>

<u>Units</u>

TPH as Diesel

Surrogates:

670

100

1

ug/L

REC (%)

Control

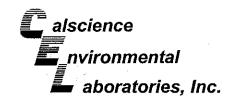
Qual

Decachlorobiphenyl

<u>Limits</u> 51-141 81

Method Blank		098-03-039-777	N/A	Aqueous 07/25/05	07/26/05 050725B07
		1			1.4.7
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual Units	
TPH as Diesel	ND	100	1 .	ug/L	
Surrogates:	REC (%)	Control Limits		<u>Qual</u>	
Decachlorobiphenyl	106	51-141			

DF - Dilution Factor





Southern California Edison Company

Edison Chemical Services

7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received:

Work Order No:

Preparation:

Method: Units: 07/22/05

05-07-1269

N/A

EPA 8015B mg/L

Page 1 of 1

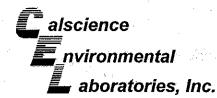
Project	· Well	point	System
I IOICCE	. ***	POHIL	Cystelli

Project. Wellpoint System									i age i oi i
Client Sample Number				b Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Plant 2 Wellpoint System	Committee of the Commit	0	5-07-12	269-1	07/22/05	Aqueous	N/A	07/25/05	050725L01A
Parameter Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>		Res	sult RL	DF Qual
2-Butanol	ND	0.10	1	* . *	Isobutanol		ND	0.10	1
-Butanol	ND	0.10	1		Isopropanol		ND	0.10	1
thanol	ND	0.10	1		Methanol		ΝĐ	0.10	1,
Surrogates:	REC (%)	Control		<u>Qual</u>					
Hexafluoro-2-propanol	98	<u>Limits</u> 63-147							
Tank Farm Wellpoint System	1 2.18	ţ	)5-07-12	269-2	07/22/05	Aqueous	N/A	07/25/05	050725L01A
Parameter	Result	<u>RL</u>	DE	Qual	Parameter -	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Res	sult RL	DF Quai
-Butanol	ND	0.10	1		isobutanol		ND ND		1
-Butanol	ND	0.10	1		Isopropanol		ND		1
thanol	ND	0.10	1		Methanol		ND	•	1 ,
Surrogates:	REC (%)	Control		Qual					-1
		Limits							
lexafluoro-2-propanol	103	63-147							
Method Blank		PA (C	99-12-0	006-1,366	N/A	Aqueous	N/A	07/25/05	050725L01A
Par <u>ameter</u>	Result	RL	<u>DF</u>	Qual	<u>Parameter</u>		Res	sult RL	DF Qual
-Butanol	ND	0.10	1		Isobutanol		ND	0.10	1
-Butanol	ND	0.10	1		Isopropanol		ND	0.10	N 1 1
thanol	ND	0.10	1		Methanol	****	ND	0.10	1 .
Surrogates:	REC (%)	Control Limits		<u>Qual</u>			•		
lexafluoro-2-propanol	102	63-147		•					

RL - Reporting Limit

DF - Dilution Factor

Qual - Qualifiers



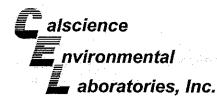
### nvironmental Quality Control - Spike/Spike Duplicate



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: 07/22/05 05-07-1269 EPA 5030B DHS LUFT

Project Wellpoint System

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
05-07-1407-1	Aqueous	GC 5	07/25/05	07/25/05	050725S01
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD RPD	CL Qualifiers
TPH as Gasoline	103	108	70-112	4 0-1	7 19 7



# nvironmental Quality Control - Spike/Spike Duplicate



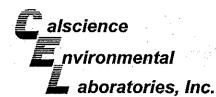
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Date Received: Work Order No: Preparation: Method:

07/22/05 05-07-1269 N/A EPA 8015B

Project Wellpoint System

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
05-07-1298-4	Aqueous	GC 12	N/A	07/25/05	050725801
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD RPI	OCL Qualifiers
Methanol	103	104	64-118	1 0-	20
Ethanol	103	102	73-109	1 0-	23
2-Butanol	 106	107	70-130	1 0-	25
Isopropanol	101	102	70-130	0 0-	25



#### **Quality Control - LCS/LCS Duplicate**

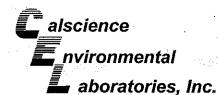


Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method:

05-07-1269 EPA 5030B DHS LUFT

Project: Wellpoint System

Quality Control Sample ID	97 VA 21 - 32 VA 21 - 32 VA	Matrix Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-006-7;266	e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	Aqueous GC 5	07/25/05	07/25/05	050725B01
<u>Parameter</u>		LCS %REC LCSD S	%REC %REC	CL RPD	RPD CL Qualifiers
TPH as Gasoline	***	108 109	72-1	14 1	0-10



## Quality Control - LCS/LCS Duplicate



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: N/A 05-07-1269 EPA 3510C DHS LUFT

Project: Wellpoint System

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-039-777	Aqueous	GC-23 (1642)	07/25/05	07/26/05	050725B07
<u>Parameter</u>	LCS %	REC LCSD 9	%REC %RE	CCL RPD	RPD CL Qualifiers
TPH as Diesel	97	89	60	-132 8	0-11



### **Quality Control - LCS/LCS Duplicate**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received: Work Order No: Preparation: Method:

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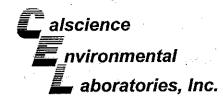
N/A 05-07-1269 N/A EPA 8015B

Project: Wellpoint System

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Quality Control Sample ID		Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch 🕠
099-12-006-1,366	100.00	Aqueous	The state of the s		07/25/05	050725L01A	
						/	Professional Profession
<u>Parameter</u>		LCS	%REC LCSD %	REC %F	REC CL RPD	RPD CL	Qualifiers
2-Butanol		103	2 101		0-130 1	0-25	
n-Butanol		93	92	7	0-130 1	0-25	
Isopropanol		99			0-130 2	0-25	
- Para Mara Leo de Aria de Paris.		A company of the comp		the first of the first of			

Participant the extraordistic contraction being present during a participation of the second state of the second

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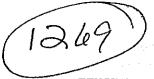
# Glossary of Terms and Qualifiers



Work Order Number: 05-07-1269

Qualifier	Definition
* .	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.
<b>2</b>	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.
<b>3</b> , at	Recovery of the Matrix Spike or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Н	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.
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.





RESULTS TO:

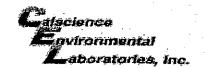
Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

•				<del></del>	<del>1</del> - 1)		
Southern Calif. Edison P.O. Nun		Q1033917		Release Number			
Please return and direct inquire		Shawn Simm		Tel: (714) 895-052 Email: shawn.simmo			
In all correspondence refer to pr	oject: <u>V</u>	Vellpoint Sy	stem	om			
Sample(s) are submitted for trea	tment/disposi	ition as descr	ribed belov	r <b>.</b>	. 7.		
Sample ID	Date Collected	Time Collected	Descript	ion/Analytes	:	: ~	
Plant 2 Wellpoint System	7-22-05	076	TPH-Die	sel by DHS LUFT, t	est down	to 100 ppb	
		0 ( )	1-L glas	s with HCl			
Tank Farm Wellpoint System	7-22-05	0715	TPH-Die	esel by DHS LUFT, to	est down	to 100 ppb	
			1-L glas	s with HCl			
Plant 2 Wellpoint System	7-22-05	การร	TPH-Ga	soline, test down to 1	00 ppb		
		<del>-                                    </del>		L vials with HCl			
Tank Farm Wellpoint System	7-22-05	0710	TPH-Ga	soline, test down to 1	daa 00		
	1	<del></del>		L vials with HCl		and the same	
	•		1		1 1	· · · · · · · · · · · · · · · · · · ·	
Plant 2 Wellpoint System	7-22-05	NICK	Alcohols	(only) by Method 80	15B		
		<del>'' (                                  </del>		L vials, no preservati			
Fank Farm Wellpoint System	7-22-05	2715		(only) by Method 80			
-		V (1)		L vials, no preservati			
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D.R	Date	-	3	en fana	GRI	Date: 7/22	
Relinguished By	Tim	e		Received By		Time: 1615	



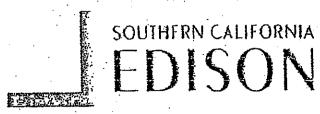
WORK ORDER #:

05-07-11269

Cooler \_\_/\_ of \_/\_\_

# SAMPLE RECEIPT FORM

CLIENT: Ca. Forson	DATE: 7/22/05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  C Temperature blank.	LABORATORY (Other than Calscience Courier):  C Temperature blank.  C IR thermometer.  Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact) :	Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples.  Sample container label(s) consistent with custody papers.  Sample container(s) intact and good condition.  Correct containers for analyses requested.  Proper preservation noted on sample label(s)  VOA vial(s) free of headspace.  Tedlar bag(s) free of condensation.	
COMMENTS:	



An EDISON INTERNATIONAL Company

Power Production Training (714) 895-0510 Ph. (714) 895-0659 Fax Power Production Chemical (714) 895-0697 Ph. (714) 895-0515 Fax

> 7301 Fenwick Lane Westminster, CA 92683

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Providing

continuous

learning to

succeed in

today's world.

To:	Melan	uė (	Gron	zalez		
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Phone:					<del></del> .	•
Pax:	949-	478	- S	433	<u>}</u>	•
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CONFIDENTIALITY NOTE: This page (s) and any accompanying documents may confidential information intended for a specific individual and purpose. If you are NOT this intend recipient, you are hereby notified that any disclosure, copying or distribution, or the taking of a

DATE:

July 29, 2005

CLIENT:

Southern California Edison 7301 Fenwick Lane, 2nd Floor

Westminster, CA 92683

ATTENTION:

Shawn Simmons

REFERENCE:

P.O. No. V2033902

Project: Wellpoint System

REPORT NO:

101590

DATE RECEIVED:

7/22/05 at 1207

DATE ANALYZED:

7/26/05

SUBJECT:

ANALYSIS OF WATER SAMPLES FOR ASBESTOS BY TEM

ACCREDITED:

California Department of Health Services (ELAP-1119)

The samples were prepared and analyzed according to EPA 100.1

The sample, date and time of collection, and filtration are as follows:

Sample	Date/Time of	Date/Time of
<u> </u>	Collection	<u>Filtration</u>
Plant 2 Wellpoint System	7/22/05 0755	7/22/05 1425
Tank Farm Wellpoint System	7/22/05 0715	7/22/05 1445

The results of the analysis and the detection limit are summarized on the following pages.

Respectfully submitted,

EMS LABORATORIES, INC.

15 m ] B. M. Kolk

Laboratory Director

BMK/ah

NOTE: The results of the analysis are based upon the samples submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.

This report, from a NIST laboratory through NVLAP, must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

This report shall not be reproduced, except in full, without the written approval of BMS Laboratories,

Any deviation or exclusion from the test method is noted in this cover letter. Unless otherwise noted in this cover letter, the samples were received properly packaged, clearly identified and intact.



MAIL REPORT AND ONE COPY OF INVOICE TO:

Attu.: Shawa Simmons Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 MAIL ORIGINAL AND ONE COPY OF INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

**EMS** Laboratories

Southern Calif. Edison P.O. Number: Please return and direct inquires to: In all correspondence refer to project:		emons et System	Tel: (714) 895-0525 F Email: shawn.simmons@sc	ax: <u>(714)</u> 895-0515 ce.com
Sample(s) are submitted for treatment/	disposition as	described belo	<b>W</b>	
ample 10	Date Collected	Time Collected	Description/Analytes	
Plant 2 Wellpoint System	7-77-05	0755	Asbestos fibers ≥0.5 micro	on by Method 100.1
ank Farm Wellpoint System	7-22-05	0715	Asbestos fibers ≥0.5 micro	on by Method 100.1
	<u> </u>			
			Sample matrix is brackish	<del></del>
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	Date:			Date:
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Relinquished By

SUBMITTAL	FORM/Laborator	y Services	101591	PAGE	OF N
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(NOTE: Complete written reports wi		any prior transmitted verbal	or fax results.)	-111-613-03	
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EMS Sample No.	CLIENT SAMPLE NO	O. DES	SCRIPTION/LOCATION	WANALYSIS	TIME/WE'N
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			t and broject manage	mer ne umhter?	·
No. of Samples	K1 11.	105	. Chain-of-Custody Signature	·	21/1
Date of Acceptance into Sample	Bank UT-CC		Misc. Info.		SH

ANALYSIS OF WATER BY TEM ( EPA-600/4-83-043 ) EPA 100.

LAB NO: CLIENT:

101590

Southern California Edison

7/26/05

			FILTER	MEDIA DATA			· · · · · · · · · · · · · · · · · · ·
Laboratory I.D.	Client I.D.	Туре	Diameter mm	Effective Area mm^2	No. of G.O.	Analyzed	Sample
101590-2	PLANT 2	PC	47	1017	20	Area, mm^2	
101590-T	TANK FARM	PC ·	47	1017	20	0.188 0.188	<u>5</u>
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#### INDIVIDUAL ANALYTICAL RESULTS

Laboratory LD.	Client I.D.	1 .	No. of Asbestos		Detection	CONCENTRATION (MF/L)							
101590-2 101590-T	PLANT 2 TANK FARM	N.D.	>5 N.D. N.D.	>10 N.D. N.D.	Limit (MF/L) 1.1 1.1	Str N.D. N.D.	Str >5um N.D. N.D.	Str >10um N.D. N.D.					
	·												

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

Authorized Signature

# Analysis of Water by Transmission Electron Microscopy (EPA-600/4-83-043)

EMS No	101590			Client	Southern Calif	omla Edison	
Sample No.	Plant 2						·
	la la capación de la composición de la La capación de la composición de la co	en en en en en en en en en en en en en e			Date Analyze	o <b>d</b>	7/26/05
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BDL : Below	0.50 - 0.99	Part 1.00 - 1.49	icle Size Distrib Particle Leng 1.50 - 1.99	2.00 - 2.49	2.5 - 4.99		
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#### Analysis of Water by Transmission Electron Microscopy (EPA-600/4-83-043)

Analyzed BDL*	7/29/0: MFL
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	MFL.
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BDL*	MPL.
BDL*	MFL
0	ug/L
LESS	
0 to <u>4</u>	MFL
1.1	MFL
	0 to4

#### Particle Size Distribution ( Chrysotile )

#### Particle Length - Microns 10 & UP 5.00 - 9.99 2.5 - 4.99 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99 2.00 - 2.49 Particle Width - Microns .15 - .19 .2 - .24 .50 - .99 .25 - .49 .05 - .09 .1 - .14 0 - .04 Aspect Ratio L/W 50 - 99 200 & UP 100 - 199 30 - 39.9 40 - 49.9 10 - 19.9 20 - 29.9

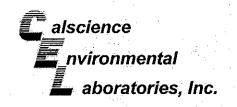
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TEM - 1B (8-01)

TEM - 1B (8-01)

# Analysis of Water by Transmission Electron Microscopy (EPA-600/4-83-043)

EMS No.	101590		# 1	Date Analyzed	7/26/05
Client	Southern Californi	ia Edison	en en en en en en en en en en en en en e		
Sample No.	EMS BLANK				A.
Fibers (chrysotile			(h. 4)	ND	MFL
> 5 Micron length				ND	MPL 2000 And
Mass (chrysotile)				0	ug/L
More/Less than 5 in Sample (chrys				LESS	
Sensitivity Level				0.01	MFL
	e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co				•
grama (no chiara general) Harangaran	Particle	e Size Distribution	( Chrysotile )		
		Particle Length - I	Microns		
O -0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 & UP
0	0	0	<u> </u>	0	0
		Particle Width -	Microns		
O04	.0509	.114	.1519	.224	.25 & UP
0	0	0	0	<u> </u>	0
		Aspect Ratio	o L/W	•	
0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 & UP
0	0	0	0	0	. 0
			1 7 E W 7		•





October 04, 2005

Shawn Simmons Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202

Subject: Calscience Work Order No.: 05-10-0025

Client Reference: Long Beach NPDES

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 10/3/2005 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 any subcontracted analysis 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.

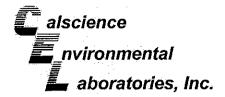
Sincerely.

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

**Laboratory Director** 





Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: 10/03/05 05-10-0025 EPA 3510C DHS LUFT

Project: Long Beach NPDES

Page 1 of 1

Client Sample Number		Lab Samp		Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051003-Intake-TPH	5.0	05-10-00	25-1	10/03/05	Aqueous	10/03/05	10/03/05	051003B03
Comment(s): -Results were e	valuated to the	MDL, concentrations	>= to the M	DL but < RL, if 1	ound, are qua	alified with a "J"	' flag.	
Parameter	Result	<u>RL</u>	MDL	. <u>DF</u>	Qual	<u>Units</u>		
TPH as Diesel	ND	100	84	1		ug/L	**	1 state
Surrogates:	REC (%)	Control Limits	.14	•	Qual			
Decachlorobiphenyl	79	51-141						. *
LB-051003-001-TPH		05-10-00	25-2	10/03/05	Aqueous	10/03/05	10/03/05	051003B03
Parameter	Result	<u>RL</u>	MDL.	<u>DF</u>	Qual	<u>Units</u>		V
FPH as Diesel	180	100	84	1		ug/L	ita ya ik	
Surrogates:	REC (%)	Control Limits	1.00		<u>Qual</u>			i i
Decachlorobiphenyl	74	51-141						
Method Blank	i i i i i i i i i i i i i i i i i i i	098+03-0	39-916	N/A	Aqueous	10/03/05	10/03/05	051003B03
Comment(s): -Results were e	valuated to the	MDL, concentrations	s >= to the M	DL but < RL, if	found, are qua	alified with a "J"	" flag.	
Parameter Parameter	Result	<u>RL</u>	MDL	<u>DF</u>	<u>Qual</u>	<u>Units</u>	de legio de de la composición de la composición de la composición de la composición de la composición de la co La composición de la	
TPH as Diesel	ND	100	84	1		ug/L		
Surrogates:	REC (%)	Control Limits			Qual		na di salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah sa	
Decachlorobiphenyl	99	51-141	- 7			garan ing	rya via	

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers



# े Quality Control - LCS/LCS Duplicate



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202

Date Received: Work Order No: Preparation: Method:

N/A 05-10-0025 EPA 3510C DHS LUFT

Project: Long Beach NPDES

Quality Control Sample ID	Matrix Instrumen	Date t Prepared	Date Analyzed	LCS/LCSD Batch Number	
The state of the s	Aqueous GC 23	10/03/05	10/03/05	051003B03	
Parameter TPH as Diesel	<u>LCS %REC</u> <u>LC</u> 96	SD %REC	<u>CL</u> <u>RPD</u> 2 1	<u>RPD CL</u> <u>Qi</u> 0-11	<u>Jalifiers</u>

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# Glossary of Terms and Qualifiers



Work Order Number: 05-10-0025

Qualifier	<b>Definition</b>
Quainei	<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.
	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 or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	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.
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.





RESULTS TO: Facsimile: (714) 895-0515 Power Production Chemical

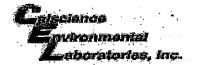
Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Southern Calif. Edison P.O. N Please return and direct inqui	res to:	Q1033917 Shawn Simm	mons Tel: (714) 895-0525 Fax: (714) 895-0515
In all correspondence refer to		ong Beach N	
Sample(s) are submitted for t	reatment/dispo		
Sample ID	Date Collected	Time Collected	Description/Analytes
LB-051003-Intake-TPH	10/3/05	0915	TPH as Diesel by DHS Luft
LB-051003-001-TPH	10/3/05	०१२९	TPH as Diesel by DHS Luft
			Report TPH-Diesel down to 100 µg/L. F>100 per Please J-flag if <100 µg/L. F>100 per L.
			copy results to: Tim.Hemig@nrgenergy.com, and
			Scott.Seipel@shawgrp.com
Special Instructions:			
	·	· · · · · · · · · · · · · · · · · · ·	
Chain of Custody:			0.
Def c M Essent	2-c   I	rat <i>e:0/03/</i> 0	101111111111111111111111111111111111111
Relinquished By	1	lime: /207	Received By Time: /8107
,	1	Date:	Date:
Relinguished By	3	l'ime	Received By Time:



**WORK ORDER #:** 

05-10-0025

Cooler \_\_\_\_\_ of \_\_\_

# **SAMPLE RECEIPT FORM**

CLIENT: 10. Bores DATE: 10.3.05
TEMPERATURE - SAMPLES RECEIVED BY:
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  CTemperature blank.  CTemperature blank.  Initial:
CUSTODY SEAL INTACT:
Sample(s): Cooler: No (Not Intact) : Not Applicable (N/A): Initial:
SAMPLE CONDITION:
Chain-Of-Custody document(s) received with samples
COMMENTS:





September 29, 2005

Shawn Simmons
Southern California Edison Company
Edison Chemical Services
7301 Fenwick Lane, 2nd Floor
Westminster, CA 92683-5202

Subject:

Calscience Work Order No.:

05-09-1475

Client Reference:

05144

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/26/2005 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical lesting was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis 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,

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

**Laboratory Director** 

CA-ELAP ID: 1230

NELAP ID: 03220CA

CSDLAC ID: 10109

SCAQMD ID: 93LA0830

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 •

FAX: (714) 894-7501



#### **Analytical Report**



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: 09/26/05 05-09-1475 EPA 3510C DHS LUFT

Project: 05144

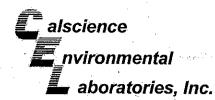
Page 1 of 1

LiBos0926-C1         05-09-1475-1         09/26/05         Aqueous         09/26/05         09/27/05         05/09/26B13           Parameter         Result         RL         MDL         DF         Qual         Units           TPH as Diesel         230         100         84         1         ug/L           Surrogates:         REC (%)         Control Limits         Qual	Project: US144								1 age 1 of 1
Parameter   Result   RL   MDL   DE   Qual   Inits   Parameter   Result   RL   MDL   DE   Qual   Inits   Qual   Parameter   Result   RL   MDL   DE   Qual   Units   Qual    Client Sample Number					Matrix			QC Batch ID	
PPH as Diese  230	LB050926-C1		05-09-1	475-1	09/26/05	Aqueous	09/26/05	09/27/05	050926B13
PPH as Diese  230							la ita		
Decachlorobiphenyl   103   51-141	<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	<u>DP</u>	<u>Qual</u>	a 1		
Decachlorobiphenyl   103   51-141	TPH as Diesel			84	1	· · · · · ·	ug/L		
Parameter   Result   RL   MDL   DF   Qual   Units	Surrogates:	<u>REC (%)</u>	Control Limits	18 af	•	Quar	*		•
Parameter         Result         RL         MDL         SE         Qual         Units           TPH as Diesel         190         100         84         ug/L         ug/L           Surrogates:         REC (%)         Control Limits         Qual         ug/L           Decachlorobiphenyl         106         51-141         Aqueous         09/26/05         09/27/05         05/09/26/13           Parameter         Result         RL         MDL         DF         Qual         Units         Units           TPH as Diesel         280         100         84         1         ug/L         ug/L           Surrogates:         REC (%)         Centrol Limits         Qual         Units         Units           LB050926-4         05-09-1475-4         09/26/05         Aqueous         09/26/05         09/27/05         05/09/26/B13           Parameter         Result         RL         MDL         DE         Qual         Units           TPH as Diesel         210         100         84         1         ug/L         Ug/L           Surrogates:         REC (%)         Control Limits         Qual         Units         Units           Comment(s): - Results were evaluated to the MDL, conce	Decachlorobiphenyl	103	51-141						
### Parameter Result RL MIDL BE Qual Units   Qual   LB050926-2		05-09-1	475-2	un amparation and a second	ASSESSED AND ADDRESS OF THE PARTY OF THE PAR	09/26/05	09/27/05	050926B13	
Decachlorobiphenyl   106   51-141	P <u>arameter</u>	Result	RL	MDL	DE	Qual	<u>Units</u>	•	
Decachlorobiphenyl   106   51-141	TPH as Diesel	190	. 100	84	1	1	ug/L		
LBD50926-3   D9-26/05   D9-26/0	Surrogates:	<u>REC (%)</u>	Control Limits			<u>Qual</u>			
Parameter   Result   Rt   MDL   DF   Qual   Units	Decachlorobiphenyl	106	51-141	The same of the sa	) W	÷			· · · · · · · · · · · · · · · · · · ·
TPH as Diesel   280	LB050926-3		05-09-1	4/6-3 k	09/26/05	Aqueous	09/26/05	09/27/05	050926B13
Record   280	<u>Parameter</u>	Result	<u>R</u> L	MDL	<u>DF</u>	Qual	<u>Units</u>	A November 2	esm. Pro
Decachlorobiphenyl   58   51-141     18050926-4   105-09-1475-4   109/26/05   Aqueous   109/26/05   09/27/05   050926B13     18050926-4   18050926-4   1907-1475-4   109/26/05   109/26/05   109/27/05   1050926B13     18050926-4   1907-1475-4   109/26/05   109/27/05   1050926B13     18050926-4   1907-1475-4   109/26/05   109/27/05   1050926B13     18050926-4   180509	TPH as Diesel	280	100		1		ug/L		
Decachlorobiphenyl   Decachl	Surrogates:	<u>REC (%)</u>	Control Limits	,		<u>Qual</u>			
Parameter         Result         RL         MDL         DF         Qual         Units           TPH as Diesel         210         100         84         1         ug/L           Surrogates:         REC (%)         Control Limits         Qual           Decachlorobiphenyl         54         51-141           Method Blank         098-03-039-905         N/A         Aqueous         09/26/05         09/27/05         050926B13           Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.	Decachlorobiphenyl	58	51-141	÷ \$	-				
### TPH as Diesel 210 100 84 1 ug/L   Surrogates: REC (%)   Control Limits   Qual	LB050926-4		05-09-1	475-4	09/26/05	Aqueous	09/26/05	09/27/05	050926B13
REC (%)   Control Limits   Qual	<u>Parameter</u>	<u>Result</u>	RL	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
Decachlorobiphenyl 54 51-141  Method Blank 098-03-039-905 N/A Aqueous 09/26/05 09/27/05 050926B13  Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.  Parameter Result RL MDL DF Qual Units  TPH as Diesel ND 100 84 1 ug/L  Surrogates: REC (%) Control Limits Qual	TPH as Diesel	210	100	84	1		ug/L		
Method Blank     098-03-039-905     N/A     Aqueous     09/26/05     09/27/05     050926B13       Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.	Surrogates:	REC (%)	Control Limits		٠	<u>Qual</u>			
Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.  Parameter Result RL MDL DF Qual Units  TPH as Diesel ND 100 84 1 ug/L  Surrogates: REC (%) Control Limits Qual	Decachlorobiphenyl	54	51-141						4 <u>5</u>
Parameter         Result         RL         MDL         DF         Qual         Units           TPH as Diesel         ND         100         84         1         ug/L           Surrogates:         REC (%)         Control Limits         Qual	Method Blank		098-03	-039-905	N/A	Aqueous	09/26/05	09/27/05	050926B13
TPH as Diesel ND 100 84 1 ug/L <u>Surrogates: REC (%) Control Limits Qual</u>	Comment(s): -Results were	e evaluated to the	MDL, concentration	ns >= to the M	DL but < RL, i	f found, are qu	alified with a ".	J" flag.	
Surrogates: REC (%) Control Limits Qual									
	TPH as Diesel	ND	100	84	1		ug/L	:	
Decachlorobiphenyl 94 51-141	Surrogates:	<u>REC (%)</u>	Control Limits			<u>Qual</u>			97 J
	Decachlorobiphenyl	94	51-141						•

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers



# \_nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Date Received: Work Order No: Preparation: Method: N/A 05-09-1475 EPA 3510C DHS LUFT

Project: 05144

			Instrument	Date Prepared	Date Analyzed		CS/LCSD Bate Number	ch
098-03-039-905	CALL SALES OF THE SALES OF THE SALES	Aqueous	GC 23	09/26/05	09/27/05		° 050926B13	
	ing si Dang Lating Pangangan		REC LCSD %	REC %REC	<u>EL</u> ) <u>Ri</u> 32 2	PD	<u>RPD CL</u> 0-11	Qualifiers



# Glossary of Terms and Qualifiers



Work Order Number:

05-09-1475

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<b>1</b>	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
20 27 27 27 27 27 27 27 27 27 27 27 27 27	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.
<b>3</b> Water	Recovery of the Matrix Spike or Matrix Spike Duplicate 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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	Analyte presence was not confirmed on primary column.
Ε	Concentration exceeds the calibration range.
Н	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laborator, method detection limit. Reported value is estimated.
Ν	Nentarget 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.





Relinquished By

Time

RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor

Westminster, CA 92683

INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

Date:

Time:

Received By

	SAMPLE ANALYSIS MEMOR	ANDUM T	O:		
				mental Laboratories	- · · · · · · · · · · · · · · · · · · ·
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			Garden Grov	e, CA 92841	
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	Southern Calif. Edison P.O. Num	ber:	Q1033917	Release Number 100	2
	Please return and direct inquires	to:	Shawn Simmo	ons Tel: (714) 895 0525 Fa	
	In all correspondence refer to pro		05144	Email: shawn.simmons@sce	
	- · ·	· . —			i i i parte de la terra.
	Sample(s) are submitted for treat				
	Sample ID	Date	Time	Description/Analytes	
		Collected	Collected		
_	<u></u>		<u>L</u>		
	LB050926-C1	9/26/05	N30	TPH Diesel by DHS Luft	
)	LB050926-C1	9/26/05	L _ 1	Hexavalent Chromium by EPA 719	
Ń	18050926-C1 18050926-C1	9/26/05	$\Gamma$ – $\Gamma$ – $\Gamma$	Brochemical Oxygen Demand by El	A 405.I
L	1 B050926-C1	9/26/05	T - 🕈 - 🐧	Chemical Oxygen Demand by EPA	410.4
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	Special Instructions:	·			
			es are of brac		
				own to 100 ppb.	
		_ Report	J-Flagged Res	sults for Hexavalent Chromium	
				•	
	Chain of Custody:	<del></del>			<del></del>
			e:9/26/00	Jan Jama Co	5L Date:9/24/05
	Relinquished By	Tin		Received By	Time: 1435
	- Keiniqueneu By	ARI	<u></u>	ACCEIVED BY	1 time. /4:33





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2nd

floor

Westminster, CA 92683

Received By

Time:

INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

SAMPLE ANALYSIS MEMORANDUM TO:

Relinquished By

	·	Calscie	nce Environ	mental Laboratories	<b>₽</b>
		•	7440 T in	and War	
i				coln Way e, CA 92841	
	L	÷	Jaraen Greve	e, CA 92041	
	Southern Calif. Edison P.O. I	Number:	Q1033917	Release Number:	Ã002
	Please return and direct inqu	· · · · · · · · · · · · · · · · · · ·	Shawn Simmo	ons Tel: (714) 895-0528	Fax: (714) 895-0515
	In all correspondence refer to		05144	Email: shawn simmons@	
	Sample(s) are submitted for t	treatment/disposit	tion as descri	hed helow.	
	Sample ID	Date	Time	Description/Analytes	
		Collected	Collected		
	LB050926-2	9/26/05	1015]	TPH Diesel by DHS Luft	
2	LB050926-2	9/26/05		Hexavalent Chromium by EPA	
-/	LB050926-2	9/26/05		Biochemical Oxygen Demand by	
	LB050926-2 LB050926-2 LB-050926-2	9/26/05	4	Chemical Oxygen Demand by E	PA 410.4
	<u></u>				
		- 4-6-3	▶		
		- 4-1-			
	L		┡	<b>_</b>	
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	L	, <u> </u>	╄	<b></b>	
	***	<u>*                                    </u>			
	Special Instructions:				
		Sample	es are of brac	kish water	
				own to 100 ppb.	
				sults for Hexavalent Chromium	
	Chain of Custody:	· · · · · · · · · · · · · · · · · · ·			<del>,                                    </del>
	CX I to	Date	e: 9/26/05	EXA Doma C	XZ Date: 9/26/05
	Relinquished By	. Tim	ie: 142 F	Received By	Time: 1435
, ,					
		Date	e:		Date:

Time





Relinquished By

Time

#### RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup>

Received By

Time:

floor Westminster, CA 92683

#### INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

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	SAMPLE ANALYSIS MEMOR			en en en en en en en en en en en en en e	en er er er er er er er er er er er er er
		Calscie	ence Environ	mental Laboratories	· · · · · · · · · · · · · · · · · · ·
	· · · · · · · · · · · · · · · · · · ·		7440 Lin	icoln Way	A.
	<u>twe</u> t			/e, CA 92841	
		÷			
	Southern Calif. Edison P.O. Num		Q1033917		002
	Please return and direct inquires In all correspondence refer to pro		Shawn Simm 05144	ons Tel: (714) 895 0525 I Email: shawn.spmions@s	
	-				ce.com
	Sample(s) are submitted for treat				
	Sample ID	Date Collected	Time Collected	Description/Analytes	
		Conected	Conecteu		3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	LB050926-3	9/26/05	1025	TPH-Diesel by DHS Luft	. – – – – – – –
ے	LB050926-3	9/26/05	1000	Hexavalent Chromium by EPA 71	95. 57
1	LEOS0926-3	9/26/05		Biochemical Oxygen Demand by	
<u></u>	LEOS0926-3	9/26/05		Chemical Oxygen Demand by EP	
		<u> </u>		<b>N</b>	
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		ļ	<u> </u>	<u> </u>	
	Special Instructions:				:
	· .	Sample	es are of bra	ckish water.	
		Report	TPH-Diesel d	lown to 100 ppb.	
	L	_ Report	J-Flagged Re	sults for Hexavalent Chromium	
	Chain of Custody				and the second
		<u> </u>	9/-/	196 - 6 /	= 1 2/1
,			e:9/26/05	JAN tomo G	Date: 9/2/2/05
	Relinquished By	Tin	1e: 1455	Received By	Time: /4'35
/	<i>( )</i>	Dat	e:		Date:
v					





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

floor Westminster, CA 92683

SAMPLE	ANALYSIS	MEMOR	ANDUM	TO:
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Calscience Environmental Laboratories

	Caiscie	ence Environ	memai Laboratories	4
,		7440 Lin	coln Way	A.
	i		e, CA 92841	
,	•	Garden Grov	c, CA 92041	
Southern Calif. Edison P.O. Nu	·	Q1033917	Pologo Nume	4 003
		Shawn Simme		E (714) 905 (
Please return and direct inquir			ons Tel: (714) 895 0525	rax: (714) 895-0
In all correspondence refer to	project:	05144	Email: shawa.s/mmons@	sce.com
Sample(s) are submitted for tre	eatment/disposi	ition as descri	hed below.	
Sample ID	Date	Time	Description/Analytis	
	Collected	Collected		•
	Concettu	Conceicu	4	
1-1-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	705,05	17222		
LISOSO926-4	9/26/05	<u> 1,000</u>	TPH-Diesel by DHS Luft	
LB 050926-4 LB 050926-4	9/26/05	<del>↓</del>	Hexavalent Chromium by EPA 7	
LD 050926-4	9/26/05	<u>l</u>	Brochemical Oxygen Demand by	
LIS 050926-4	9/26/05	<b>y y</b>	Chemical Oxygen Demand by E	PA 410.4
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G + 1.T / 12	<del></del>			
Special Instructions:		· · · · · · · · · · · · · · · · · · ·		
		es are of brac		
			own to 100 ppb.	
	Report	J-Flagged Re	sults for Hexavalent Chromium	
		W		
Chain of Custody	-		<u> </u>	
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	Da	te:9/26/0	5 Horn toma	8C Date: 9/2
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/ / /				
	Da	te:	<u> </u>	Date:
Relinquished Ry	Tir	ne	Received By	Time:



**WORK ORDER #:** 

05-09-1475

Cooler \_\_\_\_\_ of \_\_/\_

# **SAMPLE RECEIPT FORM**

CLIENT: 8. Ca. Edison	DATE: 9/24/05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  Calcalate the provided in cooler with wet ice.  Calcalate the provided in cooler with wet ice. Calcalate the provided in cooler with	LABORATORY (Other than Calscience Courier):  2.2°C Temperature blank.  °C IR thermometer  Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact	Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples	
COMMENTS:	

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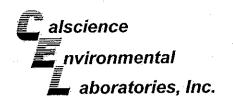
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October 04, 2005

Shawn Simmons Southern California Edison **Material Testing Laboratory** 7351 Fenwick Lane Westminster, CA 92683-5202

Subject:

Calscience Work Order No.:

Client Reference:

05-10-0025

Long Beach NPDES

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 10/3/2005 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 any subcontracted analysis 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.

Calscience Environmental Laboratories, Inc.

Steven L. Lane **Laboratory Director** 



#### **Analytical Report**



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received: Work Order No: Preparation: Method: 10/03/05 05-10-0025 EPA 3510C DHS LUFT

Project: Long Beach NPDES

Page 1 of 1

Client Sample Number		Lab Samp Number		Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051003-Intake-TPH		05-10-00	25-1	10/03/05	Aqueous	10/03/05	10/03/05	051003B03
Comment(s): -Results were	e evaluated to the	MDL, concentrations	>= to the M	DL but < RL, if	found, are qua	ilified with a "J"	flag.	
<u>'arameter</u>	Result	<u>RL</u>	MDL.	<u>DF</u>	Qual	<u>Units</u>		
PH as Diesel	ND	100	84	1		ug/L		¥1.14
urrogates:	<u>REC (%)</u>	Control Limits	Ē		<u>Qual</u>	-		
ecachlorobiphenyl	79	51-141		•				•
LB-051003-001-TPH		05-10-00	25-2	10/03/05	Aqueous	10/03/05	10/03/05	051003B03
					-			
<u>'arameter</u>	Result	<u>RL</u>	MDL	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
PH as Diesel	180	100	84	1		ug/L		
urrogates:	REC (%)	Control Limits			Qual			
ecachlorobiphenyl	74	51-141						
Method Blank		098-03-0	39-916	N/A	Aqueous	10/03/05	10/03/05	051003B03
Comment(s): -Results were	e evaluated to the I	MDL, concentrations	>= to the M	DL but < RL, if t	ound, are qua	lified with a "J"	flag,	
<u>arameter</u>	Result	<u>RL</u>	MDL	<u>DF</u>	Qual	<u>Units</u>		4. 1. 4.
PH as Diesel	ND	100	84	1		ug/L	- ' .	
urrogates:	REC (%)	Control Limits			<u>Qual</u>	- <b>3</b> -		
ecachlorobiphenyl	99	51-141		- 1	+ 7		7 : 1	
occorno obiprioriyi	33	37-141						

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers



#### nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Material Testing Laboratory 7351 Fenwick Lane Westminster, CA 92683-5202 Date Received:
Work Order No:
Preparation:
Method:

Contract of the Secretary of the Second

N/A 05-10-0025 EPA 3510C DHS LUFT

Project: Long Beach NPDES

Quality Control Sample (D	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batc Number	h
098-03-039-916	Aqueous	GC 23	10/03/05	10/03/05	051003B03	
Parameter TPH as Diesel		97	6		RPD CL 0-11	<u>Qualifiers</u>

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# **Glossary of Terms and Qualifiers**



Work Order Number: 05-10-0025

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
ing <b>1</b> mg ji Tanggar	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
<b>2</b> 56 <u>1</u> 56	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 or Matrix Spike Duplicate 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.
В	Analyte was present in the associated method blank.
С	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Н	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.
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.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.





RESULTS TO:

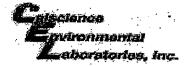
Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2<sup>nd</sup> floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

#### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

Collected   Collected	PH as Diesel by DHS Luft  PH as Diesel by DHS Luft  Report TPH-Diesel down to 100 µg/L F > 100 µg
Collected  LB-051003-Intake-TPH 10/3/05 0935  LB-051003-001-TPH 10/3/05 0935  Special Instructions:	PH as Diesel by DHS Luft  PH as Diesel by DHS Luft  Report TPH-Diesel down to 100 µg/L + > 100 µg
LB-051003-001-TPH 10/3/05 093S  Special Instructions:	PH as Diesel by DHS Luft  Report TPH-Diesel down to 100 µg/L F > 100 µg
Special Instructions:	Report TPH-Diesel down to 100 µg/L . F > 100 µ
Special Instructions:	Report TPH-Diesel down to 100 µg/L. F > 100 µg
Special Instructions:	Report TPH-Diesel down to 100 µg/L. F > 100 µg
Special Instructions:	Please J-flag if <100 pus/L.
Special Instructions:	Please J-flag if <100 pmg/L.  24 hour RUSH
	opy results to: Tim.Hemig@nrgenergy.com, and
	Scott.Seipel@shawgrp.com
Chain of Custady	
Chain of Custady	
Chain of Custady	
Chain of Custody	1
Chain of Custody.	
Defamissance Date 0/03/05	
Relinquished By Time: /207	Date: 0.03.05
Date:	Received By Time: /8107



**WORK ORDER #:** 

05-10-0025

Cooler \_\_\_\_ of \_\_\_

# **SAMPLE RECEIPT FORM**

CLIENT: CO. Edicor	DATE: 10.3.05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided.  Chilled, cooler without temperature blank.  Chilled and placed in cooler with wet ice.  Ambient and placed in cooler with wet ice.  Ambient temperature.  C Temperature blank.	LABORATORY (Other than Calscience Courier): °C Temperature blank. °C IR thermometer. Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact)	: Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples	
COMMENTS:	





October 06, 2005

Ralph Esqueda Southern California Edison Company **Edison Chemical Services** 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202

Subject:

Calscience Work Order No.:

05-10-0202

Client Reference:

Long Beach NPDES

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 10/5/2005 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 any subcontracted analysis 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.

Calscience Environmental

Laboratories, Inc.

Steven L. Lane

Laboratory Director

CA-ELAP ID: 1230



### **Analytical Report**



Southern California Edison Company
Edison Chemical Services
7301 Ferwick Lane, 2nd Floor

7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received:

Work Order No: Preparation:

Method:

10/05/05

05-10-0202

EPA 3510C

**DHS LUFT** 

Project:	Long	Beach	NPDES.
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Page 1 of 1

Client Sample Number			Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051005 - Intake-T	PH		05-10-0202-1	10/05/05	Aqueous	10/05/05	10/05/05	- 051005B03
Comment(s):	The sample chromatog f the unknown hydroca	raphic patter	n for TPH does not m	atch the chrom	natographic pat	tem of the spe	cified standard	l. Quantitation
<u>Parameter</u>	i tile drikhown hydroca	Result	RL RL	DF	Qual	<u>Units</u>		
TPH as Diesel		140	50	1		ug/L	**	•
Surrogates:		REC (%)	Control Limits		Qual		,	
Decachlorobiphenyl		97	51-141					
LB-051005:-001-TPH	<b>(</b>		05:10-0202-2	10/05/05	Aqueous	10/05/05	10/05/05	051005B03
<u>Parameter</u>	* ************************************	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>		
TPH as Diesel		110 -	50	1		ug/L		
Surrogates:		REC (%)	Control Limits		Qual	•	•	•
Decachlorobiphenyl		51	51-141					
LB-051005 - RB-TPH	an ang kampanananan Ili ang kampananan Ili ang kampananan	(A)	05-10-0202-3	10/05/05	Aqueous	10/05/05	10/05/05	ø51005B03
Parameter		Result	<u>RL</u>	DF	Qual	<u>Units</u>		
TPH as Diesel		180	- 50	1		ug/L		
Surrogates:		REC (%)	Control Limits		Qual			·
Decachlorobiphenyl		59	51-141			,		
Method Blank	90.0		098-03-039-923	N/A	Aqueous	10/05/05	10/05/05	051005B03
<u>Parameter</u>		Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>		
TPH as Diesel		ND	50	1		ug/L		
Surrogates:		REC (%)	Control Limits		Qual			e et e
Decachlorobiphenyl		97	51-141					

RL - Reporting Limit ,

DF - Dilution Factor

Qual - Qualifiers



### nvironmental Quality Control - LCS/LCS Duplicate



Southern California Edison Company Edison Chemical Services 7301 Fenwick Lane, 2nd Floor Westminster, CA 92683-5202 Date Received:
Work Order No:
Preparation:
Method:

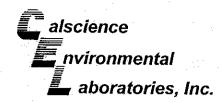
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N/A 05-10-0202 EPA 3510C DHS LUFT

Project: Long Beach NPDES

Quality Control Sample ID	event to	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bate Number	h
098-03-039-923		Aqueous	GC/23	10/05/05	10/05/05	051005B03	
<u>Parameter</u>	an appetending				C CL RPD	RPD CL	Qualifier
TPH as Diesel		91	91	60	132 0	0-11	



## **Glossary of Terms and Qualifiers**



Work Order Number: 05-10-0202

2.44	
Qualifier	Definition with the second state of the second
*	See applicable analysis comment.
	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
<b>2</b> **;	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 or Matrix Spike Duplicate 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.
<b>5</b>	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.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
C .	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Н	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.
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.
<b>X</b>	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.





RESULTS TO:

Facsimile: (714) 895-0515 Power Production Chemical Southern California Edison 7301 Fenwick Lane, 2nd floor Westminster, CA 92683 INVOICE TO:

Southern California Edison Accounts Payable Division P.O. Box 700 Rosemead, CA 91770

### SAMPLE ANALYSIS MEMORANDUM TO:

Calscience Environmental Laboratories 7440 Lincoln Way Garden Grove, CA 92841

		1	•				
Southern Calif. Edison P.O. Num	ber:	Q1033917	Release Number: A002				
Please return and direct inquires to: In all correspondence refer to project:		Ralph Esque		(714) 895-0515			
		ng Beach N	PDES Email: ralph.esqueda@sce.com	ì			
Sample(s) are submitted for treat			<del>D</del>				
Sample(s) are submitted for treat	michionsposi			ar esa es			
Sample ID	Date Collected	Time Collected	Description/Analytes				
LB-051005 - Intake-TPH	10/05/05	1125	TPH as Diesel by DHS Luft				
LB-051005 - 001-TPH	10/05/05	1147	TPH as Diesel by DHS Luft	<u> </u>			
III 031000 CO. III							
LB-051005 - RB-TPH	10/05/05	1120	TPH as Diesel by DHS Luft				
LB-031003 - KB-1111	10.00.00	1.720		``````````````````````````````````````			
	<u> </u>		Required detection limit 50 µg/L.				
1							
			24 HOUR RUSH	<del></del>			
	<u> </u>	_	21 10021 110				
		- <b> </b> -	Copy results to: Tim.Hemig@nrgene	rov com and			
				гру.от дала			
			Scott.Seipel@shawgrp.com				
			,				
Special Instructions:				· )			
<u></u>							
		· · · · · · · · · · · · · · · · · · ·					
Chain of Custody							
		ate: 10/5/05	- RS	Date:/0.5-05			
1CN In	~   D	ate: 10/5/03	JAN 11 11 VC COC	1 -			
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		ate:		Date:			
		4161	Received By	Time:			
	ציו ו	Ti man at	: RCCCIVED DV	I K BRAND'I			



**WORK ORDER #:** 

05-10-0202

Cooler \_\_\_\_\_ of \_ /\_\_\_

# SAMPLE RECEIPT FORM

CLIENTE Ca. Balson	DATE: 10.5.05
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:  Chilled, cooler with temperature blank provided. Chilled, cooler without temperature blank. Chilled and placed in cooler with wet ice. Ambient and placed in cooler with wet ice. Ambient temperature.  C Temperature blank.	LABORATORY (Other than Calscience Courier):  °C Temperature blank.  °C IR thermometer.  Ambient temperature.
CUSTODY SEAL INTACT:	
Sample(s): Cooler: No (Not Intact)	: Not Applicable (N/A):
SAMPLE CONDITION:	
Chain-Of-Custody document(s) received with samples.  Sample container label(s) consistent with custody papers.  Sample container(s) intact and good condition.  Correct containers for analyses requested.  Proper preservation noted on sample label(s).  VOA vial(s) free of headspace.  Tedlar bag(s) free of condensation.	
COMMENTS:	