

***Section 5.0***

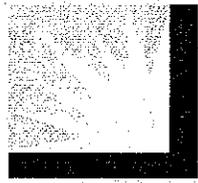
***Application Sampling and Analysis Laboratory Report***

1870

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***Existing Operations 24 Hour Composite Sampling  
June 2005***

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SOUTHERN CALIFORNIA  
**EDISON**

An *EDISON INTERNATIONAL* Company

## ANALYTICAL REPORT

Laboratory Name: Power Production Chemical  
Address: 7301 Fenwick Lane, 2nd Floor  
Westminster, CA 92683-5202

Telephone: (714) 895-0525  
Facsimile: (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: Long Beach Generation, L.L.C.  
ADDRESS: 2665 West Seaside Blvd.  
Long Beach, CA 90813

DATE(S) SAMPLED: 07/18/05 and 07/19/05  
DATE(S) RECEIVED: 07/18/05 and 07/19/05

Chain of Custody(ies) Received: Yes



SOUTHERN CALIFORNIA  
**EDISON**

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**ANALYTICAL REPORT**

**Cover Page 2**

<b><u>Inorganic Analyses</u></b>	<b># of Samples</b>	<b># of Samples Subcontracted</b>
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	0
Sulfate	1	0
Sulfide	1	0
Sulfite	1	0
Magnesium	1	0
BOD	1	1
COD	1	1
TOC	1	1
Ammonia-N	1	1
Bromide	1	1
Total/Fecal Coliform	9	9
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
<b><u>Organic Analyses</u></b>	<b># of Samples</b>	<b># of Samples Subcontracted</b>
VOCs	5	5
SVOCs	1	1
Dioxin	1	1
Pesticides/PCBs	1	1
<b>Sample Condition:</b>	<b>Acceptable</b>	

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (°C)	RESULT (°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-Outfall	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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	Total Chlorine (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-Cl 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-Cl 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-Cl 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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	MDL (pH unit)	RESULT (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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	MDL (mg/L)	RESULT (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-Outfall	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

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

SAMPLE POINT	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

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
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

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
LB-Outfall Composite	7/18-7/19/05	07/20/05	Sulfate	EPA 300.0	200	1480
Method Blank		07/20/05	Sulfate	EPA 300.0	2	ND

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
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	METHOD	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

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
LB-Outfall	7/18-7/19/05	07/21/05	Total Magnesium	SM 3111B	40	864
Method Blank		07/21/05	Total Magnesium	SM 3111B	0.02	ND

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (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

Laboratory Control Sample						
Analyte	Date Analyzed		LCS Conc. (mg/L)	Result (mg/L)	LCS Recovery	Accept. Range
Magnesium WP-114	07/21/05		20.0	20.7	104%	88-112%
Sulfate	07/20/05		10.0	10.0	100%	88-112%
Nitrate-N	07/20/05		3.89	3.86	99%	88-112%
Oil and Grease OPR	07/29/05		40.0	36.7	92%	78-114%

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

Date Sampled: 07/19/05  
Date Received: 07/20/05  
Date Analyzed: 07/26/05

Attn: Shawn Simmons  
RE: Long Beach Permit

Work Order No.: 05-07-1140  
Method: SM4500 Br-B  
Page 1 of 1

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

<u>Sample Number</u>	<u>Bromide Concentration</u>	<u>Reporting Limit</u>
Outfall Composite	1.03	0.20
Method Blank	ND	0.10



**QUALITY ASSURANCE SUMMARY**

Method SM4500 Br-B

Southern California Edison Company  
 Page 1 of 1

Work Order No.: 05-07-1140  
 Date Analyzed: 07/26/05

**Matrix Spike/Matrix Spike Duplicate**

Sample Spiked: Outfall Composite

<u>Analyte</u>	<u>MS%REC</u>	<u>MSD%REC</u>	<u>Control Limits</u>	<u>%RPD</u>	<u>Control Limits</u>
Bromide	123	123	70 - 130	0	0 - 25

**Laboratory Control Sample**

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Bromide	0.400	0.400	100	80 - 120

***Alternate Discharge Operations 24 Hour Composite Sampling  
July 2005***

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

Date Received: 07/20/05  
 Work Order No: 05-07-1140  
 Preparation: EPA 3510B  
 Method: EPA 8081A/8082  
 Units: ug/L

Project: Long Beach Permit

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
<b>Outfall Composite</b>	<b>05-07-1140-1</b>	<b>07/19/05</b>	<b>Aqueous</b>	<b>07/20/05</b>	<b>07/25/05</b>	<b>050720L01</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	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 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	ND	0.10	1		Aroclor-1262	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	78	50-135			2,4,5,6-Tetrachloro-m-Xylene	66	50-135		

Method Blank	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
<b>Method Blank</b>	<b>095-01-015-1,364</b>	<b>N/A</b>	<b>Aqueous</b>	<b>07/20/05</b>	<b>07/20/05</b>	<b>050720L01</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	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 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	ND	0.10	1		Aroclor-1262	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	92	50-135			2,4,5,6-Tetrachloro-m-Xylene	72	50-135		

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

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

Date Received: 07/20/05  
 Work Order No: 05-07-1140

Project: Long Beach Permit

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall Composite	05-07-1140-1	07/19/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Fluoride	0.79	0.1	1		mg/L	N/A	07/25/05	EPA 340.2
Ammonia	1.9	0.1	1		mg/L	N/A	07/25/05	EPA 350.2
Total Kjeldahl Nitrogen	3.8	0.5	1		mg/L	N/A	07/26/05	EPA 351.3
Phosphorus, Total	0.55	0.1	1		mg/L	07/28/05	07/28/05	EPA 365.3
Chemical Oxygen Demand	230	5	1		mg/L	N/A	07/22/05	EPA 410.4
Carbon, Total Organic	22	5	10		mg/L	N/A	07/20/05	EPA 415.1
Surfactants	0.23	0.1	1		mg/L	N/A	07/20/05	EPA 425.1

Method Blank				N/A				Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Fluoride	ND	0.10	1		mg/L	N/A	07/25/05	EPA 340.2
Ammonia	ND	0.10	1		mg/L	N/A	07/25/05	EPA 350.2
Total Kjeldahl Nitrogen	ND	0.50	1		mg/L	N/A	07/26/05	EPA 351.3
Phosphorus, Total	ND	0.10	1		mg/L	07/28/05	07/28/05	EPA 365.3
Chemical Oxygen Demand	ND	5.0	1		mg/L	N/A	07/22/05	EPA 410.4
Carbon, Total Organic	ND	0.50	1		mg/L	N/A	07/20/05	EPA 415.1
Surfactants	ND	0.10	1		mg/L	N/A	07/20/05	EPA 425.1

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



Environmental

Laboratories, Inc.

Quality Control - Spike/Spike Duplicate



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

Date Received: N/A  
Work Order No: 05-07-1140

Project: Long Beach Permit

Matrix: Aqueous

Parameter	Method	Quality Control	Date	Date	MS%	MSD%	%REC	RPD	RPD	Qualifiers
		Sample ID	Analyzed	Extracted	REC	REC	CL		CL	
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	

RPD - Relative Percent Difference, CL - Control Limit



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

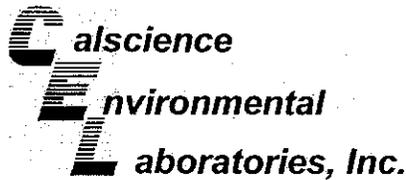
Date Received: N/A  
 Work Order No: 05-07-1140

Project: Long Beach Permit

**Matrix: Aqueous**

Parameter	Method	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	

RPD - Relative Percent Difference, CL - Control Limit



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: 05-07-1140  
 Preparation: EPA 3510B  
 Method: EPA 8081A/8082

Project: Long Beach Permit

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-015-1,364	Aqueous	GC 16	07/20/05	07/20/05	050720L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	105	108	50-135	3	0-25	
Heptachlor	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	

RPD - Relative Percent Difference, CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1140

Project: Long Beach Permit

Matrix: Aqueous

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

RPD - Relative Percent Difference, CL - Control Limit



**Environmental Quality Control - Laboratory Control Sample**  
**Laboratories, Inc.**



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

Date Received: N/A  
 Work Order No: 05-07-1140

Project: Long Beach Permit

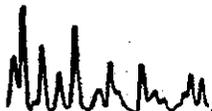
Matrix : Aqueous

Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Phosphorus, Total	EPA 365.3	099-05-098-1,633	07/28/05	7/28/2005	0.40	0.41	103	80-120	
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	

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-07-1140

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



1140



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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com

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

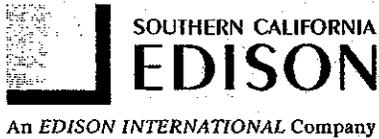
Sample ID	Date Collected	Time Collected	Description/Analytes
1 Outfall Composite	7/18 to 7/19		Kjedahl Nitrogen, EPA <del>345.1</del> 351.3 ✓
1 Outfall Composite	7/18 to 7/19		Chemical Oxygen Demand, EPA 410.4 ✓
1 Outfall Composite	7/18 to 7/19		Total Organic Carbon, EPA 415.1 ✓
1 Outfall Composite	7/18 to 7/19		Ammonia-N, EPA 350.2 ✓
1 Outfall Composite	7/18 to 7/19		Fluoride, Bromide, MBAS ✓

Special Instructions:  
Matrix is seawater.

Chain of Custody:

	Date: 7/20/05		Date:
Relinquished By	Time: 3:05	Received By	Time:
	Date:		Date: 7-20-05
Relinquished By	Time:	Received By	Time: 1:05

1140



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:

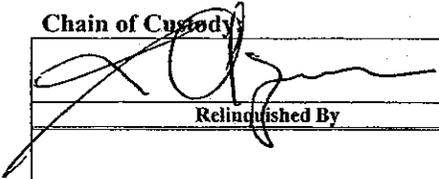
Calscience Environmental Laboratories  
7440 Lincoln Way  
Garden Grove, CA 92841

Southern Calif. Edison P.O. Number: Q1033917 Release Number: A002  
Please return and direct inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com  
Sample(s) are submitted for treatment/disposition as described below.

Sample ID	Date Collected	Time Collected	Description/Analytes
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, Total Alpha and Total Beta
Outfall Composite	7/18 to 7/19		Radiochemistry, Total Radium, Radium 226

Special Instructions:  
Pesticides: Aldrin, Chlordane, Dieldrin, 4,4-DDT, 4,4-DDE, 4,4-DDD, alpha-Endosulfan, beta-Endo-sulfan, Endosulfan sulfate, Endrin, Endrin aldehyde, Heptachlor, Heptachlor epoxide, alpha-BHC, beta-BHC, gamma-BHC, delta BHC, Toxaphene. PCBs: 1016, 1221, 1232, 1242, 1248, 1254, and 1260.  
Matrix is seawater.

Chain of Custody

	Date: <u>7/20/05</u>		Date:
Relinquished By	Time: <u>305</u>	Received By	Time:
	Date:	<u>Wobate co</u>	Date: <u>7-20-05</u>
Relinquished By	Time:	Received By	Time: <u>150</u>



WORK ORDER #:

05 - 07 - 1140

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: J. Pa. 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.
3.2 °C IR thermometer.
Ambient temperature.

Initial: [Signature]

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Applicable (N/A): [checked]

Initial: [Signature]

SAMPLE CONDITION:

Table with 4 columns: Description, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sample container label(s), Sample container(s) intact, Correct containers for analyses, Proper preservation, VOA vial(s) free of headspace, Tedlar bag(s) free of condensation.

Initial: [Signature]

COMMENTS:

Blank lines for handwritten comments.



# Paragon Analytics

## Radiochemistry Case Narrative

### Gross Alpha/Beta

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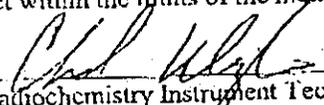
#### CalScience Environmental Laboratories

05-07-1140

PA WO 0507214

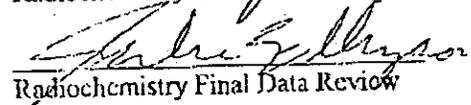
1. This report consists of the analytical results for one water sample received by Paragon on 7/23/05.
2. This sample was prepared according to Paragon Analytics procedure SOP702R17.
3. The sample analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytics procedure SOP724R8. The analyses were completed on 8/3/05. Gross alpha results are referenced to  $^{241}\text{Am}$ . Gross beta results are referenced to  $^{90}\text{Sr/Y}$ .
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/cm<sup>2</sup>. 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.
6. 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

Date

8/18/05

  
Radiochemistry Final Data Review

Date

8/19/05

# 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  
 Client Project ID: 05-07-1140

Lab ID: AB050727-2MB

Sample Matrix: WATER  
 Prep SOP: PAI 702 Rev 17  
 Date Collected: 27-Jul-05  
 Date Prepared: 27-Jul-05  
 Date Analyzed: 02-Aug-05

Prep Batch: AB050727-2  
 QC Batch ID: AB050727-2-3  
 Run ID: AB050727-2A  
 Count Time: 1000 minutes

Final Allquot: 200 ml  
 Result Units: pCi/l  
 File Name: ABB0802

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:

#### 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 - Requested MDC not met

B - Analyte concentration greater than MDC.

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

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: AB0507214-1

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

## Laboratory Control Sample(s)

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project ID: 05-07-1140

Lab ID: AD050727-2LCS	Sample Matrix: WATER Prep SOP: PAI 702 Rev 17	Prep Batch: AB050727-2 QC Batch ID: AB050727-2-3 Run ID: AB050727-2A	Final Aliquot: 200 ml Result Units: pCi/l File Name: ABA0802
	Date Collected: 27-Jul-05 Date Prepared: 27-Jul-05 Date Analyzed: 02-Aug-05	Count Time: 90 minutes	

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-43-1	GROSS ALPHA	174 +/- 29	2	248	70.2	70 - 130	P
12587-47-2	GROSS BETA	188 +/- 31	6	234	80.5	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 the reported activity is greater than the reported MDC.

**Abbreviations:**

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 708)

Data Package ID: AB0507214-1

**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  
 Client Project ID: 05-07-1140

Field ID: Outfall 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: 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 +/- 56	65	M3

**Comments:****Qualifier/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.
- IT - 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)
- RDL - Below Detection Limit

**Data Package ID: AB0507214-1**



# Paragon Analytics

## Radiochemistry Case Narrative

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

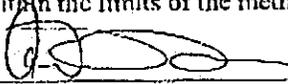
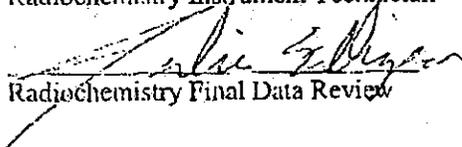
#### CalScience Environmental Laboratories

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.
4. 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 Technician8/12/05  
Date  
Radiochemistry Final Data Review8/15/05  
Date

# Ra-226 by Radon Emanation - Method 903.1

## PAI 783 Rev 5 Method Blank Results

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: Ca:Science Environmental Laboratories  
 Client/Project ID: 05-07-1140

Lab ID: 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
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CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13952-03-3	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:

**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.
- L1 - 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)
- NDL - Below Detection Limit

- M - Requested MDC not met.
- B - Analyte concentration greater than MDC.
- D3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: REM0507214-1

# Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 5

Laboratory Control Sample(s)

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project ID: 05-07-1140

Lab ID: RE050726-1LCS	Sample Matrix: WATER Prep SOP: PAI 783 Rev 5	Prep Batch: RE050726-1 QC Batch ID: RE050726-1-1	Final Aliquot: 995 ml Result Units: pCi/l
	Date Collected: 26-Jul-05 Date Prepared: 26-Jul-05 Date Analyzed: 04-Aug-05	Run ID: RE050805-1A Count Time: 15 minutes	File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-03-3	Ra-226	43 +/- 11	0	48.1	90.2	80 - 120	P

## Chemical Yield Summary

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

### Comments:

- Qualifiers/Flags:
- U - Result is less than the sample specific MDC.
  - L1 - 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.
  - M1 - The requested MDC was not met.
  - M2 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

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

Data Package ID: REM0507214-1

# Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 5

## Laboratory Control Sample(s)

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project ID: 05-07-1140

Lab ID: RE050726-1LCS0	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 QC Batch ID: RE050726-1-1 Run ID: RE050805-1A Count Time: 15 minutes	Final Aliquot: 995 ml Result Units: pCi/l File Name: Manual Entry
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CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13393-63-3	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	13710	13280	ug	96.7	40 - 110 %	

### Comments:

**Qualifier/Flags:**

- U - Result is less than the sample specific MDC.
- LT - Result is less than Registered 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 registered MDC was not met.
- M+ - The registered MDC was not met, but the reported activity is greater than the reported MDC.

**Abbreviations:**

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

Data Package ID: REM0507214-1

**Ra-226 by Radon Emanation - Method 903.1**

PAI 783 Rev 5

**Duplicate Sample Results (DER)**

Lab Name: Paragon Analytics

Work Order Number: 0507214

Client Name: CalScience Environmental Laboratories

Client Project ID: 05-07-1110

Field ID: Lab ID: RE050726-11.CSD	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 QC Batch ID: RE050726-1-1 Run ID: RE050805-1A 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 +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	43 +/- 11	43 +/- 11	0.02	2.13	P

**Comments:****Duplicate Qualifier 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 - Reported MDC normal.
- M2 - The reported MDC was not met, but the reported activity is greater than the reported MDC.
- F - LCS Recovery below lower control limit.
- R - LCS Recovery above upper control limit.
- P - LCS Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits.

**Abbreviations:**

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- SDL - Below Detection Limit
- NR - Not Reported

Data Package ID: REM0507214-1

**Ra-226 by Radon Emanation - Method 903.1**

PAI 783 Rev 5

**Sample Results**

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client/Project 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  
 QC Batch ID: 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
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
BARIUM	13860	13450	ug	97.1	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 design limits.
- L1 - 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 713)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)
- NDL - Below Detection Limit

Data Package ID: *REM0507214-1*



# Paragon Analyticals

## 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 Analyticals procedure SOP712R12.
3. The sample was analyzed for the presence of Total Alpha Emitting Radium Isotopes according to Paragon Analyticals 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 Analyticals 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.

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.

[Signature]  
Radiochemistry Instrument Technician

8/18/05  
Date

[Signature]  
Radiochemistry Final Data Review

8/18/05  
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  
Client Project 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
RADIUM	13850	14030	ug	101	40 - 110 %	Y1

### 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 708)  
BDL - Below Detection Limit

U1 - Requested MDC not met.  
B - Analyte concentration greater than MDC.  
B2 - 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  
 Client/Project 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 Analyzed: 31-Jul-05

Prep Batch: TR050727-1  
 QC Batch ID: 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
7410-14-4	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	13650	14100	ug	102	40 - 110 %	Y1

**Comments:****Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- LI - 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 incorporated activity is greater than the reported MDC.

**Abbreviations:**

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

Data Package ID: TR0507214-1

Date Printed: Thursday, August 04, 2005

Paragon Analytics  
 LIMS Version: 5.205A

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  
Client Project ID: 05-07-1140

Field 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  
Report Basis: Unfiltered

Final Aliquot: 995 ml  
Prep Basis: Unfiltered  
Moisture(%): NA  
Result Units: pCi/l  
File Name: TRB0731

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
7430-14-4	TOTAL RADIUM	0.64 +/- 0.18	0.06	LT

## Chemical Yield Summary

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

### Comments:

**Qualifiers/Flags:**

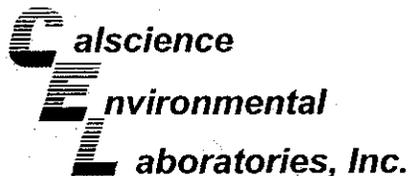
- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- M1 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M - The requested MDC was not met.

**Abbreviations:**

- TPU - Total Percentage Uncertainty (see PAI SOP 743)
- MDC - Maximum Detectable Concentration (see PAI SOP 705)
- BDL - Below Detection Limit

Data Package ID: TR0507214-1





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,

A handwritten signature in black ink that reads "S. Lane".

Calscience Environmental  
Laboratories, Inc.  
Steven L. Lane  
Laboratory Director

A handwritten signature in black ink, likely the signature of Steven L. Lane.



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

Date Received: 07/20/05  
 Work Order No: 05-07-1142

Project: Long Beach Permit

Page 1 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall (12:20)	05-07-1142-1	07/18/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Outfall (15:10)	05-07-1142-2	07/18/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Outfall (18:30)	05-07-1142-3	07/18/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Outfall (21:15)	05-07-1142-4	07/18/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

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



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

Date Received: 07/20/05  
 Work Order No: 05-07-1142

Project: Long Beach Permit

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall (00:10)	05-07-1142-5	07/19/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Outfall (03:10)	05-07-1142-6	07/19/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Outfall (06:00)	05-07-1142-7	07/19/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Outfall (09:10)	05-07-1142-8	07/19/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers



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

Date Received: 07/20/05  
 Work Order No: 05-07-1142

Project: Long Beach Permit

Page 3 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall (12:00)	05-07-1142-9	07/19/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

Method Blank				N/A				Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/25/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/27/05	EPA 420.1

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers



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

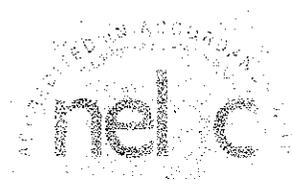
Date Received: N/A  
 Work Order No: 05-07-1142

Project: Long Beach Permit

**Matrix: Aqueous**

Parameter	Method	Quality Control Sample ID	Date Extracted	Date Analyzed	LCS % REC	LCSD % REC	%REC CL	RPD	RPD CL	Qual
Cyanide, Total	EPA 335.2	099-05-061-1,676	N/A	07/25/05	94	92	80-120	3	0-20	
Phenolics, Total	EPA 420.1	099-05-085-1,417	N/A	07/27/05	96	97	80-120	1	0-20	

RPD - Relative Percent Difference, CL - Control Limit



Work Order Number: 05-07-1142

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.

1142



**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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
 In all correspondence refer to project: Long Beach Permit 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	Total Phenolics, EPA 420.1
Outfall	7/18/05	15:10	Total Phenolics, EPA 420.1
Outfall	7/18/05	18:30	Total Phenolics, EPA 420.1
Outfall	7/18/05	21:15	Total Phenolics, EPA 420.1
Outfall	7/19/05	00:10	Total Phenolics, EPA 420.1
Outfall	7/19/05	03:10	Total Phenolics, EPA 420.1
Outfall	7/19/05	06:00	Total Phenolics, EPA 420.1
Outfall	7/19/05	09:10	Total Phenolics, EPA 420.1
Outfall	7/19/05	12:00	Total Phenolics, EPA 420.1
Outfall	7/18/05	12:20	Total Cyanide, EPA 335.2
Outfall	7/18/05	15:10	Total Cyanide, EPA 335.2
Outfall	7/18/05	18:30	Total Cyanide, EPA 335.2
Outfall	7/18/05	21:15	Total Cyanide, EPA 335.2
Outfall	7/19/05	00:10	Total Cyanide, EPA 335.2
Outfall	7/19/05	03:10	Total Cyanide, EPA 335.2
Outfall	7/19/05	06:00	Total Cyanide, EPA 335.2
Outfall	7/19/05	09:10	Total Cyanide, EPA 335.2
Outfall	7/19/05	12:00	Total Cyanide, EPA 335.2

**Special Instructions:**  
 Matrix is seawater.

**Chain of Custody**

	Date: 7/20/05		Date:
	Time: 305		Time:
Relinquished By	Date:	Received By	Date: 7-20-05
Relinquished By	Time	Received By	Time: 305

WORK ORDER #:

05 - 07 - 1142

Cooler 1 of 1

**SAMPLE RECEIPT FORM**

CLIENT: S. 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.

3.2 °C IR thermometer.

Ambient temperature.

Initial: [Signature]

**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact) : \_\_\_\_\_ Not Applicable (N/A):

Initial: [Signature]

**SAMPLE CONDITION:**

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

Initial: [Signature]

**COMMENTS:**

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CRG

## Marine Laboratories, Inc.

2020 Del Amo Blvd. Suite 200, Torrance, CA 90501 • (310) 533-5190 • FAX (310) 533-5003 • [mmercier@crqlabs.com](mailto:mmercier@crqlabs.com)

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August 15, 2005

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

Reviewed and Approved

Misty B. Mercier

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

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OFFICE OF THE ATTORNEY GENERAL

STATE OF TEXAS

ATTEST

WITNESSETH

IN WITNESS WHEREOF

I have hereunto set my hand and seal

this 1st day of January, 1901

1

JOHN W. HANCOCK

Attorney General

STATE OF TEXAS

# DATA REPORT



# 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 Project ID: 2557d**

**Client: Southern California Edison**

Date Sampled: 19-Jul-05  
 Date Received: 25-Jul-05  
 Date Processed: 02-Aug-05  
 Date Analyzed: 04-Aug-05

Sample Description: Outfall  
 Long Beach Permit  
 Matrix: Seawater  
 Analyst: P. Hershelman

CRG ID#: 26613  
 Replicate #: R1  
 Batch ID: 2557-12053  
 Instrument: ICPMS #1 HP 4500

COMPOSITE

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	9.59	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.061	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	5.2	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	5.54	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.059	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.255	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	2.69	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	326	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.196	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	675	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00849	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	3.49	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.707	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	0.043	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	0.733	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	4.7	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	11.6	µg/L	0.005	0.01	1	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  
 26613 RI

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 2557d

CRG ID#: 26613	Sample: Outfall	Date Sampled: 19-Jul-05	
Replicate #: R2	Description: Long Beach Permit	Date Received: 25-Jul-05	
Batch ID: 2557-12053	Matrix: Seawater	Date Processed: 02-Aug-05	
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 04-Aug-05	

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	9.27	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.085	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	5.03	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	5.68	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.047	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.255	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	2.63	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	354	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.197	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	687	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00887	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	3.97	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.753	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	0.726	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	4.69	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	11.7	µg/L	0.005	0.01	1	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  
26613 R2

# CRG Marine Laboratories, Inc.

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



**Client:** Southern California Edison

**CRG Project ID:** 2557d

CRG ID#: 26614	Sample Description: LCM-CRG Seawater	Date Sampled:	Date Received:
Replicate #: LCM1	QAQC Long Beach Permit	Date Received:	02-Aug-05
Batch ID: 2557-12053	Matrix: Seawater	Date Processed:	04-Aug-05
Instrument: ICP/MS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed:	

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	ND	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.095	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.34	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	0.115	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.255	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.829	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	0.462	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.029	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	0.136	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00021	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9.66	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.302	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	0.084	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	0.019	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	0.251	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.01	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	1.41	µg/L	0.005	0.01	1	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  
26614 LCM1

# CRG Marine Laboratories, Inc.

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 Edison

CRG Project ID: 2557d

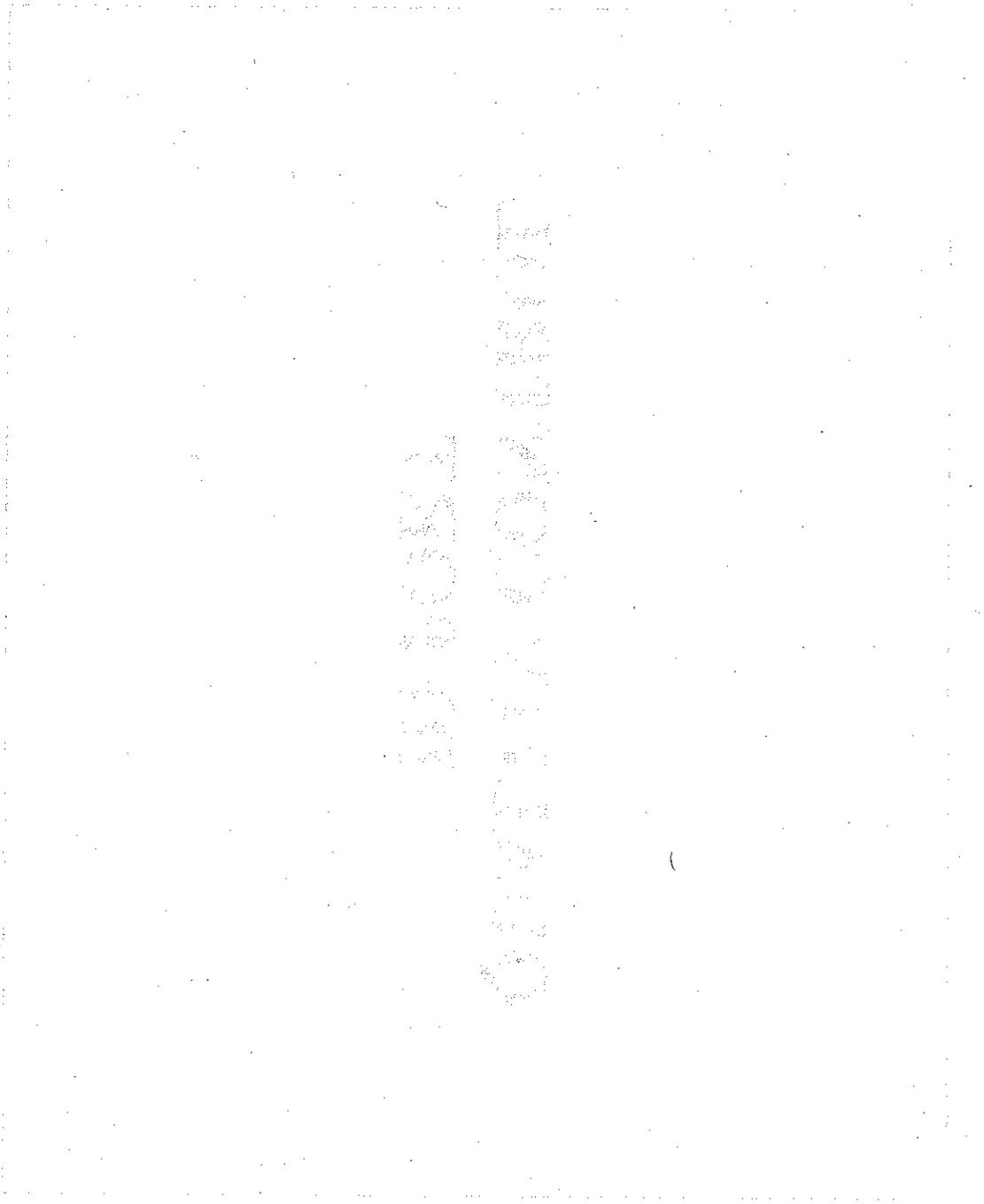
CRG ID#: 26614 Sample Description: LCM-CRG Seawater QA/QC  
 Replicate #: LCM2 Date Sampled:  
 Batch ID: 2557-12053 Matrix: Seawater Date Received:  
 Instrument: ICPMS #1 HP 4500 Analyst: P. Hershelman Date Processed: 02-Aug-05  
 Date Analyzed: 04-Aug-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	ND	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.134	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.51	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	0.113	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.285	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.856	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	0.32	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.011	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	0.164	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00015	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9.67	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.286	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	0.016	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	0.425	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.12	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	1.38	µg/L	0.005	0.01	1	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  
 26614 LCM2

# **QUALITY CONTROL REPORT**



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**PROCEDURAL BLANK  
RESULTS**

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# CRG Marine Laboratories, Inc.

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## Trace Metals

**Client: Southern California Edison** **CRG Project ID: 2557d**

**CRG ID#: 26612** **Sample Description:** Procedural Blank  
**Replicate #: B1** **Matrix:** DI Water  
**Batch ID: 2557-12053** **Analyst:** P. Hershelman  
**Instrument: ICPMS #1 HP 4500**

**Date Sampled:**  
**Date Received:** 02-Aug-05  
**Date Processed:** 04-Aug-05  
**Date Analyzed:**

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	ND	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	ND	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	ND	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1640	ND	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1631E	ND	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	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.**

1944年12月1日  
星期四

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星期五

1944年12月3日  
星期六

1944年12月4日  
星期日

1944年12月5日  
星期一

1944年12月6日  
星期二

1944年12月7日  
星期三

# 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



**Client:** Southern California Edison

**CRG Project ID:** 2557d

**CRG ID#:** 26614      **Sample Description:** LCM-CRG Seawater      **Date Sampled:**  
**Replicate #:** LCS1      **QA/QC:** Long Beach Permit      **Date Received:**  
**Batch ID:** 2557-12053      **Matrix:** Seawater      **Date Processed:** 02-Aug-05  
**Instrument:** ICPMS #1 HP 4500      **Analyst:** P. Hershelman      **Date Analyzed:** 04-Aug-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	Total	EPA 1640	70	20 µg/L	52 - 149%	PASS
Antimony (Sb)	Total	EPA 1640	74	25 µg/L	44 - 107%	PASS
Arsenic (As)	Total	EPA 1640	75	20 µg/L	71 - 114%	PASS
Beryllium (Be)	Total	EPA 1640	78	20 µg/L	62 - 113%	PASS
Cadmium (Cd)	Total	EPA 1640	102	25 µg/L	69 - 120%	PASS
Chromium (Cr)	Total	EPA 1640	94	20 µg/L	85 - 133%	PASS
Cobalt (Co)	Total	EPA 1640	77	20 µg/L	75 - 124%	PASS
Copper (Cu)	Total	EPA 1640	97	25 µg/L	72 - 128%	PASS
Iron (Fe)	Total	EPA 1640	85	25 µg/L	35 - 97%	PASS
Lead (Pb)	Total	EPA 1640	115	25 µg/L	56 - 116%	PASS
Manganese (Mn)	Total	EPA 1640	92	20 µg/L	64 - 120%	PASS
Mercury (Hg)	Total	EPA 1631E	100	0.0125 µg/L	68 - 117%	PASS
Molybdenum (Mo)	Total	EPA 1640	88	25 µg/L	59 - 125%	PASS
Nickel (Ni)	Total	EPA 1640	96	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	83	25 µg/L	55 - 110%	PASS
Silver (Ag)	Total	EPA 1640	82	20 µg/L	66 - 125%	PASS
Thallium (Tl)	Total	EPA 1640	91	20 µg/L	66 - 110%	PASS
Tin (Sn)	Total	EPA 1640	102	25 µg/L	68 - 110%	PASS
Titanium (Ti)	Total	EPA 1640	96	20 µg/L	85 - 133%	PASS
Vanadium (V)	Total	EPA 1640	102	20 µg/L	85 - 133%	PASS
Zinc (Zn)	Total	EPA 1640	71	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      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

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557d

<b>CRG ID#:</b> 26614	<b>Sample Description:</b> LCM-CRG Seawater	<b>QA/QC</b>	<b>Date Sampled:</b>
<b>Replicate #:</b> LCS2	<b>Description:</b> Long Beach Permit		<b>Date Received:</b>
<b>Batch ID:</b> 2557-12053	<b>Matrix:</b> Seawater		<b>Date Processed:</b> 02-Aug-05
<b>Instrument:</b> ICPMS #1 HP 4500	<b>Analyst:</b> P. Hershelman		<b>Date Analyzed:</b> 04-Aug-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	Total	EPA 1640	68	20 µg/L	52 - 149%	PASS
Antimony (Sb)	Total	EPA 1640	74	25 µg/L	44 - 107%	PASS
Arsenic (As)	Total	EPA 1640	73	20 µg/L	71 - 114%	PASS
Beryllium (Be)	Total	EPA 1640	74	20 µg/L	62 - 113%	PASS
Cadmium (Cd)	Total	EPA 1640	104	25 µg/L	69 - 120%	PASS
Chromium (Cr)	Total	EPA 1640	95	20 µg/L	85 - 133%	PASS
Cobalt (Co)	Total	EPA 1640	75	20 µg/L	75 - 124%	PASS
Copper (Cu)	Total	EPA 1640	100	25 µg/L	72 - 128%	PASS
Iron (Fe)	Total	EPA 1640	85	25 µg/L	35 - 97%	PASS
Lead (Pb)	Total	EPA 1640	114	25 µg/L	56 - 116%	PASS
Manganese (Mn)	Total	EPA 1640	91	20 µg/L	64 - 120%	PASS
Mercury (Hg)	Total	EPA 1631E	98	0.0125 µg/L	68 - 117%	PASS
Molybdenum (Mo)	Total	EPA 1640	92	25 µg/L	59 - 125%	PASS
Nickel (Ni)	Total	EPA 1640	97	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	88	25 µg/L	55 - 110%	PASS
Silver (Ag)	Total	EPA 1640	90	20 µg/L	66 - 125%	PASS
Thallium (Tl)	Total	EPA 1640	90	20 µg/L	66 - 110%	PASS
Tin (Sn)	Total	EPA 1640	109	25 µg/L	68 - 110%	PASS
Titanium (Ti)	Total	EPA 1640	99	20 µg/L	85 - 133%	PASS
Vanadium (V)	Total	EPA 1640	100	20 µg/L	85 - 133%	PASS
Zinc (Zn)	Total	EPA 1640	67	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

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 354

LECTURE 1

LECTURE 2

LECTURE 3

LECTURE 4

# PRECISION DATA

THE UNIVERSITY OF CHICAGO

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 2557d

<b>CRG ID#:</b> 26613	<b>Sample Description:</b> Outfall Long Beach Permit	<b>COMPOSITE</b>	<b>Date Sampled:</b> 19-Jul-05
<b>Batch ID:</b> 2557-12053	<b>Matrix:</b> Seawater		<b>Date Received:</b> 25-Jul-05
<b>Instrument:</b> ICPMS #1 HP 4500	<b>Analyst:</b> P. Hershelman		<b>Date Processed:</b> 02-Aug-05
			<b>Date Analyzed:</b> 04-Aug-05

CONSTITUENT	FRACTION	METHOD	R1		R2	% RPD	ACCEPTANCE RANGE	COMMENT
			µg/L	µg/L				
Aluminum (Al)	Total	EPA 1640	9.59	9.27	9.27	3	0 - 30%	PASS
Antimony (Sb)	Total	EPA 1640	0.061	0.085	0.085	33	0 - 30%	FAIL
Arsenic (As)	Total	EPA 1640	5.2	5.03	5.03	3	0 - 30%	PASS
Boron (B)	Total	EPA 200.8	5.54	5.68	5.68	2	0 - 30%	PASS
Cadmium (Cd)	Total	EPA 1640	0.059	0.047	0.047	23	0 - 30%	PASS
Chromium (Cr)	Total	EPA 1640	0.255	0.255	0.255	0	0 - 30%	PASS
Copper (Cu)	Total	EPA 1640	2.69	2.63	2.63	2	0 - 30%	PASS
Iron (Fe)	Total	EPA 1640	326	354	354	8	0 - 30%	PASS
Lead (Pb)	Total	EPA 1640	0.196	0.197	0.197	1	0 - 30%	PASS
Manganese (Mn)	Total	EPA 1640	675	687	687	2	0 - 30%	PASS
Mercury (Hg)	Total	EPA 1631E	0.00849	0.00887	0.00887	4	0 - 30%	PASS
Molybdenum (Mo)	Total	EPA 1640	3.49	3.97	3.97	13	0 - 30%	PASS
Nickel (Ni)	Total	EPA 1640	0.707	0.753	0.753	6	0 - 30%	PASS
Titanium (Ti)	Total	EPA 1640	0.733	0.726	0.726	1	0 - 30%	PASS
Vanadium (V)	Total	EPA 1640	4.7	4.69	4.69	0	0 - 30%	PASS
Zinc (Zn)	Total	EPA 1640	11.6	11.7	11.7	1	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  
26613

# CRG Marine Laboratories, Inc.

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



**Client:** Southern California Edison

**CRG Project ID:** 2557d

**CRG ID#:** 26614

**Sample Description:** LCM-CRG Seawater

**Date Sampled:**

**QA/QC:** Long Beach Permit

**Date Received:**

**Matrix:** Seawater

**Date Processed:** 02-Aug-05

**Analyst:** P. Hershelman

**Date Analyzed:** 04-Aug-05

**Batch ID:** 2557-12053  
**Instrument:** ICPMS #1 HP 4500

CONSTITUENT	FRACTION	METHOD	LCM1 µg/L	LCM2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	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)	Total	EPA 1640	0.115	0.113	2	0 - 30%	PASS
Chromium (Cr)	Total	EPA 1640	0.255	0.285	11	0 - 30%	PASS
Copper (Cu)	Total	EPA 1640	0.829	0.856	3	0 - 30%	PASS
Iron (Fe)	Total	EPA 1640	0.462	0.32	36	0 - 30%	FAIL
Lead (Pb)	Total	EPA 1640	0.029	0.011	90	0 - 30%	FAIL
Manganese (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)	Total	EPA 1640	9.66	9.67	0	0 - 30%	PASS
Nickel (Ni)	Total	EPA 1640	0.302	0.286	5	0 - 30%	PASS
Thallium (Tl)	Total	EPA 1640	0.019	0.016	17	0 - 30%	PASS
Titanium (Ti)	Total	EPA 1640	0.251	0.425	51	0 - 30%	FAIL
Vanadium (V)	Total	EPA 1640	2.01	2.12	5	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, Inc.

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



**Client:** Southern California Edison

**CRG Project ID:** 2557d

<b>CRG ID#:</b> 26614	<b>Sample Description:</b> LCM-CRG Seawater	<b>QA/QC:</b> Long Beach Permit	<b>Date Sampled:</b>
<b>Batch ID:</b> 2557-12053	<b>Matrix:</b> Seawater	<b>Analyst:</b> P. Hershelman	<b>Date Received:</b> 02-Aug-05
<b>Instrument:</b> ICPMS #1 HP 4500			<b>Date Analyzed:</b> 04-Aug-05

CONSTITUENT	FRACTION	METHOD	LCS1		% RPD	ACCEPTANCE RANGE		COMMENT
			% Recovery	% Recovery				
Aluminum (Al)	Total	EPA 1640	70	68	3	0 - 30%	PASS	
Antimony (Sb)	Total	EPA 1640	74	74	0	0 - 30%	PASS	
Arsenic (As)	Total	EPA 1640	75	73	3	0 - 30%	PASS	
Beryllium (Be)	Total	EPA 1640	78	74	5	0 - 30%	PASS	
Cadmium (Cd)	Total	EPA 1640	102	104	2	0 - 30%	PASS	
Chromium (Cr)	Total	EPA 1640	94	95	1	0 - 30%	PASS	
Cobalt (Co)	Total	EPA 1640	77	75	3	0 - 30%	PASS	
Copper (Cu)	Total	EPA 1640	97	100	3	0 - 30%	PASS	
Iron (Fe)	Total	EPA 1640	85	85	0	0 - 30%	PASS	
Lead (Pb)	Total	EPA 1640	115	114	1	0 - 30%	PASS	
Manganese (Mn)	Total	EPA 1640	92	91	1	0 - 30%	PASS	
Mercury (Hg)	Total	EPA 1631E	100	98	2	0 - 30%	PASS	
Molybdenum (Mo)	Total	EPA 1640	88	92	4	0 - 30%	PASS	
Nickel (Ni)	Total	EPA 1640	96	97	1	0 - 30%	PASS	
Selenium (Se)	Total	EPA 1640	83	88	6	0 - 30%	PASS	
Silver (Ag)	Total	EPA 1640	82	90	9	0 - 30%	PASS	
Thallium (Tl)	Total	EPA 1640	91	90	1	0 - 30%	PASS	
Tin (Sn)	Total	EPA 1640	102	109	7	0 - 30%	PASS	
Titanium (Ti)	Total	EPA 1640	96	99	3	0 - 30%	PASS	
Vanadium (V)	Total	EPA 1640	102	100	2	0 - 30%	PASS	
Zinc (Zn)	Total	EPA 1640	71	67	6	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

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 435

LECTURE 1

1.1

1.2

1.3

1.4

1.5

# **CHAIN-OF-CUSTODY**

RECEIVED





CRG

Marine Laboratories, Inc.

# SAMPLE RECEIPT FORM

CRG Project ID

P25B7d

CLIENT NAME Edison

DATE RECEIVED 7/25/05

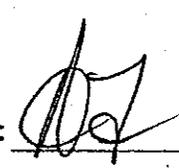
COURIER INFORMATION		
<input type="checkbox"/> CRG	<input type="checkbox"/> FEDEX	TRACKING NUMBER
<input checked="" type="checkbox"/> OTHER*	<input type="checkbox"/> UPS	

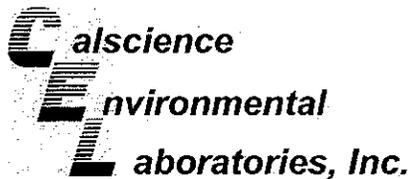
TEMPERATURE
<u>25 °C</u>
<input type="checkbox"/> BLUE ICE
<input type="checkbox"/> WET ICE
<input checked="" type="checkbox"/> NO ICE

Chain-of-Custody
<input checked="" type="checkbox"/> INCLUDED
<input checked="" type="checkbox"/> SIGNED
<input type="checkbox"/> NOT INCLUDED

SAMPLE MATRIX
<input checked="" type="checkbox"/> LIQUID
<input type="checkbox"/> SOLID
<input type="checkbox"/> OTHER*

CONDITION OF SAMPLES UPON ARRIVAL			
	YES	NO*	NA
All sample containers intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All samples listed on COC are present.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample ID on containers consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers used for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All samples received within method holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTES
<p style="text-align: right;">COMPLETED BY: </p>



July 26, 2005

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

Subject: **Calscience Work Order No.: 05-07-1038**  
**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,

A handwritten signature in black ink, appearing to read "Steven L. Lane", with the word "FOR" written in smaller letters to the right of the signature.

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

Project: Long Beach Permit

Page 1 of 1

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	Result	RL	DF	Qual	Units
Biochemical Oxygen Demand	2.5	1.0	1		mg/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Started	Date Ended	QC Batch ID
Outfall Composite	05-07-1038-2	07/19/05	Aqueous	07/19/05	07/24/05	50719BODB1

Parameter	Result	RL	DF	Qual	Units
Biochemical Oxygen Demand	12	1	1		mg/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Started	Date Ended	QC Batch ID
Method Blank	099-05-054-1,817	N/A	Aqueous	07/19/05	07/24/05	50719BODB1

Parameter	Result	RL	DF	Qual	Units
Biochemical Oxygen Demand	ND	1.0	1		mg/L

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



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

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

Project: Long Beach Permit

Quality Control Sample ID	Matrix	Instrument	Date Started:	Date Ended:	Duplicate Batch Number
Intake Composite	Aqueous	N/A	07/19/05	07/24/05	50719BODD1

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Biochemical Oxygen Demand	2.5	2.8	11	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Work Order Number: 05-07-1038

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



WORK ORDER #:

05 - 07 - 1038

Cooler 0 of 0

**SAMPLE RECEIPT FORM**

CLIENT: Edison

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.
- 23.5 °C IR thermometer.
- Ambient temperature.

Initial: [Signature]

**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact) : \_\_\_\_\_ Not Applicable (N/A):

Initial: [Signature]

**SAMPLE CONDITION:**

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

Initial: [Signature]

**COMMENTS:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# CRGLaboratories, Inc.

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: M0524b Batch ID 0719 Matrix: Reagents

Sample QAQC Client Name: Southern California Edison  
Description: Procedural Blank Shawn Simmons

Date Sampled: Date Recieved: 19-Jul-05

Time Collected: Time Analyzed: 13:15

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#: **26480** Replicate #PC1 Project ID: M0524b Batch ID 0719 Matrix: Cultures

Sample QAQC Client Name: Southern California Edison  
Description: Positive Control Shawn Simmons

Date Sampled: Date Recieved: 19-Jul-05  
Time Collected: Time Analyzed: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26461** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 12:20 Time Analyzed: 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 Laboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26462** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 12:20 Time Analyzed: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26463** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 15:00 Time Analyzed: 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 Laboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26464** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 15:06 Time Analyzed: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: 26465 Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
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
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: **26466** Replicate #R1 Project ID: M0524b Batch ID: 0718 Matrix: Seawater

Sample Description: Outfall

Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05

Date Recieved: 18-Jul-05

Time Collected: 18:30

Time Analyzed: 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

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: **26467** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 21:00 Time Analyzed: 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



# 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

CRG ID#: **26469** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 00:00 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: 26470 Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Outfall Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05

Time Collected: 00:10 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

# CRGLaboratories, Inc.

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

## 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
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26472** Replicate #R1 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: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26473** Replicate #RI 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: 06:10 Time Analyzed: 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

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: **26474** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Outfall Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 06:00 Time Analyzed: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: 26475 Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 09:00 Time Analyzed: 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

# 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

CRG ID#: **26476** Replicate #R1 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: 09:10 Time Analyzed: 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

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: **26477** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 12:02 Time Analyzed: 13:15

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

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: 26478 Replicate #R1 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	MDL
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

CRG ID#: **26461** Replicate #R2 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05

Time Collected: 12:20 Time Analyzed: 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

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: 26478 Replicate #R2 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	MDL
Fecal Coliform / MTF 20	SM 9221E	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20



**STL**

**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.

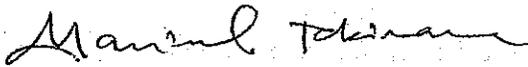
This report contains 000044 pages.

**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.
- 2) 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.

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

Sincerely,



Marisol Tabirara  
Project Manager

cc: Project File





SOUTHERN CALIFORNIA  
**EDISON**

An EDISON INTERNATIONAL Company

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

ESG200307

**SAMPLE ANALYSIS MEMORANDUM TO:**

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

Southern Calif. Edison P.O. Number:  
Please return and direct inquires to:  
In all correspondence refer to project:

V2033901  
S. Simmons  
Long Beach Permit Renew

SCE Accounting: 1220-6358-097.097  
Tel: (714) 895-0525 Fax: (714) 895-0515  
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 ✓

**Chain of Custody**

	Date: 7/20/05		Date: 7-20-05
	Time: 12:15		Time: 12:15
Relinquished By		Received By	
Relinquished By	Date:	Received By	Date:
	Time		Time:

Temp = 6.1 xCF - 4 = 5.7

**STL LOS ANGELES - PROJECT RECEIPT CHECKLIST** Date: 7-20-05

LIMS Lot #: E56200307 Quote #: 53770  
 Client Name: Southern California Edison Project: Long Beach Permit Renewal  
 Received by: MG Date/Time Received: 7-20-05 12:15  
 Delivered by:  Client  STL  DHL  Fed Ex  UPS  Other

\*\*\*\*\* Initial / Date 7-20-05 MG \*\*\*\*\*  
 Custody Seal Status Cooler:  Intact  Broken  None .....  
 Custody Seal Status Samples:  Intact  Broken  None .....  
 Custody Seal #(s): \_\_\_\_\_  No Seal # .....  
 Sampler Signature on COC  Yes  No  N/A .....  
 IR Gun # D Correction Factor -4 °C IR passed daily verification  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  N/A .....  
 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)  N/A .....  
 Samples:  Intact  Broken  Other .....  
 pH measured:  Yes  Anomaly (if checked, notify lab and file NCM)  N/A .....  
 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:  pH  Wet Chem  Metals (Filter/Pres)  Encore  172 HT expired... 7-20-05 MG  
 Outside Analysis(es) (Test/Lab/Date Sent Out):  
8290 - Out MG  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\*\*\*\*\* LEAVE NO BLANK SPACES ; USE N/A \*\*\*\*\*

Headspace Anomaly					
Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm

LIMS Lot #

ESG200307

PROJECT RECEIPT CHECKLIST Cont'd

Fraction	1-5	6,7												
VOAH/*	3													
AGB-		1												

\* 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/HNO3-Lab filtered, n/f/HNO3-Field filtered, zna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form

N/A 7-20-05 RL

<ul style="list-style-type: none"> <li>COOLERS                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Not Received (received COC only)</li> <li><input type="checkbox"/> Leaking</li> <li><input type="checkbox"/> Other:</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>CUSTODY SEALS (COOLER(S) CONTAINER(S))                     <ul style="list-style-type: none"> <li><input type="checkbox"/> None</li> <li><input type="checkbox"/> Not Intact</li> <li><input type="checkbox"/> Other</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>TEMPERATURE (SPECS 4 ± 2°C)                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Cooler Temp(s)</li> <li><input type="checkbox"/> Temperature Blank(s)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>CHAIN OF CUSTODY (COC)                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Not relinquished by Client; No date/time relinquished</li> <li><input type="checkbox"/> Incomplete information provided</li> <li><input type="checkbox"/> Other <input type="checkbox"/> COC not received – notify PM</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>CONTAINERS                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Leaking <input type="checkbox"/> Voa Vials with Bubbles &gt; 6mm</li> <li><input type="checkbox"/> Broken</li> <li><input type="checkbox"/> Extra</li> <li><input type="checkbox"/> Without Labels</li> <li><input type="checkbox"/> Other:</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>LABELS                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Not the same ID/info as in COC</li> <li><input type="checkbox"/> Incomplete Information</li> <li><input type="checkbox"/> Markings/Info illegible</li> <li><input type="checkbox"/> Torn</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>SAMPLES                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Samples NOT RECEIVED but listed on COC</li> <li><input type="checkbox"/> Samples received but NOT LISTED on COC</li> <li><input type="checkbox"/> Logged based on Label Information</li> <li><input type="checkbox"/> Logged based on info from other samples on COC</li> <li><input type="checkbox"/> Logged according to Work Plan</li> <li><input type="checkbox"/> Logged on HOLD UNTIL FURTHER NOTICE</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li><input type="checkbox"/> Will be noted on COC--Client to send samples with new COC</li> <li><input checked="" type="checkbox"/> Mislabeled as to tests, preservatives, etc.</li> <li><input type="checkbox"/> Holding time expired – list sample ID and test</li> <li><input type="checkbox"/> Improper container used</li> <li><input type="checkbox"/> Not preserved/Improper preservative used</li> <li><input type="checkbox"/> Improper pH _____ Lab to preserve sample and document</li> <li><input type="checkbox"/> Insufficient quantities for analysis <input type="checkbox"/> Other</li> </ul> </li> </ul>

Comments:

The AGB for 8270 is noted as having Na2S2O3, but the pH is at 7.

Corrective Action Implemented:

Client Informed: verbally on \_\_\_\_\_

By: \_\_\_\_\_  In writing on \_\_\_\_\_

By: \_\_\_\_\_

Sample(s) on hold until: \_\_\_\_\_

Sample(s) processed "as is."

Logged by/Date:

*Alber Vargas*

PM Review/Date:

*MVC 7/21/05*

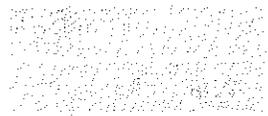
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**STL**

# Analytical Report

112



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# **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**

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

5720 S. UNIVERSITY AVE.

CHICAGO, ILL. 60637

TEL: 773-936-3700 FAX: 773-936-3701

WWW.PHYSICS.DUKE.EDU

PHYSICS 101

PHYSICS 102

PHYSICS 103

# EXECUTIVE SUMMARY - Detection Highlights

E5G200307

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>OUTFALL 07/18/05 12:20 001</b>				
Chloroform	0.58 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.32 J	1.0	ug/L	SW846 8260B
Bromoform	0.72 J	1.0	ug/L	SW846 8260B
<b>OUTFALL 07/18/05 18:30 002</b>				
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
<b>OUTFALL 07/19/05 00:10 003</b>				
Chloroform	0.45 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.32 J	1.0	ug/L	SW846 8260B
Bromoform	0.38 J	1.0	ug/L	SW846 8260B
<b>OUTFALL 07/19/05 06:00 004</b>				
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
<b>OUTFALL 07/19/05 12:00 005</b>				
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

# METHODS SUMMARY

E5G200307

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
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

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

E5G200307

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
HFW7J	001	OUTFALL	07/18/05	12:20
HFW7Q	002	OUTFALL	07/18/05	18:30
HFW7R	003	OUTFALL	07/19/05	00:10
HFW7V	004	OUTFALL	07/19/05	06:00
HFW7W	005	OUTFALL	07/19/05	12:00
HFW71	006	OUTFALL COMPOSITE	07/18/05	
HFW76	007	OUTFALL COMPOSITE	07/18/05	

## 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.

Southern California Edison Company

Client Sample ID: OUTFALL

GC/MS Volatiles

Lot-Sample #...: E5G200307-001 Work Order #...: HF7J1AA Matrix.....: W  
 Date Sampled...: 07/18/05 12:20 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...: 13:47  
 Dilution Factor: 1  
 Analyst ID.....: 015590 Instrument ID...: MSQ  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING 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
<b>Chloroform</b>	<b>0.58 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromodichloromethane</b>	<b>0.32 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromoform</b>	<b>0.72 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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	RECOVERY LIMITS
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	114	(65 - 135)
Toluene-d8	103	(80 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Southern California Edison Company

OUTFALL

GC/MS Volatiles

Lot-Sample #: E5G200307-001

Work Order #: HFW7J1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
bis(chloromethyl) ether ND		--	M	ug/L

NOTE(S) :

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

Southern California Edison Company

Client Sample ID: OUTFALL

GC/MS Volatiles

Lot-Sample #....: E5G200307-002 Work Order #....: HFW7Q1AA Matrix.....: W  
 Date Sampled....: 07/18/05 18:30 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...: 14:11  
 Dilution Factor: 1  
 Analyst ID.....: 015590 Instrument ID...: MSQ  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		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
<b>Chloroform</b>	<b>0.69 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromodichloromethane</b>	<b>0.38 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromoform</b>	<b>0.65 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
	RECOVERY	LIMITS
Bromofluorobenzene	105	(75 - 130)
1,2-Dichloroethane-d4	111	(65 - 135)
Toluene-d8	104	(80 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Southern California Edison Company

OUTFALL

GC/MS Volatiles

Lot-Sample #: E5G200307-002

Work Order #: HFW7Q1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
bis(chloromethyl) ether ND		--	M	ug/L

**NOTE(S) :**

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

Southern California Edison Company

Client Sample ID: OUTFALL

GC/MS Volatiles

Lot-Sample #....: ESG200307-003 Work Order #....: HFW7R1AA Matrix.....: W  
 Date Sampled....: 07/19/05 00:10 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...: 14:35  
 Dilution Factor: 1  
 Analyst ID.....: 015590 Instrument ID...: MSQ  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		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

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

NOTE(S):

J Estimated result. Result is less than RL.

Southern California Edison Company

OUTFALL

GC/MS Volatiles

Lot-Sample #: E5G200307-003

Work Order #: HFW7R1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
bis(chloromethyl) ether ND		--	M	ug/L

**NOTE(S):**

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

Southern California Edison Company

Client Sample ID: OUTFALL

GC/MS Volatiles

Lot-Sample #...: ESG200307-004 Work Order #...: HFW7V1AA Matrix.....: W  
 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 #...: 5203515 Analysis Time...: 14:59  
 Dilution Factor: 1  
 Analyst ID.....: 015590 Instrument ID...: MSQ  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING 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
<b>Chloroform</b>	<b>0.62 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromodichloromethane</b>	<b>0.44 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromoform</b>	<b>0.52 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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	RECOVERY LIMITS
Bromofluorobenzene	105	(75 - 130)
1,2-Dichloroethane-d4	116	(65 - 135)
Toluene-d8	105	(80 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

Southern California Edison Company

OUTFALL

GC/MS Volatiles

Lot-Sample #: E5G200307-004

Work Order #: HFW7V1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
bis(chloromethyl) ether ND		--	M	ug/L

**NOTE(S):**

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

Southern California Edison Company

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  
 Analyst ID.....: 015590 Instrument ID...: MSQ  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		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
<b>Chloroform</b>	<b>0.71 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromodichloromethane</b>	<b>0.46 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
<b>Bromoform</b>	<b>0.33 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.30</b>
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
	RECOVERY	LIMITS
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	114	(65 - 135)
Toluene-d8	105	(80 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

Southern California Edison Company

OUTFALL

GC/MS Volatiles

Lot-Sample #: ESG200307-005

Work Order #: HFW7W1AA

Matrix: W

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
bis(chloromethyl) ether ND		--	M	ug/L

NOTE(S) :

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



## Southern California Edison Company

Client Sample ID: OUTFALL COMPOSITE

## GC/MS Semivolatiles

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

PARAMETER	RESULT	REPORTING		
		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	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- 2-methylphenol	ND	50	ug/L	10
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	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- diene	ND	50	ug/L	6.0
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 & 4-Methylphenol	ND	10	ug/L	2.0
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- 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- benzene	ND	10	ug/L	5.0
2,4,5-Trichloro- phenol	ND	10	ug/L	5.0

(Continued on next page)

Southern California Edison Company

Client Sample ID: OUTFALL COMPOSITE

GC/MS Semivolatiles

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

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2,4,6-Trichloro-phenol	ND	10	ug/L	2.0

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorobiphenyl	66	(45 - 110)
2-Fluorophenol	38	(10 - 75 )
Phenol-d5	27	(10 - 60 )
2,4,6-Tribromophenol	88	(30 - 125)
Terphenyl-d14	81	(35 - 125)
Nitrobenzene-d5	61	(40 - 110)

Southern California Edison Company

Client Sample ID: OUTFALL COMPOSITE

Trace Level Organic Compounds

Lot-Sample #....: ESG200307-007    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

PARAMETER	RESULT	DETECTION 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	pg/L	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	pg/L	SW846 8290
2,3,7,8-TCDF	ND	1.9	pg/L	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 135)
13C-1,2,3,7,8-PeCDD	70	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	87	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	91	(40 - 135)
13C-OCDD	88	(40 - 135)
13C-2,3,7,8-TCDF	81	(40 - 135)
13C-1,2,3,7,8-PeCDF	69	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	68	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	88	(40 - 135)

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The following table shows the number of persons in the United States who were born in each foreign country, by year of birth, from 1900 to 1950. The figures are based on the 1950 Census of the United States.

Country of Birth	1900	1910	1920	1930	1940	1950
Canada	1,000,000	1,200,000	1,400,000	1,600,000	1,800,000	2,000,000
Great Britain	800,000	900,000	1,000,000	1,100,000	1,200,000	1,300,000
France	600,000	700,000	800,000	900,000	1,000,000	1,100,000
Germany	500,000	600,000	700,000	800,000	900,000	1,000,000
Italy	400,000	500,000	600,000	700,000	800,000	900,000
Sweden	300,000	400,000	500,000	600,000	700,000	800,000
Poland	200,000	300,000	400,000	500,000	600,000	700,000
Japan	100,000	200,000	300,000	400,000	500,000	600,000
China	50,000	100,000	150,000	200,000	250,000	300,000
India	20,000	40,000	60,000	80,000	100,000	120,000
Philippines	10,000	20,000	30,000	40,000	50,000	60,000
Other	100,000	150,000	200,000	250,000	300,000	350,000

The following table shows the number of persons in the United States who were born in each foreign country, by year of birth, from 1900 to 1950. The figures are based on the 1950 Census of the United States.

The following table shows the number of persons in the United States who were born in each foreign country, by year of birth, from 1900 to 1950. The figures are based on the 1950 Census of the United States.

SEVERN  
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DEMO

# QC DATA ASSOCIATION SUMMARY

E5G200307

## Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	W	SW846 8260B		5203515	5203316
002	W	SW846 8260B		5203515	5203316
003	W	SW846 8260B		5203515	5203316
004	W	SW846 8260B		5203515	5203316
005	W	SW846 8260B		5203515	5203316
006	W	SW846 8270C		5202500	
007	W	SW846 8290		5206207	

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5G200307  
 MB Lot-Sample #: E5G220000-515

Work Order #...: HF5TT1AA

Matrix.....: WATER

Analysis Date...: 07/22/05  
 Dilution Factor: 1

Prep Date.....: 07/22/05  
 Prep Batch #...: 5203515

Analysis Time...: 10:10  
 Instrument ID...: MSQ

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
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	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

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	104	(75 - 130)
1,2-Dichloroethane-d4	103	(65 - 135)
Toluene-d8	107	(80 - 130)

NOTE(S):

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

Southern California Edison Company

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 RESULT	RETENTION 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.

METHOD BLANK REPORT

GC/MS Semivolatiles

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

Work Order #...: HF16M1AA

Matrix.....: WATER

Analysis Date...: 07/22/05  
 Dilution Factor: 1

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

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

Analyst ID.....: 007050

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzidine	ND	20	ug/L	SW846 8270C
N-Nitrosodimethylamine	ND	20	ug/L	SW846 8270C
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	ug/L	SW846 8270C
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) methane	ND	10	ug/L	SW846 8270C
bis (2-Chloroethyl) - ether	ND	10	ug/L	SW846 8270C
bis (2-Chloroisopropyl) ether	ND	10	ug/L	SW846 8270C
bis (2-Ethylhexyl) phthalate	ND	10	ug/L	SW846 8270C
4-Bromophenyl phenyl ether	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	ND	10	ug/L	SW846 8270C
2-Chlorophenol	ND	10	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Chrysene	ND	10	ug/L	SW846 8270C
Dibenz (a, h) anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
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

(Continued on next page)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #....: E5G200307

Work Order #....: HF16M1AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING 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- 2-methylphenol	ND	50	ug/L	SW846 8270C
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- diene	ND	50	ug/L	SW846 8270C
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 & 4-Methylphenol	ND	10	ug/L	SW846 8270C
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- benzene	ND	10	ug/L	SW846 8270C
2,4,5-Trichloro- phenol	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro- phenol	ND	10	ug/L	SW846 8270C

(Continued on next page)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: ESG200307

Work Order #...: HF16M1AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>		
2-Fluorobiphenyl	66	(45 - 110)		
2-Fluorophenol	39	(10 - 75)		
Phenol-d5	24	(10 - 60)		
2,4,6-Tribromophenol	83	(30 - 125)		
Terphenyl-d14	88	(35 - 125)		
Nitrobenzene-d5	64	(40 - 110)		

**NOTE(S) :**

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

METHOD BLANK REPORT

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  
 Analyst ID.....: 001970

Matrix.....: WATER  
 Analysis Time...: 18:39  
 Instrument ID...: 1D5

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
1,2,3,7,8-PeCDF	ND	4.2	pg/L	SW846 8290
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
2,3,4,6,7,8-HxCDF	ND	3.3	pg/L	SW846 8290
1,2,3,7,8,9-HxCDF	ND	3.6	pg/L	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	2.2	pg/L	SW846 8290
Total TCDF	ND	3.4	pg/L	SW846 8290
Total PeCDF	ND	4.3	pg/L	SW846 8290
Total HxCDF	ND	3.6	pg/L	SW846 8290
Total HpCDF	ND	2.6	pg/L	SW846 8290
Total TCDD	ND	3.3	pg/L	SW846 8290
Total PeCDD	ND	6.3	pg/L	SW846 8290
1,2,3,7,8-PeCDD	ND	6.3	pg/L	SW846 8290
Total HxCDD	ND	4.9	pg/L	SW846 8290
1,2,3,7,8,9-HxCDD	ND	4.4	pg/L	SW846 8290
Total HpCDD	ND	4.6	pg/L	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	4.6	pg/L	SW846 8290
1,2,3,6,7,8-HxCDF	ND	3.0	pg/L	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	2.6	pg/L	SW846 8290
1,2,3,4,7,8-HxCDD	ND	4.9	pg/L	SW846 8290
1,2,3,6,7,8-HxCDD	ND	4.2	pg/L	SW846 8290
2,3,7,8-TCDD	ND	3.3	pg/L	SW846 8290
2,3,7,8-TCDF	ND	3.4	pg/L	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	108	(40 - 135)
13C-1,2,3,7,8-PeCDD	98	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	104	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	118	(40 - 135)
13C-OCDD	116	(40 - 135)
13C-2,3,7,8-TCDF	101	(40 - 135)
13C-1,2,3,7,8-PeCDF	95	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	96	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	111	(40 - 135)

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 #....: E5G200307      Work Order #....: HF5TT1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E5G220000-515  
 Prep Date.....: 07/22/05      Analysis Date...: 07/22/05  
 Prep Batch #....: 5203515      Analysis Time...: 09:22  
 Dilution Factor: 1      Instrument ID...: MSQ  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
1,1-Dichloroethene	91	(65 - 135)	SW846 8260B
Benzene	81	(75 - 125)	SW846 8260B
Trichloroethene	86	(75 - 135)	SW846 8260B
Toluene	86	(75 - 125)	SW846 8260B
Chlorobenzene	85	(75 - 125)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	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      Matrix.....: WATER  
 LCS Lot-Sample#: E5G220000-515  
 Prep Date.....: 07/22/05      Analysis Date...: 07/22/05  
 Prep Batch #....: 5203515      Analysis Time...: 09:22  
 Dilution Factor: 1      Instrument ID...: MSQ  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
1,1-Dichloroethene	10.0	9.09	ug/L	91	SW846 8260B
Benzene	10.0	8.14	ug/L	81	SW846 8260B
Trichloroethene	10.0	8.59	ug/L	86	SW846 8260B
Toluene	10.0	8.58	ug/L	86	SW846 8260B
Chlorobenzene	10.0	8.51	ug/L	85	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	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 EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #....: E5G200307      Work Order #....: HF16MIAC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: E5G210000-500      HF16MIAD-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 ID.....: 007050

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
Acenaphthene	89	(50 - 100)			SW846 8270C
	83	(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
	57	(45 - 95)	27	(0-30)	SW846 8270C
1,4-Dichlorobenzene	73	(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

SURROGATE	PERCENT	RECOVERY
	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)

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**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: E5G200307      Work Order #...: HF16MLAC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: E5G210000-500      HF16MLAD-LCSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
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 DATA REPORT

GC/MS Semivolatiles

Client Lot #....: ESG200307      Work Order #....: HF16M1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: ESG210000-500      HF16MLAD-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 ID.....: 007050

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT 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	57	27	SW846 8270C
1,4-Dichlorobenzene	100	72.5	ug/L	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		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

SURROGATE	PERCENT RECOVERY	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

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

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
1,2,3,4,6,7,8-HpCDD	101	(78 - 125)			SW846 8290
	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	108	(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
	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**

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

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	100	(40 - 135)
	103	(40 - 135)
13C-1,2,3,7,8-PeCDD	97	(40 - 135)
	95	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	102	(40 - 135)
	102	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	107	(40 - 135)
	111	(40 - 135)
13C-OCDD	103	(40 - 135)
	110	(40 - 135)
13C-2,3,7,8-TCDF	103	(40 - 135)
	99	(40 - 135)
13C-1,2,3,7,8-PeCDF	86	(40 - 135)
	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

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,2,3,4,6,7,8-HpCDD	1000	1010	pg/L	101		SW846 8290
	1000	1030	pg/L	103	1.5	SW846 8290
1,2,3,7,8-PeCDF	1000	1050	pg/L	105		SW846 8290
	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
	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	1000	1120	pg/L	112		SW846 8290
	1000	1200	pg/L	120	6.9	SW846 8290
1,2,3,4,6,7,8-HpCDF	1000	1020	pg/L	102		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

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**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

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	100	(40 - 135)
	103	(40 - 135)
13C-1,2,3,7,8-PeCDD	97	(40 - 135)
	95	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	102	(40 - 135)
	102	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	107	(40 - 135)
	111	(40 - 135)
13C-OCDD	103	(40 - 135)
	110	(40 - 135)
13C-2,3,7,8-TCDF	103	(40 - 135)
	99	(40 - 135)
13C-1,2,3,7,8-PeCDF	86	(40 - 135)
	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

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E5G200307      Work Order #...: HFCE31AE-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5G120372-008      HFCE31AF-MSD  
 Date Sampled...: 07/12/05 14:35      Date Received...: 07/12/05 19:00      MS Run #.....: 5203316  
 Prep Date.....: 07/22/05      Analysis Date...: 07/22/05  
 Prep Batch #...: 5203515      Analysis Time...: 12:35  
 Dilution Factor: 250      Analyst ID.....: 015590      Instrument ID...: MSQ

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	84	(65 - 135)			SW846 8260B
	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
	0.0 MSB	(75 - 135)	0.0	(0-25)	SW846 8260B
Toluene	83	(75 - 125)			SW846 8260B
	85	(75 - 125)	2.4	(0-25)	SW846 8260B
Chlorobenzene	85	(75 - 125)			SW846 8260B
	83	(75 - 125)	1.9	(0-25)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	108	(75 - 130)
	106	(75 - 130)
1,2-Dichloroethane-d4	111	(65 - 135)
	109	(65 - 135)
Toluene-d8	106	(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 #....: E5G200307      Work Order #....: HFCE31AE-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5G120372-008      HFCE31AF-MSD  
 Date Sampled....: 07/12/05 14:35      Date Received...: 07/12/05 19:00      MS Run #.....: 5203316  
 Prep Date.....: 07/22/05      Analysis Date...: 07/22/05  
 Prep Batch #....: 5203515      Analysis Time...: 12:35  
 Dilution Factor: 250      Analyst ID.....: 015590      Instrument ID...: MSQ

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
1,1-Dichloroethene	ND	2500	2110	ug/L	84		SW846 8260B
	ND	2500	2390	ug/L	96	13	SW846 8260B
Benzene	ND	2500	2040	ug/L	82		SW846 8260B
	ND	2500	2090	ug/L	84	2.3	SW846 8260B
Trichloroethene	19000	2500		ug/L	0.0		SW846 8260B
	Qualifiers: MSB						
	19000	2500		ug/L	0.0	0.0	SW846 8260B
Qualifiers: MSB							
Toluene	ND	2500	2060	ug/L	83		SW846 8260B
	ND	2500	2120	ug/L	85	2.4	SW846 8260B
Chlorobenzene	ND	2500	2130	ug/L	85		SW846 8260B
	ND	2500	2080	ug/L	83	1.9	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	108	(75 - 130)
	106	(75 - 130)
1,2-Dichloroethane-d4	111	(65 - 135)
	109	(65 - 135)
Toluene-d8	106	(80 - 130)
	106	(80 - 130)

**NOTE (S) :**

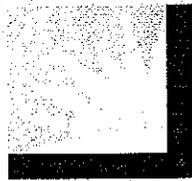
Calculations are performed before rounding to avoid round-off errors in calculated results.

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.

***Alternate Discharge Operations 24 Hour Composite Sampling  
July 2005***

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SOUTHERN CALIFORNIA  
**EDISON**

An *EDISON INTERNATIONAL* Company

## ANALYTICAL REPORT

Laboratory Name: Power Production Chemical  
Address: 7301 Fenwick Lane, 2nd Floor  
Westminster, CA 92683-5202

Telephone: (714) 895-0525  
Facsimile: (714) 895-0515

Laboratory Certification (ELAP) No.: 1949 Expires 11/30/05

Laboratory Director's Name: Shawn S. Simmons

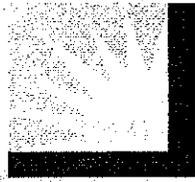
Laboratory Director's Signature: \_\_\_\_\_

Date

CLIENT: Long Beach Generation, L.L.C.  
ADDRESS: 2665 West Seaside Blvd.  
Long Beach, CA 90813

DATE(S) SAMPLED: 06/24/05 and 06/25/05  
DATE(S) RECEIVED: 06/24/05 and 06/25/05

Chain of Custody(ies) Received: Yes



SOUTHERN CALIFORNIA  
**EDISON**

An EDISON INTERNATIONAL Company

**ANALYTICAL REPORT**

**Cover Page 2**

<u>Inorganic Analyses</u>	# of Samples	# of Samples Subcontracted
Residual Chlorine, in field	18	0
pH	18	0
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	2
COD	2	2
TOC	2	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
<u>Organic Analyses</u>	# of Samples	# of Samples Subcontracted
VOCs	5	5
SVOCs	1	1
Dioxin	1	1
Pesticides/PCBs	1	1
<b>Sample Condition:</b>	Acceptable	

SAMPLE POINT	DATE-TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (°C)	RESULT (°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-Outfall	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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	Total Chlorine (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-Cl 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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	MDL (pH unit)	RESULT (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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	MDL (mg/L)	RESULT (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-Outfall	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

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RI (mg/L)	RESULT (mg/L)
LB-Intake Composite	6/24-6/25/05	06/27/05	Total Susp. Solids	SM 2540 D	1	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 COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RI (mg/L)	RESULT (mg/L)
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

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (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	1	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		07/21/05	Nitrite-Nitrate-N	EPA 300.0	1	ND

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
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	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (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

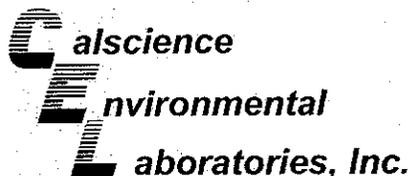
SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
LB-Intake	6/24-6/25/05	06/29/05	Sulfide	SM 4500-S <sup>2-</sup> D	0.02	ND
LB-Outfall	6/24-6/25/05	06/29/05	Sulfide	SM 4500-S <sup>2-</sup> D	0.02	ND
Method Blank		06/29/05	Sulfide	SM 4500-S <sup>2-</sup> D	0.02	ND

SAMPLE POINT	DATE COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (mg/L)
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

SAMPLE POINT	DATE TIME COLLECTED	DATE ANALYZED	PARAMETER	METHOD	RL (mg/L)	RESULT (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

Laboratory Control Sample						
Analyte	Date Analyzed		LCS Conc. (mg/L)	Result (mg/L)	LCS Recovery	Accept. 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%

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.

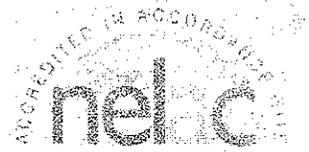
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows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

A handwritten signature in black ink, appearing to read 'S. Lane'.

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: 06/25/05  
 Work Order No: 05-06-1684  
 Preparation: N/A  
 Method: 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	Result	RL	DF	Qual	Units
Biochemical Oxygen Demand	1.5	1.0	1		mg/L

Outfall Composite	05-06-1684-2	06/25/05	Aqueous	06/25/05	06/30/05	50625BODB1
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Parameter	Result	RL	DF	Qual	Units
Biochemical Oxygen Demand	ND	1.0	1		mg/L

Method Blank	099-05-054-1,802	N/A	Aqueous	06/25/05	06/30/05	50625BODB1
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Parameter	Result	RL	DF	Qual	Units
Biochemical Oxygen Demand	ND	1.0	1		mg/L

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



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

Date Received: 06/25/05  
 Work Order No: 05-06-1684  
 Preparation: N/A  
 Method: EPA 405.1

Project: 05098

Quality Control Sample ID	Matrix	Instrument	Date Started:	Date Ended:	Duplicate Batch Number
Outfall Composite	Aqueous	BOD-1	06/25/05	06/30/05	50625BODD1

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Biochemical Oxygen Demand	ND	ND	NA	0-25	

RPD - Relative Percent Difference, CL - Control Limit



Work Order Number: 05-06-1684

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<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



WORK ORDER #:

05 - 06 - 087

Cooler 1 of 1

**SAMPLE RECEIPT FORM**

CLIENT: Southern California Edison

DATE: 6/25/05

**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.
- °C Temperature blank.

**LABORATORY (Other than Calscience Courier):**

- °C Temperature blank.
- °C IR thermometer.
- Ambient temperature.

Initial: TC

**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact) : \_\_\_\_\_ Not Applicable (N/A): 1  
 Initial: TC

**SAMPLE CONDITION:**

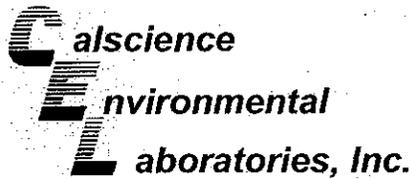
	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with custody papers.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>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

Initial: TC

**COMMENTS:**

Collection time of the samples (14:55) were after the receipt time (14:25)

(PM)



July 06, 2005

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

Subject: **Calscience Work Order No.: 05-06-1708**  
**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 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  
 Material Testing Laboratory  
 7351 Fenwick Lane  
 Westminster, CA 92683-5202

Date Sampled: 06/24/05  
 Date Received: 06/27/05  
 Date Analyzed: 06/30/05

Attn: Shawn Simmons  
 RE: Long Beach Permit

Work Order No.: 05-06-1708  
 Method: SM4500BrB  
 Page 1 of 1

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

<u>Sample Number</u>	<u>Bromide Concentration</u>	<u>Reporting 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.:  
 Date Analyzed:

05-06-1708  
 06/30/05

**Matrix Spike/Matrix Spike Duplicate**

Sample Spiked: Intake Composite

<u>Analyte</u>	<u>MS%REC</u>	<u>MSD%REC</u>	<u>Control Limits</u>	<u>%RPD</u>	<u>Control Limits</u>
Bromide	112	110	70 - 130	1	0 - 25

**Laboratory Control Sample**

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Bromide	0.400	0.410	103	80 - 120

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

Date Received: 06/27/05  
 Work Order No: 05-06-1708  
 Preparation: EPA 3510B  
 Method: EPA 8081A/8082  
 Units: ug/L

Project: Long Beach Permit

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Outfall Composite	05-06-1708-11	06/25/05	Aqueous	06/28/05	06/28/05	050627L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	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 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	ND	0.10	1		Aroclor-1262	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	94	50-135			2,4,5,6-Tetrachloro-m-Xylene	76	50-135		

Method Blank	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
	095-01-015-1,358	N/A	Aqueous	06/27/05	06/27/05	050627L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	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 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	ND	0.10	1		Aroclor-1262	ND	1.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	114	50-135			2,4,5,6-Tetrachloro-m-Xylene	85	50-135		

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers



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

Date Received: 06/27/05  
 Work Order No: 05-06-1708

Project: Long Beach Permit

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall (1215)	05-06-1708-1	06/24/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.34	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

Outfall (1500)	05-06-1708-2	06/24/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.42	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

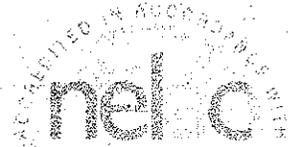
Outfall (1801)	05-06-1708-3	06/24/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

Outfall (2103)	05-06-1708-4	06/24/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.46	0.10	1		mg/L	N/A	07/01/05	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: 06/27/05  
 Work Order No: 05-06-1708

Project: Long Beach Permit

Page 2 of 4

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall (0000)	05-06-1708-5	06/25/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.54	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

Outfall (0300)	05-06-1708-6	06/25/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.38	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

Outfall (0601)	05-06-1708-7	06/25/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.34	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

Outfall (0901)	05-06-1708-8	06/25/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	ND	0.10	1		mg/L	N/A	07/01/05	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: 06/27/05  
 Work Order No: 05-06-1708

Project: Long Beach Permit

Page 3 of 4

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall (1201)	05-06-1708-9	06/25/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.050	1		mg/L	N/A	06/30/05	EPA 335.2
Phenolics, Total	0.37	0.10	1		mg/L	N/A	07/01/05	EPA 420.1

Intake Composite	05-06-1708-10	06/25/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	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	N/A	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	ND	0.10	1		mg/L	06/29/05	06/30/05	EPA 365.3
Chemical Oxygen Demand	450	5	1		mg/L	N/A	06/28/05	EPA 410.4
Carbon, Total Organic	ND	5.0	10		mg/L	N/A	06/28/05	EPA 415.1
Surfactants	ND	0.10	1		mg/L	N/A	06/27/05	EPA 425.1

Outfall Composite	05-06-1708-11	06/25/05	Aqueous
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Parameter	Result	RL	DF	Qual	Units	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	1		mg/L	N/A	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	06/29/05	06/30/05	EPA 365.3
Chemical Oxygen Demand	620	5	1		mg/L	N/A	06/28/05	EPA 410.4
Carbon, Total Organic	ND	5.0	10		mg/L	N/A	06/28/05	EPA 415.1
Surfactants	ND	0.10	1		mg/L	N/A	06/27/05	EPA 425.1

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



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

Date Received: 06/27/05  
 Work Order No: 05-06-1708

Project: Long Beach Permit

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Method Blank		N/A	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Total	ND	0.10	1		mg/L	N/A	06/30/05	EPA 335.2
Fluoride	ND	0.10	1		mg/L	N/A	06/28/05	EPA 340.2
Ammonia	ND	0.10	1		mg/L	N/A	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	ND	0.10	1		mg/L	06/29/05	06/30/05	EPA 365.3
Chemical Oxygen Demand	ND	5.0	1		mg/L	N/A	06/28/05	EPA 410.4
Carbon, Total Organic	ND	0.50	1		mg/L	N/A	06/28/05	EPA 415.1
Phenolics, Total	ND	0.050	1		mg/L	N/A	07/01/05	EPA 420.1
Surfactants	ND	1.0	1		mg/L	N/A	06/27/05	EPA 425.1

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



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

<u>Parameter</u>	<u>Method</u>	<u>Quality Control Sample ID</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>MS% REC</u>	<u>MSD % REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Phosphorus, Total	EPA 365.3	05-06-1512-1	06/30/05	6/29/2005	102	109	70-130	7	0-25	
Fluoride	EPA 340.2	Intake Composite	06/28/05	N/A	102	104	70-130	1	0-25	
Carbon, Total Organic	EPA 415.1	05-06-1792-1	06/28/05	N/A	103	103	70-130	0	0-25	

RPD - Relative Percent Difference, CL - Control Limit



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

Parameter	Method	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	

RPD - Relative Percent Difference , CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-06-1708  
 Preparation: EPA 3510B  
 Method: EPA 8081A/8082

Project: Long Beach Permit

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-015-1,358	Aqueous	GC 37	06/27/05	06/27/05	050627L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	85	88	50-135	3	0-25	
Heptachlor	86	94	50-135	8	0-25	
Endosulfan I	81	85	50-135	5	0-25	
Dieldrin	80	84	50-135	5	0-25	
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	

RPD - Relative Percent Difference, CL - Control Limit



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**

<u>Parameter</u>	<u>Method</u>	<u>Quality Control Sample ID</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>LCS % REC</u>	<u>LCSD % REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qual</u>
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	

RPD - Relative Percent Difference, CL - Control Limit



**Environmental Quality Control - Laboratory Control Sample**  
**Laboratories, 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**

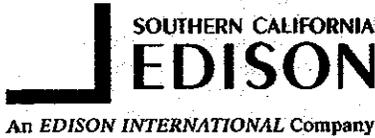
Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Phosphorus, Total	EPA 365.3	099-05-098-1,626	06/30/05	6/29/2005	0.40	0.38	96	80-120	
Fluoride	EPA 340.2	097-01-022-214	06/28/05	N/A	0.50	0.52	105	80-120	
Carbon, Total Organic	EPA 415.1	099-05-097-1,934	06/28/05	N/A	5.0	5.5	110	80-120	

RPD - Relative Percent Difference, CL - Control Limit



Work Order Number: 05-06-1708

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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/PDS associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



1708

1/3

**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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com

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

Sample ID	Date Collected	Time Collected	Description/Analytes
1	6/24/05	12:15	Total Phenolics, EPA 420.1
2	6/24/05	15:00	Total Phenolics, EPA 420.1
3	6/24/05	18:01	Total Phenolics, EPA 420.1
4	6/24/05	21:03	Total Phenolics, EPA 420.1
5	6/25/05	00:00	Total Phenolics, EPA 420.1
6	6/25/05	03:00	Total Phenolics, EPA 420.1
7	6/25/05	06:01	Total Phenolics, EPA 420.1
8	6/25/05	09:01	Total Phenolics, EPA 420.1
9	6/25/05	12:01	Total Phenolics, EPA 420.1
1	6/24/05	12:15	Total Cyanide, EPA 335.2
2	6/24/05	15:00	Total Cyanide, EPA 335.2
3	6/24/05	18:01	Total Cyanide, EPA 335.2
4	6/24/05	21:03	Total Cyanide, EPA 335.2
5	6/25/05	00:00	Total Cyanide, EPA 335.2
6	6/25/05	03:00	Total Cyanide, EPA 335.2
7	6/25/05	06:01	Total Cyanide, EPA 335.2
8	6/25/05	09:01	Total Cyanide, EPA 335.2
9	6/25/05	12:01	Total Cyanide, EPA 335.2

**Special Instructions:**  
Matrix is seawater.

**Chain of Custody:**

Relinquished By	Date:	Received By	Date:
Time:		Time:	
<i>Shawn Simmons</i>	6/27/05	<i>Shawn Simmons CEL</i>	6/27/05
Time 1433		Time 1433	

(1708) 2/3



**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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
 In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com

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

Sample ID	Date Collected	Time Collected	Description/Analytes
10 Intake Composite	6/24 to 6/25		Total Phosphorus, EPA 365.3
11 Outfall Composite	6/24 to 6/25		Total Phosphorus, EPA 365.3
11 Outfall Composite	6/24 to 6/25		Pesticides/PCBs, EPA 8081/8082
10 Intake Composite	6/24 to 6/25		Radiochemistry, Total Alpha and Total Beta
11 Outfall Composite	6/24 to 6/25		Radiochemistry, Total Alpha and Total Beta
10 Intake Composite	6/24 to 6/25		Radiochemistry, Total Radium, Radium 226
11 Outfall Composite	6/24 to 6/25		Radiochemistry, Total Radium, Radium 226

**Special Instructions:**  
 Pesticides: Aldrin, Chlordane, Dieldrin, 4,4-DDT, 4,4-DDE, 4,4-DDD, alpha-Endosulfan, beta-Endosulfan, Endosulfan sulfate, Endrin, Endrin aldehyde, Heptachlor, Heptachlor epoxide, alpha-BHC, beta-BHC, gamma-BHC, delta BHC, Toxaphene. PCBs: 1016, 1221, 1232, 1242, 1248, 1254, and 1260.  
 Matrix is seawater.

**Chain of Custody:**

Relinquished By	Date:	Received By	Date:
Time:	Time:	Time:	Time:
<i>[Signature]</i>	Date: 6/27/05	<i>[Signature]</i>	Date: 6/27/05
Time: 1433	Time: 1433	Time: 1433	Time: 1433

1708 3/3



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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com

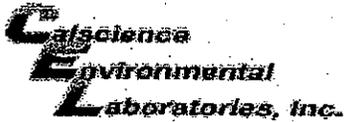
Sample(s) are submitted for treatment/disposition as described below.

Sample ID	Date Collected	Time Collected	Description/Analytes
10 Intake Composite	6/24 to 6/25		Kjedahl Nitrogen, EPA 315.1
11 Outfall Composite	6/24 to 6/25		Kjedahl Nitrogen, EPA 315.1
10 Intake Composite	6/24 to 6/25		Chemical Oxygen Demand, EPA 410.4
11 Outfall Composite	6/24 to 6/25		Chemical Oxygen Demand, EPA 410.4
10 Intake Composite	6/24 to 6/25		Total Organic Carbon, EPA 415.1
11 Outfall Composite	6/24 to 6/25		Total Organic Carbon, EPA 415.1
10 Intake Composite	6/24 to 6/25		Ammonia-N, EPA 350.2
11 Outfall Composite	6/24 to 6/25		Ammonia-N, EPA 350.2
10 Intake Composite	6/24 to 6/25		Fluoride, Bromide, MBAS
11 Outfall Composite	6/24 to 6/25		Fluoride, Bromide, MBAS

Special Instructions:  
Matrix is seawater.

Chain of Custody:

Relinquished By	Date:	Received By	Date:
<i>Shawn Simmons</i>	Time: 1430	<i>Shawn Simmons</i>	Time: 1453



WORK ORDER #:

05 - 06 - 1708

Cooler 1 of 1

### SAMPLE RECEIPT FORM

CLIENT: EDISON

DATE: 6/27/05

#### 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.
- 3.1 °C IR thermometer.
- Ambient temperature.

Initial: vl

#### CUSTODY SEAL INTACT:

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact): \_\_\_\_\_ Not Applicable (N/A):

Initial: vl

#### SAMPLE CONDITION:

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

Initial: vl

#### COMMENTS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# PARAGON ANALYTICS

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	



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Calscience ENV Workorder No: 0506249

Project Manager: JME Initials: SL Date: 6-29-05

1. Does this project require any special handling in addition to standard Paragon procedures?		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	YES	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
13. 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: <u>    </u> < green pea <u>    </u> > green pea	N/A	YES	NO
17. 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	NO
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, SN2372220101-0002

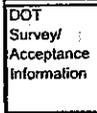
Cooler #'s 1

Temperature (°C) 1.6

No. of custody seals 0

External µR/hr reading 14

Background µR/hr reading 12



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 #1 (intake) only  
time #1 1200  
*noted*

If applicable, was the client contacted? YES / NO / NA Contact Name: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager Signature/ Date: [Signature] 6/30/05

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

Ship Date: 28JUN05  
Actual Wgt: 21.8 LB MAN  
System#: 370082/CAFE2246  
Account: 5 136853945

GARDEN GROVE, CA 928411427  
UNITED STATES US

(970) 490-1511

TO RECEIVING

PARAGON ANALYTICS  
225 COMMERCE ST.

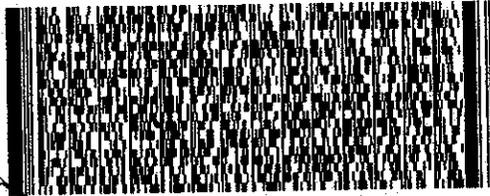
FORT COLLINS, CO 80524

FedEx  
Express



0506249

REF: SL/06-1788



Delivery Address  
Barcode

BILL SENDER

STANDARD OVERNIGHT

WED

Deliver By:  
29JUN05

TRK# 6735 6242 0511 Form 0201

DEN AA

80524 -CO-US

72 FTCA

Part # 156148-434 NRIT 8-04





# Paragon Analytcs

## 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 Analytcs procedure SOP702R17.
3. The samples were analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytcs procedure SOP724R8. The analyses were completed on 7/7/05. Gross alpha results are referenced to  $^{241}\text{Am}$ . Gross beta results are referenced to  $^{90}\text{Sr/Y}$ .
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  $5 \text{ mg/cm}^2$ . 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.
7. 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 Analytcs certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

  
Radiochemistry Instrument Technician

7.8.05  
Date

  
Radiochemistry Final Data Review

7/12/05  
Date

# Gross Alpha/Beta Analysis by GFPC

PAI 724 Rev 8

## Method Blank Results

Lab Name: Paragon Analytics  
Work Order Number: 0506249  
Client Name: CalScience Environmental Laboratories  
Client Project 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 QC Batch ID: 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**

000002

# Gross Alpha/Beta Analysis by GFPC

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 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	Final Aliquot: 200 ml Result Units: pCi/l 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	P
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.

#### Abbreviations:

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

Data Package ID: ABW0506249-1

# Gross Alpha/Beta Analysis by GFPC

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.

#### Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0506249-1

Date Printed: Friday, July 08, 2005

Paragon Analytics  
LIMS Version: 5.200A

Page 1 of 1

000004

# Gross Alpha/Beta Analysis by GFPC

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	GROSS ALPHA	-20 +/- 26	-7 +/- 28	0.36	2.13	U,M
12587-47-2	GROSS BETA	289 +/- 77	260 +/- 72	0.28	2.13	M3

### 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

#### Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: ABW0506249-1

Date Printed: Friday, July 08, 2005

Paragon Analytics  
LIMS Version: 5.200A

Page 1 of 1

000005

# Gross Alpha/Beta Analysis by GFPC

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: AB050705-1A 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	-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

# Gross Alpha/Beta Analysis by GFPC

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	Sample Matrix: WATER	Prep Batch: AB050705-1	Final Aliquot: 2.00 ml
Lab ID: 0506249-1DUP	Prep SOP: PAI 702 Rev 17	QC Batch ID: AB050705-1-1	Prep Basis: Unfiltered
	Date Collected: 25-Jun-05	Run ID: AB050705-1A	Moisture(%): NA
	Date Prepared: 05-Jul-05	Count Time: 1000 minutes	Result Units: pCi/l
	Date Analyzed: 07-Jul-05	Report Basis: Unfiltered	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

000007

# Gross Alpha/Beta Analysis by GFPC

PAI 724 Rev 8

## Sample Results

Lab Name: Paragon Analytics  
Work Order Number: 0506249  
Client Name: CalScience Environmental Laboratories  
Client Project 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

CASNO	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

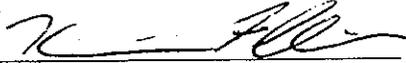
#### CalScience Environmental Laboratories

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.
2. 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.
6. 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 pre-separation 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.
9. 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

7-15-05  
Date

  
Radiochemistry Final Data Review

7-18-05  
Date

PARAGON ANALYTICS

000001

# Total Radium Analysis by GFPC

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 Batch: TR050708-2	Final Aliquot: 995 ml
	Prep SOP: PAI 712 Rev 12	QC Batch ID: TR050708-2-1	Result Units: pCi/l
	Date Collected: 08-Jul-05	Run ID: TR050708-2A	File Name: TRB0712
	Date Prepared: 08-Jul-05	Count Time: 75 minutes	
	Date Analyzed: 12-Jul-05		

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:

- 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: TRA0506249-1

# Total Radium Analysis by GFPC

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: TR050708-2LCS	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
7440-14-4	TOTAL RADIUM	47. +/- 12	0	50.2	93.3	75 - 125	P

## Chemical Yield Summary

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

### 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.

#### Abbreviations:

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

Data Package ID: TRA0506249-1

Date Printed: Friday, July 15, 2005

Paragon Analytics  
LIMS Version: 5.202A

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# Total Radium Analysis by GFPC

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 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
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
BARIUM	13990	13730	ug	98.1	40 - 110 %	

### 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.

#### Abbreviations:

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

Data Package ID: TRA0506249-1

000004

# Total Radium Analysis by GFPC

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 +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
7440-14-4	TOTAL RADIUM	47 +/- 12	49 +/- 12	0.12	2.13	P

### 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

#### Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: TRA0506249-1

# Total Radium Analysis by GFPC

PAI 724 Rev 8  
Sample Results

Lab Name: Paragon Analytics  
Work Order Number: 0506249  
Client Name: CalScience Environmental Laboratories  
Client Project 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
---	---	--	---

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
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

# Total Radium Analysis by GFPC

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: TRB0712

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:

- 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

000007



# Paragon Analytics

## Radiochemistry Case Narrative

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

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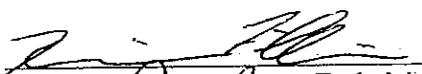
### CalScience Environmental Laboratories

05-06-1708

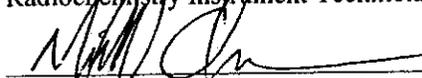
Paragon WO 0506249

1. This report consists of the analytical results for two water samples received by Paragon on 6/29/05.
2. These samples were prepared and analyzed according to Paragon Analytics procedures SOP783R5. The analyses were completed on 7/11/05.
3. The analysis results for these samples are reported in units of pCi/L. The samples were not filtered prior to analysis.
4. 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 pre-separation 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.

  
Radiochemistry Instrument Technician

7.13.05  
Date

  
Radiochemistry Final Data Review

7/19/05  
Date

# Ra-226 by Radon Emanation - Method 903.1

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

Date Printed: Wednesday, July 13, 2005

Paragon Analytics  
LIMS Version: 5.201A

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# Ra-226 by Radon Emanation - Method 903.1

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
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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	P

### Chemical Yield Summary

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

### 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.

#### Abbreviations:

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

Data Package ID: REM0506249-1

000003

# Ra-226 by Radon Emanation - Method 903.1

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
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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	P

### Chemical Yield Summary

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

### 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.

**Abbreviations:**

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

Data Package ID: REM0506249-1

000004

# Ra-226 by Radon Emanation - Method 903.1

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

### 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

#### Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: REM0506249-1

000005

# Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 5  
Sample Results

Lab Name: Paragon Analytics  
Work Order Number: 0506249  
Client Name: CalScience Environmental Laboratories  
Client Project 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:

#### 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: REM0506249-1

Date Printed: Wednesday, July 13, 2005

Paragon Analytics  
LIMS Version: 5.201A

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~~000005~~

# Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 5  
Sample Results

Lab Name: Paragon Analytics  
Work Order Number: 0506249  
Client Name: CalScience Environmental Laboratories  
Client Project 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 QC Batch ID: 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.

#### Abbreviations:

- 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

000007



CRG

## Marine Laboratories, Inc.

2020 Del Amo Blvd. Suite 200, Torrance, CA 90501 • (310) 533-5190 • FAX (310) 533-5003 • [mmercier@crolabs.com](mailto:mmercier@crolabs.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: P2557c  
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.

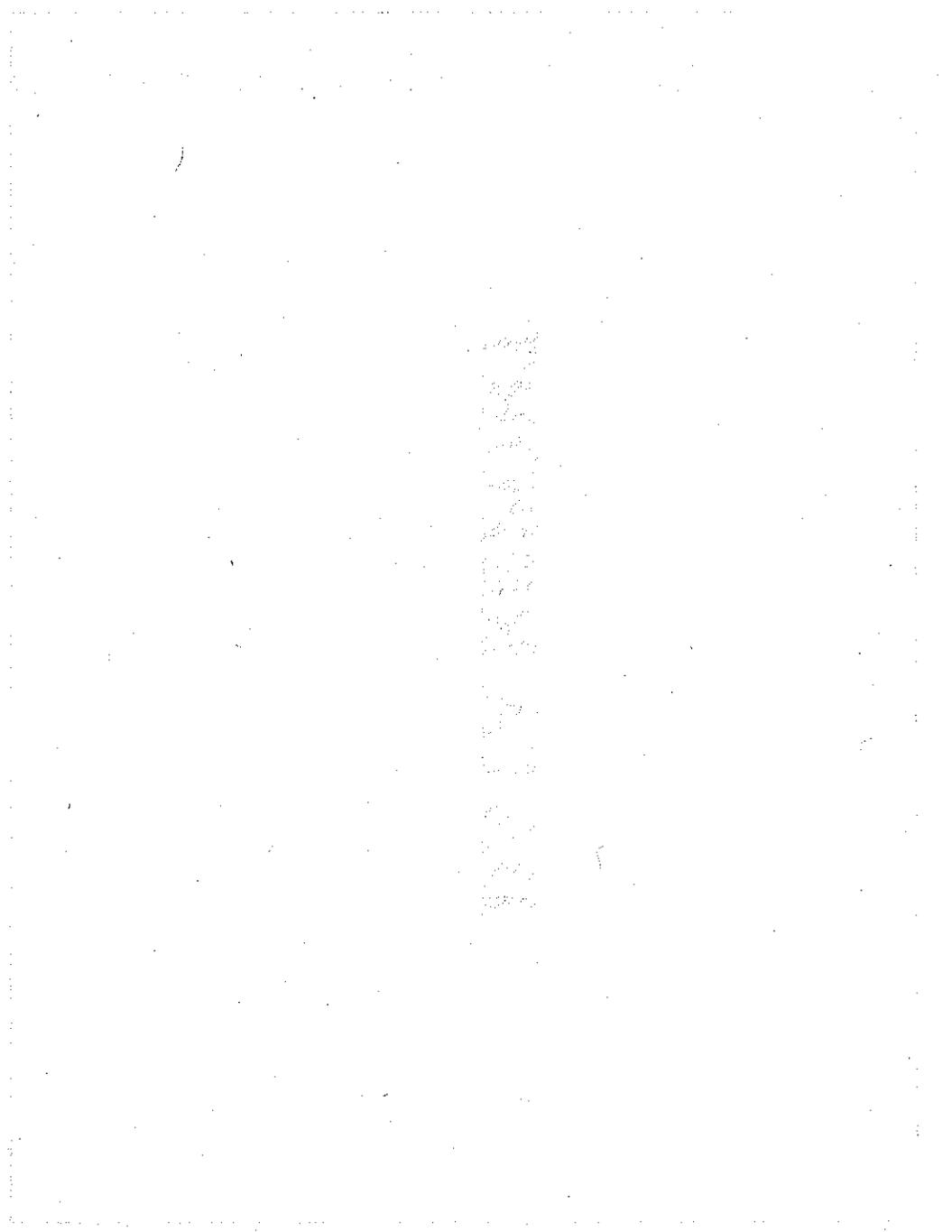
Regards,  
Misty B. Mercier  
Project Manager

Reviewed and Approved

Misty B. Mercier

Digitally signed by Misty B. Mercier  
DN: CN = Misty B. Mercier, C = US, O = CRG Marine  
Laboratories, Inc.  
Date: 2005.07.27 06:06:29 -0700

# DATA REPORT



Handwritten text, possibly a list or index, located in the center of the page. The text is extremely faint and difficult to read, but appears to consist of several lines of small characters.

# CRG Marine Laboratories, Inc.

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 Edison

CRG Project ID: 2557c

CRG ID#: 26132  
 Replicate #: R1  
 Batch ID: 2557-12040  
 Instrument: ICPMS #1 HP 4500  
 Sample Intake: Intake  
 Description: Long Beach Permit  
 Matrix: Seawater  
 Analyst: P. Hershelman  
 Date Sampled: 24-Jun-05  
 Date Received: 29-Jun-05  
 Date Processed: 14-Jul-05  
 Date Analyzed: 20-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	40.4	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.123	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.75	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	E0.006	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	5.17	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.049	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.375	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	1.85	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	25	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.388	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	16.9	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00139	ug/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.373	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	E0.005	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	0.017	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	2.08	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.64	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	13.4	µg/L	0.005	0.01	1	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 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

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

**CRG ID#:** 26132      **Sample Description:** Intake      **COMPOSITE**  
**Replicate #:** R2      **Matrix:** Long Beach Permit      **Date Sampled:** 24-Jun-05  
**Batch ID:** 2557-12040      **Analyst:** P. Hershelman      **Date Received:** 29-Jun-05  
**Instrument:** ICPMS #1 HP 4500      **Method:** P. Hershelman      **Date Processed:** 14-Jul-05  
**Date Analyzed:** 20-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	39.9	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.127	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	0.869	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	E0.006	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	5.76	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.05	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.475	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	1.84	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	26.6	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.398	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	17.1	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00156	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9.76	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.393	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	0.394	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	0.011	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	0.017	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	2.24	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.57	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	12.9	µg/L	0.005	0.01	1	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 R2

# CRG Marine Laboratories, Inc.

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

## Trace Metals

Client: Southern California Edison

CRG Project ID: 2557c

CRG ID#: 26133      Sample Description: Outfall      COMPOSITE  
 Replicate #: R1      Date Sampled: 24-Jun-05  
 Batch ID: 2557-12040      Date Received: 29-Jun-05  
 Instrument: ICPMS #1 HP 4500      Matrix: Seawater  
    Analyst: P. Hershelman      Date Processed: 14-Jul-05  
         Date Analyzed: 20-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	11.1	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.161	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.62	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	E0.006	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	5.98	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.081	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.345	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	2.7	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	32.6	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	0.389	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	19.3	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00158	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9.05	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.993	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	0.019	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	1.08	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.19	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	21.7	µg/L	0.005	0.01	1	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      26133      R1

# CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5093 crglabs@sbcglobal.net

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

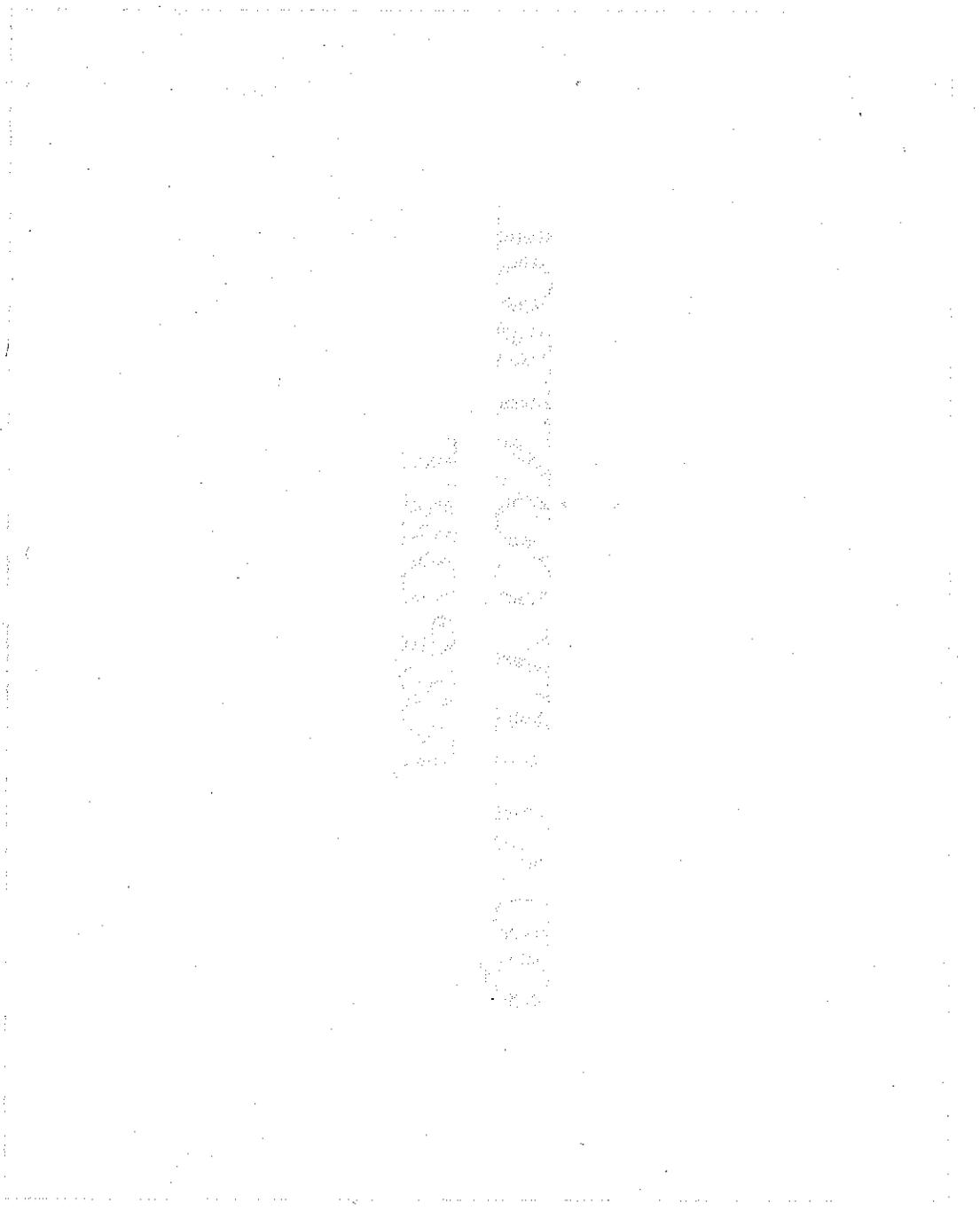
**CRG ID#:** 26133  
**Replicate #:** R2  
**Batch ID:** 2557-12040  
**Instrument:** ICPMS #1 HP 4500  
**Sample Description:** Outfall  
**Matrix:** Long Beach Permit  
**Analyst:** P. Hershelman  
**COMPOSITE**  
**Date Sampled:** 24-Jun-05  
**Date Received:** 29-Jun-05  
**Date Processed:** 14-Jul-05  
**Date Analyzed:** 21-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Boron (B)	Total	EPA 200.8	6.03	mg/L	1	5	1	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  
26133 R2

# **QUALITY CONTROL REPORT**



Vertical text or markings in the center of the page, possibly bleed-through from the reverse side. The text is extremely faint and illegible.

# **PROCEDURAL BLANK RESULTS**

Handwritten text, possibly a signature or a list of names, oriented vertically in the center of the page.

# CRG Marine Laboratories, Inc.

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

## Trace Metals

Client: Southern California Edison

CRG Project ID: 2557c

CRG ID#: 26131      Sample Description: Procedural Blank      Date Sampled:      Date Received:      Date Processed:      Date Analyzed:      14-Jul-05      20-Jul-05  
 Replicate #: B1      Matrix: DI Water  
 Batch ID: 2557-12040      Analyst: P. Hershelman  
 Instrument: ICMS #1 HP 4500

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	ND	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	ND	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	ND	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Molybdenum (Mo)	Total	EPA 1631E	ND	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	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      26131      B1

1. 1990年12月1日

2. 1991年1月1日

3. 1991年2月1日

4. 1991年3月1日

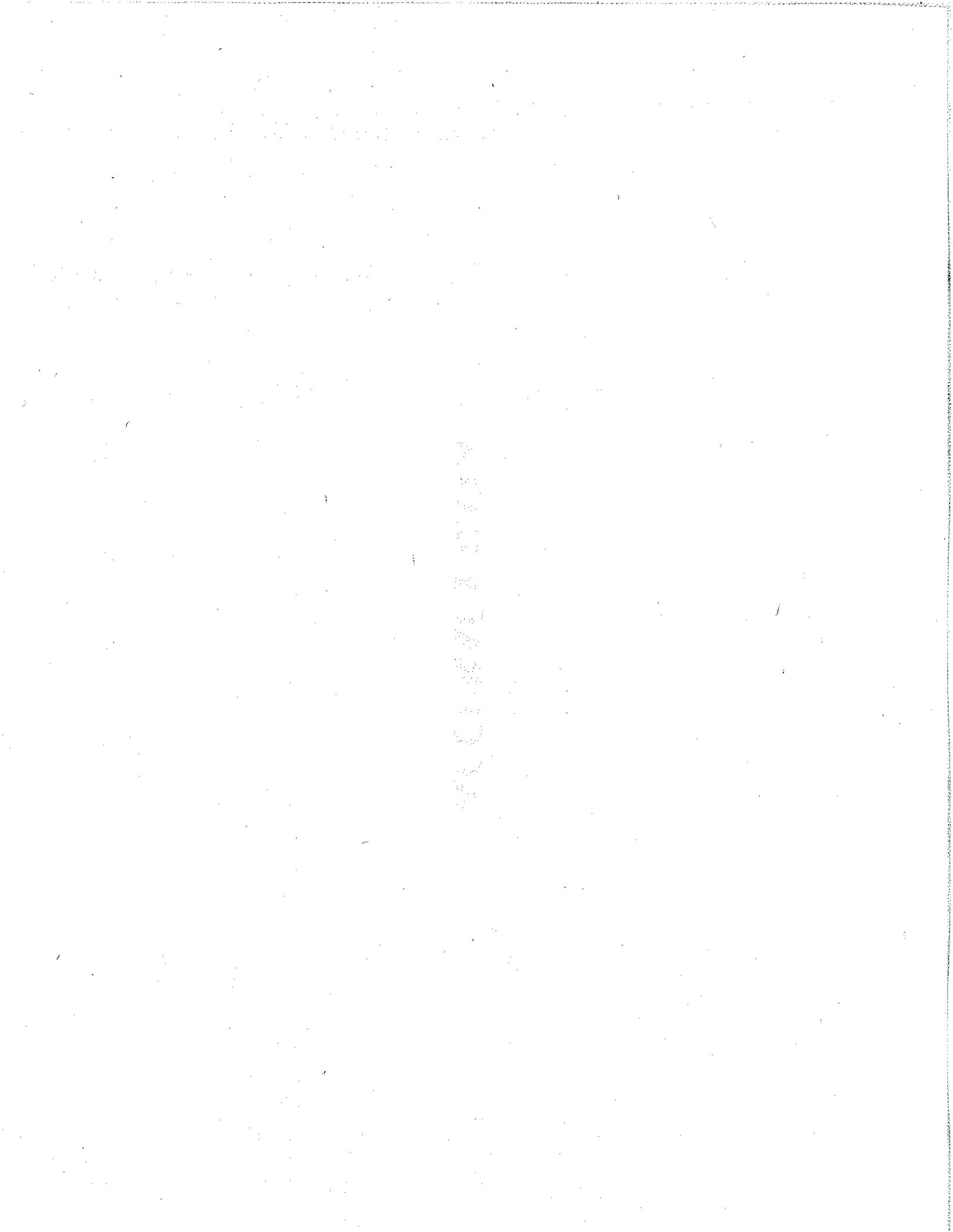
5. 1991年4月1日

6. 1991年5月1日

7. 1991年6月1日

8. 1991年7月1日

# 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

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

<b>CRG ID#:</b> 26134 <b>Replicate #:</b> LCM1 <b>Batch ID:</b> 2557-12040 <b>Instrument:</b> ICPMS #1 HP 4500	<b>Sample Description:</b> LCM-CRG Seawater <b>QA/QC:</b> Long Beach Permit <b>Matrix:</b> Seawater <b>Analyst:</b> P. Hershelman	<b>Date Sampled:</b> <b>Date Received:</b> <b>Date Processed:</b> 14-Jul-05 <b>Date Analyzed:</b> 20-Jul-05
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CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	ND	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.104	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.58	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	E.3.38	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.106	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.305	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.154	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	0.433	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	E.0.005	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	0.166	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00114	µg/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9.65	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.514	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	E.0.007	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	0.275	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.33	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	1.46	µg/L	0.005	0.01	1	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  
26134 LCM1

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 2557c

<b>CRG ID#:</b> 26734 <b>Replicate #:</b> LCM2 <b>Batch ID:</b> 2557-12040 <b>Instrument:</b> ICPMS #1 HP 4500	<b>Sample Description:</b> LCM-CRG Seawater <b>Matrix:</b> Seawater <b>Analyst:</b> P. Hershelman	<b>Date Sampled:</b> <b>Date Received:</b> <b>Date Processed:</b> 14-Jul-05 <b>Date Analyzed:</b> 20-Jul-05
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CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Aluminum (Al)	Total	EPA 1640	ND	µg/L	0.01	0.125	1	NA
Antimony (Sb)	Total	EPA 1640	0.088	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.75	µg/L	0.01	0.015	1	NA
Barium (Ba)	Total	EPA 200.8	ND	mg/L	0.1	0.5	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Boron (B)	Total	EPA 200.8	E3	mg/L	1	5	1	NA
Cadmium (Cd)	Total	EPA 1640	0.108	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.315	µg/L	0.005	0.01	1	NA
Cobalt (Co)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.153	µg/L	0.005	0.01	1	NA
Iron (Fe)	Total	EPA 1640	0.315	µg/L	0.01	0.025	1	NA
Lead (Pb)	Total	EPA 1640	E0.006	µg/L	0.005	0.01	1	NA
Manganese (Mn)	Total	EPA 1640	0.171	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00099	ug/L	0.00005	0.0001	1	NA
Molybdenum (Mo)	Total	EPA 1640	9.85	µg/L	0.005	0.01	1	NA
Nickel (Ni)	Total	EPA 1640	0.501	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	E0.007	µg/L	0.005	0.01	1	NA
Tin (Sn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Titanium (Ti)	Total	EPA 1640	0.414	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.52	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	1.6	µg/L	0.005	0.01	1	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.

# CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 [orglabs@sbcglobal.net](mailto:orglabs@sbcglobal.net)

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

<b>CRG ID#:</b> 26134	Sample Description:	QA/QC	LCM-CRG Seawater
<b>Replicate #:</b> LCS1	Long Beach Permit		
<b>Batch ID:</b> 2557-12040	Matrix:	Seawater	
<b>Instrument:</b> ICPMS #1 HP 4500	Analyst:	P. Hershelman	

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Aluminum (Al)	Total	EPA 1640	77	20 µg/L	52 - 149%	PASS
Antimony (Sb)	Total	EPA 1640	66	25 µg/L	44 - 107%	PASS
Arsenic (As)	Total	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	98	20 µg/L	75 - 124%	PASS
Copper (Cu)	Total	EPA 1640	81	25 µg/L	72 - 128%	PASS
Iron (Fe)	Total	EPA 1640	60	25 µg/L	35 - 97%	PASS
Lead (Pb)	Total	EPA 1640	90	25 µg/L	56 - 116%	PASS
Manganese (Mn)	Total	EPA 1640	86	20 µg/L	64 - 120%	PASS
Mercury (Hg)	Total	EPA 1631E	97	0.0375 µg/L	68 - 117%	PASS
Molybdenum (Mo)	Total	EPA 1640	89	25 µg/L	59 - 125%	PASS
Nickel (Ni)	Total	EPA 1640	79	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	77	25 µg/L	55 - 110%	PASS
Silver (Ag)	Total	EPA 1640	97	20 µg/L	66 - 125%	PASS
Thallium (Tl)	Total	EPA 1640	76	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

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

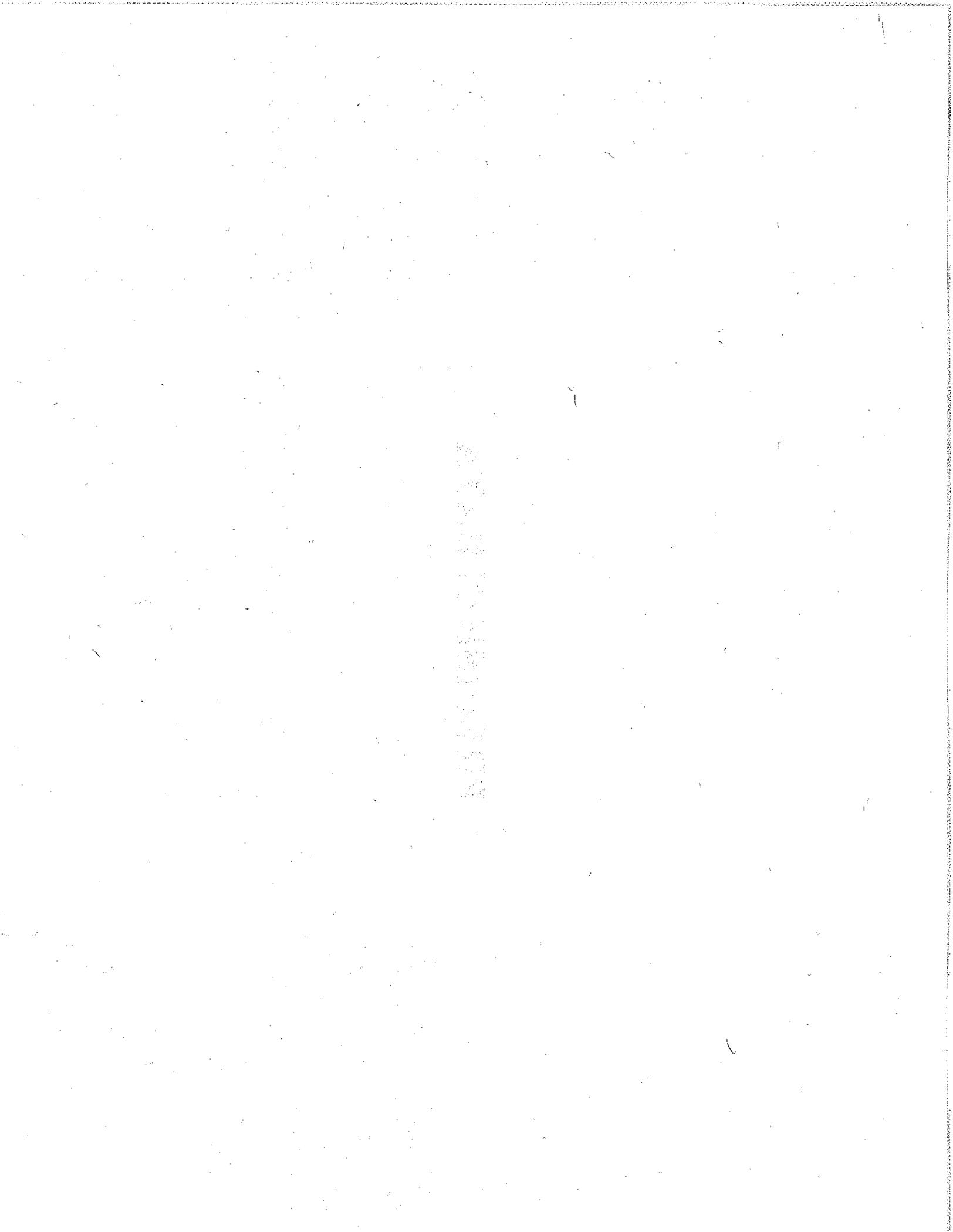
CRG ID#: 26134	Sample Description: LCM-CRG Seawater	QAQC	Date Sampled:
Replicate #: LCS2	Description: Long Beach Permit		Date Received:
Batch ID: 2557-12040	Matrix: Seawater		Date Processed: 14-Jul-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman		Date Analyzed: 20-Jul-05

CONSTITUENT	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	66	25 µg/L	44 - 107%	PASS
Arsenic (As)	Total	EPA 1640	93	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	99	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	91	0.0375 µg/L	68 - 117%	PASS
Molybdenum (Mo)	Total	EPA 1640	91	25 µg/L	59 - 125%	PASS
Nickel (Ni)	Total	EPA 1640	81	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	75	25 µg/L	55 - 110%	PASS
Silver (Ag)	Total	EPA 1640	85	20 µg/L	66 - 125%	PASS
Thallium (Tl)	Total	EPA 1640	81	20 µg/L	66 - 110%	PASS
Tin (Sn)	Total	EPA 1640	79	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 LCS2

# PRECISION 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

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

<b>CRG ID#:</b> 26132	<b>Sample Description:</b> Intake	<b>COMPOSITE</b>	<b>Date Sampled:</b> 24-Jun-05
<b>Batch ID:</b> 2557-12040	<b>Matrix:</b> Seawater		<b>Date Received:</b> 29-Jun-05
<b>Instrument:</b> ICPMS #1 HP 4500	<b>Analyst:</b> P. Hershelman		<b>Date Processed:</b> 14-Jul-05
			<b>Date Analyzed:</b> 20-Jul-05

CONSTITUENT	FRACTION	METHOD	R1		R2	% RPD	ACCEPTANCE RANGE		COMMENT
			µg/L	µg/L					
Aluminum (Al)	Total	EPA 1640	40.4	39.9		1	0 - 30%	PASS	
Antimony (Sb)	Total	EPA 1640	0.123	0.127		3	0 - 30%	PASS	
Arsenic (As)	Total	EPA 1640	1.75	0.869		67	0 - 30%	FAIL	
Beryllium (Be)	Total	EPA 1640	0.006	0.006		0	0 - 30%	PASS	
Boron (B)	Total	EPA 200.8	5.17	5.76		11	0 - 30%	PASS	
Cadmium (Cd)	Total	EPA 1640	0.049	0.05		2	0 - 30%	PASS	
Chromium (Cr)	Total	EPA 1640	0.375	0.475		24	0 - 30%	PASS	
Copper (Cu)	Total	EPA 1640	1.85	1.84		1	0 - 30%	PASS	
Iron (Fe)	Total	EPA 1640	25	26.6		6	0 - 30%	PASS	
Lead (Pb)	Total	EPA 1640	0.388	0.398		3	0 - 30%	PASS	
Manganese (Mn)	Total	EPA 1640	16.9	17.1		1	0 - 30%	PASS	
Mercury (Hg)	Total	EPA 1631E	0.00139	0.00156		12	0 - 30%	PASS	
Molybdenum (Mo)	Total	EPA 1640	9	9.76		8	0 - 30%	PASS	
Nickel (Ni)	Total	EPA 1640	0.373	0.393		5	0 - 30%	PASS	
Thallium (Tl)	Total	EPA 1640	0.005	0.011		75	0 - 30%	FAIL	
Tin (Sn)	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		3	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 Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 2557c

**CRG ID#:** 26133      **Sample Description:** Outfall      **COMPOSITE**      **Date Sampled:** 24-Jun-05  
**Batch ID:** 2557-12040      **Matrix:** Seawater      **Date Received:** 29-Jun-05  
**Instrument:** ICPMS #1 HP 4500      **Analyst:** P. Hershelman      **Date Processed:** 14-Jul-05  
**Date Analyzed:** 21-Jul-05

CONSTITUENT	FRACTION	METHOD	R1 mg/L	R2 mg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Boron (B)	Total	EPA 200.8	5.98	6.03	1	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  
26133

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 2557c

<b>CRG ID#:</b> 26134	<b>Sample Description:</b> LCM-CRG Seawater	<b>QA/QC:</b> Long Beach Permit	<b>Date Sampled:</b>	<b>Date Received:</b>
<b>Batch ID:</b> 2557-12040	<b>Matrix:</b> Seawater	<b>Analyst:</b> P. Hershelman	<b>Date Processed:</b> 14-Jul-05	<b>Date Analyzed:</b> 20-Jul-05
<b>Instrument:</b> ICPMS #1 HP 4500				

CONSTITUENT	FRACTION	METHOD	LCM1 µg/L	LCM2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	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	3	12	0 - 30%	PASS
Cadmium (Cd)	Total	EPA 1640	0.106	0.108	2	0 - 30%	PASS
Chromium (Cr)	Total	EPA 1640	0.305	0.315	3	0 - 30%	PASS
Copper (Cu)	Total	EPA 1640	0.154	0.153	1	0 - 30%	PASS
Iron (Fe)	Total	EPA 1640	0.433	0.315	32	0 - 30%	FAIL
Lead (Pb)	Total	EPA 1640	0.005	0.006	18	0 - 30%	PASS
Manganese (Mn)	Total	EPA 1640	0.166	0.171	3	0 - 30%	PASS
Mercury (Hg)	Total	EPA 1631E	0.00114	0.00099	14	0 - 30%	PASS
Molybdenum (Mo)	Total	EPA 1640	9.65	9.85	2	0 - 30%	PASS
Nickel (Ni)	Total	EPA 1640	0.514	0.501	3	0 - 30%	PASS
Thallium (Tl)	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	8	0 - 30%	PASS
Zinc (Zn)	Total	EPA 1640	1.46	1.6	9	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

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 2557c

**CRG ID#:** 26134

LCM-CRG Seawater

**Date Sampled:**

**Sample Description:** QAQC Long Beach Permit

**Date Received:**

**Matrix:** Seawater

**Date Processed:** 14-Jul-05

**Analyst:** P. Hershelman

**Date Analyzed:** 20-Jul-05

**Batch ID:** 2557-12040

**Instrument:** ICPMS #1 HP 4500

CONSTITUENT	FRACTION	METHOD	LCS1		LCS2		% RPD	ACCEPTANCE RANGE	COMMENT
			% Recovery	% Recovery	% Recovery	% Recovery			
Aluminum (Al)	Total	EPA 1640	77	79	3	0 - 30%	PASS		
Antimony (Sb)	Total	EPA 1640	66	66	0	0 - 30%	PASS		
Arsenic (As)	Total	EPA 1640	91	93	2	0 - 30%	PASS		
Beryllium (Be)	Total	EPA 1640	64	64	0	0 - 30%	PASS		
Cadmium (Cd)	Total	EPA 1640	84	83	1	0 - 30%	PASS		
Chromium (Cr)	Total	EPA 1640	109	107	2	0 - 30%	PASS		
Cobalt (Co)	Total	EPA 1640	98	99	1	0 - 30%	PASS		
Copper (Cu)	Total	EPA 1640	81	81	0	0 - 30%	PASS		
Iron (Fe)	Total	EPA 1640	60	65	8	0 - 30%	PASS		
Lead (Pb)	Total	EPA 1640	90	91	1	0 - 30%	PASS		
Manganese (Mn)	Total	EPA 1640	86	87	1	0 - 30%	PASS		
Mercury (Hg)	Total	EPA 1640	97	91	6	0 - 30%	PASS		
Molybdenum (Mo)	Total	EPA 1631E	89	91	2	0 - 30%	PASS		
Nickel (Ni)	Total	EPA 1640	79	81	3	0 - 30%	PASS		
Selenium (Se)	Total	EPA 1640	77	75	3	0 - 30%	PASS		
Silver (Ag)	Total	EPA 1640	97	85	13	0 - 30%	PASS		
Thallium (Tl)	Total	EPA 1640	76	81	6	0 - 30%	PASS		
Tin (Sn)	Total	EPA 1640	87	79	10	0 - 30%	PASS		
Titanium (Ti)	Total	EPA 1640	111	111	0	0 - 30%	PASS		
Vanadium (V)	Total	EPA 1640	116	116	0	0 - 30%	PASS		
Zinc (Zn)	Total	EPA 1640	72	73	1	0 - 30%	PASS		

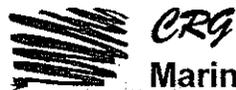
MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

California ELAP Certificate # 2261  
26134

# **CHAIN-OF-CUSTODY**

Handwritten text, possibly a list or index, centered on the page. The text is extremely faint and illegible.





Marine Laboratories, Inc.

# SAMPLE RECEIPT FORM

CRG Project ID

P2557c

CLIENT NAME

SCE

DATE RECEIVED

6/29/05

### COURIER INFORMATION

CRG     FEDEX  
 OTHER\*     UPS

TRACKING NUMBER

### TEMPERATURE

22 °C     BLUE ICE  
 WET ICE  
 NO ICE

### Chain-of-Custody

INCLUDED  
 SIGNED  
 NOT INCLUDED

### SAMPLE MATRIX

LIQUID  
 SOLID  
 OTHER\*

### CONDITION OF SAMPLES UPON ARRIVAL

	YES	NO*	NA
All sample containers intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All samples listed on COC are present.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample ID on containers consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers used for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All samples received within method holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### \*NOTES

COMPLETED BY:

AJ



STL

July 20, 2005

STL LOT NUMBER: **E5F270218**  
PO/CONTRACT: V2033901

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

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

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 the laboratory.

This report contains **000036** pages.

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

Sincerely,

*Marisol Tabirara*  
Marisol Tabirara  
Project Manager

cc: Project File



Severn Trent Laboratories, Inc.

## 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%.

#### **Corrective Action:**

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





**STL LOS ANGELES - PROJECT RECEIPT CHECKLIST** Date: 6-27-05

LIMS Lot #: ESF270218  
 Client Name: Southern California Edison  
 Received by: MG  
 Delivered by:  Client  STL  DHL  Fed Ex  UPS  Other

Quote #: 53770  
 Project: L.B. Permit Renew  
 Date/Time Received: 6-27-05 13:45

\*\*\*\*\* Initial / Date

Custody Seal Status Cooler:  Intact  Broken  None ..... 6-27-05 RL

Custody Seal Status Samples:  Intact  Broken  None ..... 6-27-05 RL

Custody Seal #(s): \_\_\_\_\_  No Seal #..... 6-27-05 RL

Sampler Signature on COC  Yes  No  N/A..... 6-27-05 RL

IR Gun # B Correction Factor .4 °C IR passed daily verification  Yes  No ..... 6-27-05 RL

Temperature - BLANK 5.4 °C +/- .4 CF = 5.8 °C ..... 6-27-05 RL

Temperature - COOLER ( \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C ) = \_\_\_\_\_ avg °C +/- \_\_\_\_\_ CF = \_\_\_\_\_ °C..... 6-27-05 RL

Samples outside temperature criteria but received within 6 hours of final sampling  Yes  N/A..... 6-27-05 RL

Sample Container(s):  STL-LA  Client ..... 6-27-05 RL

One COC/Multiple coolers:  Yes- # coolers \_\_\_\_\_ All within temp criteria  Yes  No  N/A..... 6-27-05 RL

One or more coolers with an anomaly:  Yes - (fill out PRC for each)  N/A..... 6-27-05 RL

Samples:  Intact  Broken  Other ..... 6-27-05 RL

pH measured:  Yes  Anomaly (if checked, notify lab and file NCM)  N/A..... 6-27-05 RL

Anomalies:  No  Yes - complete CUR and Create NCM NCM # \_\_\_\_\_ ..... 6-27-05 RL

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times.  Yes  N/A..... 6-27-05 RL

Labeled by: \_\_\_\_\_ Labeling checked ..... 6-27-05 RL

\*\*\*\*\*

Turn Around Time:  RUSH-24HR  RUSH-48HR  RUSH-72HR  NORMAL ..... 6-27-05 RL

Short-Hold Notification:  pH  Wet Chem  Metals (Filter/Pres)  Encore  >1/2 HT expired. N/A 6-27-05 RL

Outside Analysis(es) (Test/Lab/Date Sent Out):  
N/A AV 6-27-05  
8290 TO SACRAMENTO ..... 6-27-05 RL

\*\*\*\*\* LEAVE NO BLANK SPACES ; USE N/A \*\*\*\*\*

Headspace Anomaly					
Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm

Fraction	1-5	6	7										
VOAH/*	3												
AGB		1	1										
<i>AV 6-27-05</i>													

\* 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, zma: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form		<input checked="" type="checkbox"/> NIA <u>ESP-2705</u>
<ul style="list-style-type: none"> <li>▪ COOLERS                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Not Received (received COC only)</li> <li><input type="checkbox"/> Leaking</li> <li><input type="checkbox"/> Other:</li> </ul> </li> <li>▪ TEMPERATURE (SPECS 4 ± 2°C)                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Cooler Temp(s)</li> <li><input type="checkbox"/> Temperature Blank(s)</li> </ul> </li> <li>▪ CONTAINERS                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Leaking      <input type="checkbox"/> Voa Vials with Bubbles &gt; 6mm</li> <li><input type="checkbox"/> Broken</li> <li><input type="checkbox"/> Extra</li> <li><input type="checkbox"/> Without Labels</li> <li><input type="checkbox"/> Other:</li> </ul> </li> <li>▪ SAMPLES                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Samples NOT RECEIVED but listed on COC</li> <li><input type="checkbox"/> Samples received but NOT LISTED on COC</li> <li><input type="checkbox"/> Logged based on Label Information</li> <li><input type="checkbox"/> Logged based on info from other samples on COC</li> <li><input type="checkbox"/> Logged according to Work Plan</li> <li><input type="checkbox"/> Logged on HOLD UNTIL FURTHER NOTICE</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ CUSTODY SEALS (COOLER(S) CONTAINER(S))                             <ul style="list-style-type: none"> <li><input type="checkbox"/> None</li> <li><input type="checkbox"/> Not Intact</li> <li><input type="checkbox"/> Other</li> </ul> </li> <li>▪ CHAIN OF CUSTODY (COC)                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Not relinquished by Client; No date/time relinquished</li> <li><input type="checkbox"/> Incomplete information provided</li> <li><input type="checkbox"/> Other    <input type="checkbox"/> COC not received – notify PM</li> </ul> </li> <li>▪ LABELS                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Not the same ID/info as in COC</li> <li><input type="checkbox"/> Incomplete Information</li> <li><input type="checkbox"/> Markings/Info illegible</li> <li><input type="checkbox"/> Torn</li> </ul> </li> <li> <ul style="list-style-type: none"> <li><input type="checkbox"/> Will be noted on COC--Client to send samples with new COC</li> <li><input type="checkbox"/> Mislabeled as to tests, preservatives, etc.</li> <li><input type="checkbox"/> Holding time expired – list sample ID and test</li> <li><input type="checkbox"/> Improper container used</li> <li><input type="checkbox"/> Not preserved/Improper preservative used</li> <li><input type="checkbox"/> Improper pH _____ Lab to preserve sample and document</li> <li><input type="checkbox"/> Insufficient quantities for analysis      <input type="checkbox"/> Other</li> </ul> </li> </ul>	
Comments:  <hr/> <hr/> <hr/>		
<ul style="list-style-type: none"> <li><input type="checkbox"/> Corrective Action Implemented:</li> <li><input type="checkbox"/> Client Informed: verbally on _____ By: _____ <input type="checkbox"/> In writing on _____ By: _____</li> <li><input type="checkbox"/> Sample(s) on hold until: _____ <input type="checkbox"/> Sample(s) processed "as is."</li> </ul>		
Logged by/Date: <u>Robert Payer 6-27-05</u>		PM Review/Date: <u>MT 6/28/05</u>

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

2. The second section covers the process of reconciling accounts. It explains how to compare the internal records with the bank statements to identify any discrepancies. Regular reconciliation helps in catching errors early and prevents them from accumulating.

3. The third part of the document addresses the issue of budgeting. It provides guidelines on how to set realistic financial goals and allocate resources accordingly. A well-defined budget is essential for controlling expenses and ensuring the organization stays on track.

4. The final section discusses the role of technology in financial management. It highlights the benefits of using accounting software to streamline processes, reduce manual errors, and provide real-time insights into the company's financial health.



**STL**

# Analytical Report

114

transmission

**ANALYTICAL REPORT**

**Long Beach Permit Renew**

**Lot #: E5F270218**

**Shawn Simmons**

**Southern California Edison Com**

**SEVERN TRENT LABORATORIES, INC.**

**Marisol Tabirara  
Project Manager**

**July 19, 2005**

# EXECUTIVE SUMMARY - Detection Highlights

E5F270218

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
NO DETECTABLE PARAMETERS				

# METHODS SUMMARY

E5F270218

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
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

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

B5F270218

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
HEGFW	001	OUTFALL	06/24/05	12:15
HEGGF	002	OUTFALL	06/24/05	18:01
HEGGG	003	OUTFALL	06/25/05	00:01
HEGGH	004	OUTFALL	06/25/05	06:01
HEGGJ	005	OUTFALL	06/25/05	12:01
HEGGK	006	OUTFALL COMPOSITE	06/24/05	
HEGGN	007	OUTFALL COMPOSITE	06/24/05	

## 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.

Southern California Edison Company

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

PARAMETER	RESULT	REPORTING		
		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	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
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
	RECOVERY	LIMITS
Bromofluorobenzene	92	(75 - 130)
1,2-Dichloroethane-d4	98	(65 - 135)
Toluene-d8	96	(80 - 130)

Southern California Edison Company

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	REPORTING		
		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	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
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
	RECOVERY	LIMITS
Bromofluorobenzene	93	(75 - 130)
1,2-Dichloroethane-d4	99	(65 - 135)
Toluene-d8	96	(80 - 130)

Southern California Edison Company

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	RESULT	REPORTING		
		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	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
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	94	(75 - 130)		
1,2-Dichloroethane-d4	98	(65 - 135)		
Toluene-d8	98	(80 - 130)		

Southern California Edison Company

Client Sample ID: OUTFALL

GC/MS Volatiles

Lot-Sample #...: E5F270218-004 Work Order #...: HEGGH1AA Matrix.....: W  
 Date Sampled...: 06/25/05 06:01 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...: 02:27  
 Dilution Factor: 1  
 Analyst ID.....: 015590 Instrument ID...: MSR  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		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	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
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
	RECOVERY	LIMITS
Bromofluorobenzene	95	(75 - 130)
1,2-Dichloroethane-d4	96	(65 - 135)
Toluene-d8	99	(80 - 130)

Southern California Edison Company

Client Sample ID: OUTFALL

GC/MS Volatiles

Lot-Sample #...: E5F270218-005 Work Order #...: HEGGJ1AA Matrix.....: W  
 Date Sampled...: 06/25/05 12:01 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  
 Analyst ID.....: 015590 Instrument ID...: MSR  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		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	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
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
	RECOVERY	LIMITS
Bromofluorobenzene	93	(75 - 130)
1,2-Dichloroethane-d4	97	(65 - 135)
Toluene-d8	99	(80 - 130)



Southern California Edison Company

Client Sample ID: OUTFALL COMPOSITE

GC/MS Semivolatiles

Lot-Sample #...: E5F270218-006 Work Order #...: HEGGK1AA Matrix.....: W

PARAMETER	RESULT	REPORTING 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	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- 2-methylphenol	ND	50	ug/L	10
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	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- diene	ND	50	ug/L	6.0
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 & 4-Methylphenol	ND	10	ug/L	2.0
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- 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- benzene	ND	10	ug/L	5.0
2,4,5-Trichloro- phenol	ND	10	ug/L	5.0

(Continued on next page)

Southern California Edison Company

Client Sample ID: OUTFALL COMPOSITE

GC/MS Semivolatiles

Lot-Sample #...: E5F270218-006 Work Order #...: HEGGK1AA Matrix.....: W

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2,4,6-Trichloro-phenol	ND	10	ug/L	2.0

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorobiphenyl	59	(45 - 110)
2-Fluorophenol	18	(10 - 75 )
Phenol-d5	25	(10 - 60 )
2,4,6-Tribromophenol	70	(30 - 125)
Terphenyl-d14	73	(35 - 125)
Nitrobenzene-d5	58	(40 - 110)

Southern California Edison Company

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

PARAMETER	RESULT	DETECTION 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/L	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

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	64	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	104	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	84	(40 - 135)
13C-OCDD	76	(40 - 135)
13C-2,3,7,8-TCDF	82	(40 - 135)
13C-1,2,3,7,8-PeCDF	67	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	98	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	88	(40 - 135)

REPORT ON THE PROGRESS OF THE WORK

FOR THE YEAR 1911

BY THE DIRECTOR

The following is a summary of the work done during the year 1911. It is divided into three main sections: (1) General Administration, (2) Research, and (3) Publications. The work has been carried out in accordance with the programme of work approved by the Council at its meeting on 15th December 1910.

Section	Sub-section	Number of Papers	Number of Authors	Number of Pages	Number of Figures
General Administration	Administrative	10	10	100	0
	Financial	5	5	50	0
	Legal	3	3	30	0
	Medical	2	2	20	0
	Physical	1	1	10	0
	Chemical	1	1	10	0
	Biological	1	1	10	0
	Mathematical	1	1	10	0
	Philosophical	1	1	10	0
	Historical	1	1	10	0
	Geographical	1	1	10	0
	Political	1	1	10	0
	Social	1	1	10	0
	Economic	1	1	10	0
	Psychological	1	1	10	0
Research	Physical	10	10	100	10
	Chemical	5	5	50	5
	Biological	3	3	30	3
	Mathematical	2	2	20	2
	Philosophical	1	1	10	1
	Historical	1	1	10	1
	Geographical	1	1	10	1
	Political	1	1	10	1
	Social	1	1	10	1
	Economic	1	1	10	1
	Psychological	1	1	10	1
	Physiological	1	1	10	1
	Anthropological	1	1	10	1
	Linguistic	1	1	10	1
	Publications	Books	10	10	100
Articles		5	5	50	5
Reviews		3	3	30	3
Notes		2	2	20	2
Reports		1	1	10	1
Addresses		1	1	10	1
Discussions		1	1	10	1
Debates		1	1	10	1
Proposals		1	1	10	1
Resolutions		1	1	10	1
Minutes		1	1	10	1
Correspondence		1	1	10	1
Announcements		1	1	10	1
Obituary		1	1	10	1

GENERAL ADMINISTRATION

The work done during the year 1911 in the section of General Administration has been carried out in accordance with the programme of work approved by the Council at its meeting on 15th December 1910. It has consisted of the following: (1) Administrative, (2) Financial, (3) Legal, (4) Medical, (5) Physical, (6) Chemical, (7) Biological, (8) Mathematical, (9) Philosophical, (10) Historical, (11) Geographical, (12) Political, (13) Social, (14) Economic, (15) Psychological.

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# QC DATA ASSOCIATION SUMMARY

E5F270218

## Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	W	SW846 8260B		5182448	5182272
002	W	SW846 8260B		5182448	5182272
003	W	SW846 8260B		5182448	5182272
004	W	SW846 8260B		5182448	5182272
005	W	SW846 8260B		5182448	5182272
006	W	SW846 8270C		5179591	
007	W	SW846 8290		5189327	

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5F270218  
 MB Lot-Sample #: E5G010000-448

Work Order #...: HETR91AA

Matrix.....: WATER

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

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

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

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		
		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	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

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	92	(75 - 130)
1,2-Dichloroethane-d4	92	(65 - 135)
Toluene-d8	101	(80 - 130)

NOTE(S):

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

METHOD BLANK REPORT

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

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzidine	ND	20	ug/L	SW846 8270C
N-Nitrosodimethylamine	ND	20	ug/L	SW846 8270C
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	ug/L	SW846 8270C
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) methane	ND	10	ug/L	SW846 8270C
bis(2-Chloroethyl)- ether	ND	10	ug/L	SW846 8270C
bis(2-Chloroisopropyl) ether	ND	10	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	SW846 8270C
4-Bromophenyl phenyl ether	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	ND	10	ug/L	SW846 8270C
2-Chlorophenol	ND	10	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Chrysene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
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

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #....: E5F270218

Work Order #....: HEJ251AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		
		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- 2-methylphenol	ND	50	ug/L	SW846 8270C
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- diene	ND	50	ug/L	SW846 8270C
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 & 4-Methylphenol	ND	10	ug/L	SW846 8270C
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- benzene	ND	10	ug/L	SW846 8270C
2,4,5-Trichloro- phenol	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro- phenol	ND	10	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: E5F270218

Work Order #...: HEJ251AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>		
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)		
Nitrobenzene-d5	64	(40 - 110)		

**NOTE (S) :**

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

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #....: E5F270218  
 MB Lot-Sample #: G5G080000-327

Work Order #....: HB4VN1AA

Matrix.....: WATER

Analysis Date...: 07/12/05  
 Dilution Factor: 1

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

Analysis Time...: 18:54

Prep Batch #....: 5189327

Instrument ID...: 1D5

Analyst ID.....: 001970

PARAMETER	RESULT	DETECTION		
		LIMIT	UNITS	METHOD
1,2,3,7,8-PeCDF	ND	12	pg/L	SW846 8290
2,3,4,7,8-PeCDF	ND	12	pg/L	SW846 8290
1,2,3,4,7,8-HxCDF	ND	10	pg/L	SW846 8290
2,3,4,6,7,8-HxCDF	ND	11	pg/L	SW846 8290
1,2,3,7,8,9-HxCDF	ND	12	pg/L	SW846 8290
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
Total HxCDF	ND	12	pg/L	SW846 8290
Total HpCDF	ND	12	pg/L	SW846 8290
Total TCDD	ND	3.8	pg/L	SW846 8290
Total PeCDD	ND	16	pg/L	SW846 8290
1,2,3,7,8-PeCDD	ND	16	pg/L	SW846 8290
Total HxCDD	ND	16	pg/L	SW846 8290
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	pg/L	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	2.9	pg/L	SW846 8290

INTERNAL STANDARDS	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C-2,3,7,8-TCDD	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)

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 #...: E5F270218      Work Order #...: HETR91AC      Matrix.....: WATER  
 LCS Lot-Sample#: E5G010000-448  
 Prep Date.....: 06/30/05      Analysis Date...: 06/30/05  
 Prep Batch #...: 5182448      Analysis Time...: 17:16  
 Dilution Factor: 1      Instrument ID...: MSR  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>1,1-Dichloroethene</b>	<b>104</b>	<b>(65 - 135)</b>	<b>SW846 8260B</b>
<b>Benzene</b>	<b>96</b>	<b>(75 - 125)</b>	<b>SW846 8260B</b>
<b>Trichloroethene</b>	<b>98</b>	<b>(75 - 135)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>99</b>	<b>(75 - 125)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>101</b>	<b>(75 - 125)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	96	(75 - 130)
1,2-Dichloroethane-d4	90	(65 - 135)
Toluene-d8	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 #...: E5F270218      Work Order #...: HETR91AC      Matrix.....: WATER  
 LCS Lot-Sample#: E5G010000-448  
 Prep Date.....: 06/30/05      Analysis Date...: 06/30/05  
 Prep Batch #...: 5182448      Analysis Time...: 17:16  
 Dilution Factor: 1      Instrument ID...: MSR  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
1,1-Dichloroethene	10.0	10.4	ug/L	104	SW846 8260B
Benzene	10.0	9.64	ug/L	96	SW846 8260B
Trichloroethene	10.0	9.80	ug/L	98	SW846 8260B
Toluene	10.0	9.91	ug/L	99	SW846 8260B
Chlorobenzene	10.0	10.1	ug/L	101	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	96	(75 - 130)
1,2-Dichloroethane-d4	90	(65 - 135)
Toluene-d8	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 EVALUATION REPORT**

**GC/MS Semivolatiles**

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

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
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-amine	76	(40 - 110)			SW846 8270C
	73	(40 - 110)	3.6	(0-30)	SW846 8270C
Pentachlorophenol	75	(40 - 110)			SW846 8270C
	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-benzene	54	(35 - 105)			SW846 8270C
	55	(35 - 105)	2.3	(0-30)	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	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)
	84	(30 - 125)
Terphenyl-d14	85	(35 - 125)
	81	(35 - 125)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: E5F270218      Work Order #...: HEJ251AC-LCS      Matrix.....: WATER  
LCS Lot-Sample#: E5F280000-591      HEJ251AD-LCSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	70 69	(40 - 110) (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.....: WATER  
 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

PARAMETER	SPIKE	MEASURED		PERCENT		METHOD
	AMOUNT	AMOUNT	UNITS	RECOVERY	RPD	
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
	100	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	ug/L	50		SW846 8270C
	100	51.6	ug/L	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	ug/L	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	75		SW846 8270C
	100	77.4	ug/L	77	2.4	SW846 8270C
Phenol	100	27.5	ug/L	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

SURROGATE	PERCENT	RECOVERY
	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)
	84	(30 - 125)
Terphenyl-d14	85	(35 - 125)
	81	(35 - 125)

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**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

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>1,2,3,7,8-PeCDD</b>	<b>89</b>	<b>(71 - 132)</b>	<b>SW846 8290</b>
<b>1,2,3,4,7,8-HxCDD</b>	<b>92</b>	<b>(69 - 133)</b>	<b>SW846 8290</b>
<b>1,2,3,6,7,8-HxCDD</b>	<b>111</b>	<b>(74 - 131)</b>	<b>SW846 8290</b>
<b>1,2,3,7,8,9-HxCDD</b>	<b>108</b>	<b>(68 - 148)</b>	<b>SW846 8290</b>
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>104</b>	<b>(78 - 125)</b>	<b>SW846 8290</b>
<b>1,2,3,7,8-PeCDF</b>	<b>108</b>	<b>(76 - 129)</b>	<b>SW846 8290</b>
<b>2,3,4,7,8-PeCDF</b>	<b>105</b>	<b>(69 - 127)</b>	<b>SW846 8290</b>
<b>1,2,3,4,7,8-HxCDF</b>	<b>110</b>	<b>(71 - 134)</b>	<b>SW846 8290</b>
<b>1,2,3,6,7,8-HxCDF</b>	<b>136</b>	<b>(65 - 145)</b>	<b>SW846 8290</b>
<b>2,3,4,6,7,8-HxCDF</b>	<b>115</b>	<b>(64 - 167)</b>	<b>SW846 8290</b>
<b>1,2,3,7,8,9-HxCDF</b>	<b>106</b>	<b>(62 - 161)</b>	<b>SW846 8290</b>
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>113</b>	<b>(75 - 129)</b>	<b>SW846 8290</b>
<b>1,2,3,4,7,8,9-HpCDF</b>	<b>112</b>	<b>(70 - 140)</b>	<b>SW846 8290</b>
<b>2,3,7,8-TCDD</b>	<b>91</b>	<b>(72 - 126)</b>	<b>SW846 8290</b>
<b>2,3,7,8-TCDF</b>	<b>102</b>	<b>(69 - 133)</b>	<b>SW846 8290</b>
<b>OCDD</b>	<b>107</b>	<b>(74 - 131)</b>	<b>SW846 8290</b>
<b>OCDF</b>	<b>122</b>	<b>(70 - 136)</b>	<b>SW846 8290</b>

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

**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

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
1,2,3,7,8-PeCDD	1000	893	pg/L	89	SW846 8290
1,2,3,4,7,8-HxCDD	1000	921	pg/L	92	SW846 8290
1,2,3,6,7,8-HxCDD	1000	1110	pg/L	111	SW846 8290
1,2,3,7,8,9-HxCDD	1000	1080	pg/L	108	SW846 8290
1,2,3,4,6,7,8-HpCDD	1000	1040	pg/L	104	SW846 8290
1,2,3,7,8-PeCDF	1000	1080	pg/L	108	SW846 8290
2,3,4,7,8-PeCDF	1000	1050	pg/L	105	SW846 8290
1,2,3,4,7,8-HxCDF	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	SW846 8290
1,2,3,4,6,7,8-HpCDF	1000	1130	pg/L	113	SW846 8290
1,2,3,4,7,8,9-HpCDF	1000	1120	pg/L	112	SW846 8290
2,3,7,8-TCDD	200	182	pg/L	91	SW846 8290
2,3,7,8-TCDF	200	203	pg/L	102	SW846 8290
OCDD	2000	2140	pg/L	107	SW846 8290
OCDF	2000	2430	pg/L	122	SW846 8290

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
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

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E5F270218      Work Order #...: HD7AM1AE-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5F220390-003      HD7AM1AF-MSD  
 Date Sampled...: 06/21/05 11:52      Date Received...: 06/22/05 16:00      MS Run #.....: 5182272  
 Prep Date.....: 06/30/05      Analysis Date...: 07/01/05  
 Prep Batch #...: 5182448      Analysis Time...: 00:07  
 Dilution Factor: 6.25      Analyst ID.....: 015590      Instrument ID...: MSR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	112	(65 - 135)			SW846 8260B
	114	(65 - 135)	1.4	(0-25)	SW846 8260B
Benzene	97	(75 - 125)			SW846 8260B
	98	(75 - 125)	1.0	(0-25)	SW846 8260B
Trichloroethene	412 a	(75 - 135)			SW846 8260B
	343 a	(75 - 135)	14	(0-25)	SW846 8260B
Toluene	100	(75 - 125)			SW846 8260B
	100	(75 - 125)	0.09	(0-25)	SW846 8260B
Chlorobenzene	98	(75 - 125)			SW846 8260B
	100	(75 - 125)	2.2	(0-25)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	96	(75 - 130)
	95	(75 - 130)
1,2-Dichloroethane-d4	92	(65 - 135)
	92	(65 - 135)
Toluene-d8	100	(80 - 130)
	100	(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.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5F270218      Work Order #...: HD7AM1AE-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5F220390-003      HD7AM1AF-MSD  
 Date Sampled...: 06/21/05 11:52      Date Received...: 06/22/05 16:00      MS Run #.....: 5182272  
 Prep Date.....: 06/30/05      Analysis Date...: 07/01/05  
 Prep Batch #...: 5182448      Analysis Time...: 00:07  
 Dilution Factor: 6.25      Analyst ID.....: 015590      Instrument ID...: MSR

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT		
					RECVRY	RPD	METHOD
1,1-Dichloroethene	ND	62.5	70.2	ug/L	112		SW846 8260B
	ND	62.5	71.2	ug/L	114	1.4	SW846 8260B
Benzene	ND	62.5	60.4	ug/L	97		SW846 8260B
	ND	62.5	61.0	ug/L	98	1.0	SW846 8260B
Trichloroethene	73	62.5	330	ug/L	412 a		SW846 8260B
	73	62.5	288	ug/L	343 a	14	SW846 8260B
Toluene	ND	62.5	62.5	ug/L	100		SW846 8260B
	ND	62.5	62.6	ug/L	100	0.09	SW846 8260B
Chlorobenzene	ND	62.5	61.4	ug/L	98		SW846 8260B
	ND	62.5	62.7	ug/L	100	2.2	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	Bromofluorobenzene	96
	95	(75 - 130)
1,2-Dichloroethane-d4	92	(65 - 135)
	92	(65 - 135)
Toluene-d8	100	(80 - 130)
	100	(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.



**CRG**

**Laboratories, Inc.**

**ENVIRONMENTAL MICROBIOLOGY SERVICES**

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

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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 Client Name: Southern California Edison  
Description: Procedural Blank Shawn Simmons

Date Sampled: Date Recieved: 25-Jun-05  
Time Collected: 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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## MICROBIOLOGY RESULTS

CRG ID#: **26026** Replicate #PCI Project ID: M0524a Batch ID 0625 Matrix: Cultures

Sample QAQC Client Name: Southern California Edison  
Description: Positive Control Shawn Simmons

Date Sampled: Date Recieved: 25-Jun-05  
Time Collected: Time Analyzed: 1730

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

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## MICROBIOLOGY RESULTS

CRG ID#: **26007** Replicate #R1 Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 24-Jun-05 Date Received: 24-Jun-05  
Time Collected: 1200 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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## MICROBIOLOGY RESULTS

CRG ID#: **26008** Replicate #R1 Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Outfall Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 24-Jun-05 Date Recieved: 24-Jun-05  
Time Collected: 1215 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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## MICROBIOLOGY RESULTS

CRG ID#: **26009** Replicate #R1 Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 24-Jun-05 Date Recieved: 24-Jun-05  
Time Collected: 1510 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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## MICROBIOLOGY RESULTS

CRG ID#: **26010** Replicate #R1 Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Outfall Description: Client Name: Southern California Edison  
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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## MICROBIOLOGY RESULTS

CRG ID#: **26011** Replicate #R1 Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 24-Jun-05 Date Received: 24-Jun-05  
Time Collected: 1801 Time Analyzed: 2240

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#: **26012** Replicate #RI Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Outfall Description: Client Name: 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
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

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## MICROBIOLOGY RESULTS

CRG ID#: **26013** Replicate #R1 Project ID: M0524a Batch ID: 0624 Matrix: Seawater  
Sample Intake Client Name: Southern California Edison  
Description: Shawn Simmons

Date Sampled: 24-Jun-05 Date Recieved: 24-Jun-05  
Time Collected: 2110 Time Analyzed: 2240

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#: **26014** Replicate #R1 Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 24-Jun-05 Date Recieved: 24-Jun-05  
Time Collected: 2103 Time Analyzed: 2240

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#: **26015** Replicate #R1 \*Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05 Date Received: 25-Jun-05  
Time Collected: 0010 Time Analyzed: 0445

CONSTITUENT	METHOD	RESULT	UNIT	MDL
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** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05 Date Recieved: 25-Jun-05  
Time Collected: 0001 Time Analyzed: 0445

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#: **26017** 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  
Time Collected: 0310 Time Analyzed: 0445

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#: **26018** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Outfall / Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05 Date Received: 25-Jun-05  
Time Collected: 0301 Time Analyzed: 0445

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#: **26019** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05 Date Recieved: 25-Jun-05  
Time Collected: 0610 Time Analyzed: 1030

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#: **26020** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05 Date Recieved: 25-Jun-05  
Time Collected: 0601 Time Analyzed: 1030

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#: **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  
Time Collected: 0910 Time Analyzed: 1030

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#: **26022** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Outfall Client Name: Southern California Edison  
Description: Shawn Simmons

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

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 Laboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26023** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
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	< 20	MPN/100 mL	20
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

# CRG Laboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26024** Replicate #R1 Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Outfall Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05 Date Recieved: 25-Jun-05  
Time Collected: 1201 Time Analyzed: 1340

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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26007** Replicate #R2 (lab dup) Project ID: M0524a Batch ID 0624 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 24-Jun-05 Date Recieved: 24-Jun-05  
Time Collected: 1200 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

# CRGLaboratories, Inc.

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

## MICROBIOLOGY RESULTS

CRG ID#: **26024** Replicate #R2 (lab dup) Project ID: M0524a Batch ID 0625 Matrix: Seawater

Sample Outfall  
Description:

Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 25-Jun-05

Date Recieved: 25-Jun-05

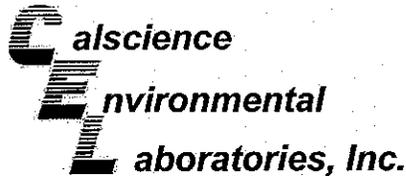
Time Collected: 1201

Time Analyzed: 1340

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

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

Handwritten text, possibly a signature or name, located in the center of the page.



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.: 05-07-1268**  
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 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: 07/22/05  
 Work Order No: 05-07-1268

Project: Wellpoint System

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Retention Basin	05-07-1268-1	07/22/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Amenable	ND	0.050	1		mg/L	N/A	07/28/05	EPA 335.1
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/27/05	EPA 335.2
Biochemical Oxygen Demand	2.0	1.0	1		mg/L	07/22/05	07/27/05	EPA 405.1

Method Blank				N/A				Aqueous
--------------	--	--	--	-----	--	--	--	---------

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Cyanide, Amenable	ND	0.10	1		mg/L	N/A	07/28/05	EPA 335.1
Cyanide, Total	ND	0.050	1		mg/L	N/A	07/27/05	EPA 335.2
Biochemical Oxygen Demand	ND	1.0	1		mg/L	07/22/05	07/27/05	EPA 405.1

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



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

Date Received: N/A  
 Work Order No: 05-07-1268

Project: Wellpoint System

Matrix: Aqueous

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

RPD - Relative Percent Difference , CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1268

Project: Wellpoint System

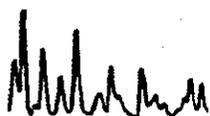
Matrix: Aqueous

<u>Parameter</u>	<u>Method</u>	<u>Quality Control</u> Sample ID	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Analyzed</u>	<u>LCS %</u> <u>REC</u>	<u>LCSD %</u> <u>REC</u>	<u>%REC</u> <u>CL</u>	<u>RPD</u>	<u>RPD</u> <u>CL</u>	<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	

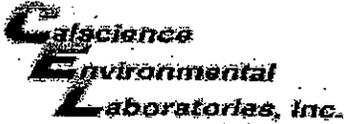
RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-07-1268

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.







WORK ORDER #:

05 - 07 - 42868

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: SCA Edison

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.

Initial: [Signature]

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Applicable (N/A):

Initial: [Signature]

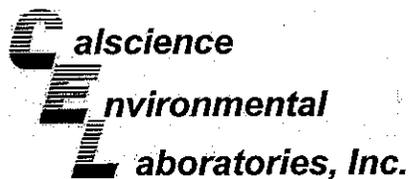
SAMPLE CONDITION:

Table with 4 columns: Description, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sample container label(s), Sample container(s) intact, Correct containers, Proper preservation, VOA vial(s), Tedlar bag(s).

Initial: [Signature]

COMMENTS:

Blank lines for handwritten comments.



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

Date Sampled: 07/19/05  
Date Received: 07/20/05  
Date Analyzed: 07/26/05

Attn: Shawn Simmons  
RE: Long Beach Permit

Work Order No.: 05-07-1140  
Method: SM4500 Br-B  
Page 1 of 1

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

<u>Sample Number</u>	<u>Bromide Concentration</u>	<u>Reporting Limit</u>
Outfall Composite	1.03	0.20
Method Blank	ND	0.10

**QUALITY ASSURANCE SUMMARY**

Method SM4500 Br-B

Southern California Edison Company  
 Page 1 of 1

Work Order No.: 05-07-1140  
 Date Analyzed: 07/26/05

**Matrix Spike/Matrix Spike Duplicate**

Sample Spiked: Outfall Composite

<u>Analyte</u>	<u>MS%REC</u>	<u>MSD%REC</u>	<u>Control Limits</u>	<u>%RPD</u>	<u>Control Limits</u>
Bromide	123	123	70 - 130	0	0 - 25

**Laboratory Control Sample**

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Bromide	0.400	0.400	100	80 - 120

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

Date Received: 07/20/05  
Work Order No: 05-07-1140  
Preparation: EPA 3510B  
Method: EPA 8081A/8082  
Units: ug/L

Project: Long Beach Permit

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Outfall Composite	05-07-1140-1	07/19/05	Aqueous	07/20/05	07/25/05	050720L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	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 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	ND	0.10	1		Aroclor-1262	ND	1.0	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	78	50-135			2,4,5,6-Tetrachloro-m-Xylene	66	50-135		

Method Blank	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
	095-01-015-1-364	N/A	Aqueous	07/20/05	07/20/05	050720L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	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 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	ND	0.10	1		Aroclor-1262	ND	1.0	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	92	50-135			2,4,5,6-Tetrachloro-m-Xylene	72	50-135		

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

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

Date Received: 07/20/05  
 Work Order No: 05-07-1140

Project: Long Beach Permit

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Outfall Composite	05-07-1140-1	07/19/05	Aqueous

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Fluoride	0.79	0.1	1		mg/L	N/A	07/25/05	EPA 340.2
Ammonia	1.9	0.1	1		mg/L	N/A	07/25/05	EPA 350.2
Total Kjeldahl Nitrogen	3.8	0.5	1		mg/L	N/A	07/26/05	EPA 351.3
Phosphorus, Total	0.55	0.1	1		mg/L	07/28/05	07/28/05	EPA 365.3
Chemical Oxygen Demand	230	5	1		mg/L	N/A	07/22/05	EPA 410.4
Carbon, Total Organic	22	5	10		mg/L	N/A	07/20/05	EPA 415.1
Surfactants	0.23	0.1	1		mg/L	N/A	07/20/05	EPA 425.1

Method Blank				N/A				Aqueous
--------------	--	--	--	-----	--	--	--	---------

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Fluoride	ND	0.10	1		mg/L	N/A	07/25/05	EPA 340.2
Ammonia	ND	0.10	1		mg/L	N/A	07/25/05	EPA 350.2
Total Kjeldahl Nitrogen	ND	0.50	1		mg/L	N/A	07/26/05	EPA 351.3
Phosphorus, Total	ND	0.10	1		mg/L	07/28/05	07/28/05	EPA 365.3
Chemical Oxygen Demand	ND	5.0	1		mg/L	N/A	07/22/05	EPA 410.4
Carbon, Total Organic	ND	0.50	1		mg/L	N/A	07/20/05	EPA 415.1
Surfactants	ND	0.10	1		mg/L	N/A	07/20/05	EPA 425.1

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

**alscience**

**Environmental  
Laboratories, Inc.**

**Quality Control - Spike/Spike Duplicate**



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

Date Received: N/A  
Work Order No: 05-07-1140

Project: Long Beach Permit

Matrix: Aqueous

<u>Parameter</u>	<u>Method</u>	<u>Quality Control Sample ID</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>MS% REC</u>	<u>MSD % REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
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	

RPD - Relative Percent Difference, CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1140

Project: Long Beach Permit

**Matrix: Aqueous**

Parameter	Method	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	

RPD - Relative Percent Difference, CL - Control Limit



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

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

Project: Long Beach Permit

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-015-1-364	Aqueous	GC-16	07/20/05	07/20/05	050720L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	105	108	50-135	3	0-25	
Heptachlor	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	

RPD - Relative Percent Difference, CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1140

Project: Long Beach Permit

Matrix: Aqueous

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

RPD - Relative Percent Difference, CL - Control Limit

**Calscience**

**Environmental**

**Laboratories, Inc.**

**Quality Control - Laboratory Control Sample**



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

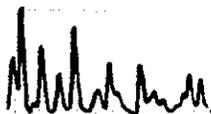
Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Phosphorus, Total	EPA 365.3	099-05-098-1,633	07/28/05	7/28/2005	0.40	0.41	103	80-120	
Fluoride	EPA 340.2	097-01-022-223	07/25/05	N/A	0.50	0.54	108	80-120	
Carbon, Total Organic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

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-07-1140

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<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



1140



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

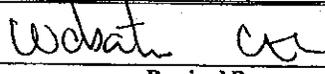
Southern Calif. Edison P.O. Number: Q1033917 Release Number: A002  
Please return and direct inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com

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

Sample ID	Date Collected	Time Collected	Description/Analytes
1 Outfall Composite	7/18 to 7/19		Kjedahl Nitrogen, EPA <del>315.1</del> 351.3 ✓
1 Outfall Composite	7/18 to 7/19		Chemical Oxygen Demand, EPA 410.4 ✓
1 Outfall Composite	7/18 to 7/19		Total Organic Carbon, EPA 415.1 ✓
1 Outfall Composite	7/18 to 7/19		Ammonia-N, EPA 350.2 ✓
1 Outfall Composite	7/18 to 7/19		Fluoride, Bromide, MBAS ✓

Special Instructions:  
Matrix is seawater.

Chain of Custody

	Date: 7/20/05		Date:
Relinquished By	Time: 305	Received By	Time:
	Date:		Date: 7-20-05
Relinquished By	Time:	Received By	Time: 1505

1140



**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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach Permit Email: shawn.simmons@sce.com

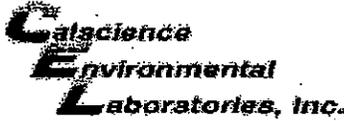
Sample(s) are submitted for treatment/disposition as described below.

Sample ID	Date Collected	Time Collected	Description/Analytes
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, Total Alpha and Total Beta
Outfall Composite	7/18 to 7/19		Radiochemistry, Total Radium, Radium 226

**Special Instructions:**  
Pesticides: Aldrin, Chlordane, Dieldrin, 4,4-DDT, 4,4-DDE, 4,4-DDD, alpha-Endosulfan, beta-Endo-sulfan, Endosulfan sulfate, Endrin, Endrin aldehyde, Heptachlor, Heptachlor epoxide, alpha-BHC, beta-BHC, gamma-BHC, delta BHC, Toxaphene. PCBs: 1016, 1221, 1232, 1242, 1248, 1254, and 1260.  
Matrix is seawater.

**Chain of Custody**

	Date: 7/20/05		Date:
Relinquished By	Time: 3:05	Received By	Time:
	Date:		Date: 7-20-05
Relinquished By	Time:	Received By	Time: 1:50



WORK ORDER #:

05 - 07 - 1140

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: J. 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.
32 C IR thermometer.
Ambient temperature.

Initial: [Signature]

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Applicable (N/A): [check]

Initial: [Signature]

SAMPLE CONDITION:

Table with 4 columns: Description, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sample container label(s), Sample container(s) intact, Correct containers for analyses, Proper preservation, VOA vial(s) free of headspace, Tedlar bag(s) free of condensation.

Initial: [Signature]

COMMENTS:

Blank lines for handwritten comments.



# Paragon Analyticals

## Radiochemistry Case Narrative

### Gross Alpha/Beta

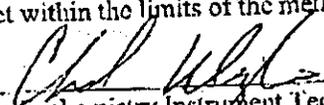
#### CalScience Environmental Laboratories

05-07-1140

PA WO 0507214

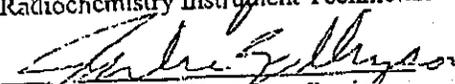
1. This report consists of the analytical results for one water sample received by Paragon on 7/23/05.
2. This sample was prepared according to Paragon Analyticals procedure SOP702R17.
3. The sample analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analyticals procedure SOP724R8. The analyses were completed on 8/3/05. Gross alpha results are referenced to  $^{241}\text{Am}$ . Gross beta results are referenced to  $^{90}\text{Sr/Y}$ .
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/cm<sup>2</sup>. 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.
6. 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 Analyticals certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

  
Radiochemistry Instrument Technician

Date

8/18/05

  
Radiochemistry Final Data Review

Date

8/18/05

# 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  
 Client Project ID: 05-07-1140

Lab ID: A0050727-2MB	Sample Matrix: WATER Prep SOP: PAI 702 Rev 17	Prep Batch: AB050727-2 QC Batch ID: AB050727-2-3	Final Aliquot: 200 ml Result Units: pCi/l
	Date Collected: 27-Jul-05 Date Prepared: 27-Jul-05 Date Analyzed: 02-Aug-05	Run ID: AB050727-2A Count Time: 1000 minutes	File Name: ABB0802

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:**

**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 713)
- MDC - Minimum Detectable Concentration (see PAI SOP 700)
- BDL - Below Detection Limit

- M - Requested MDC not met
- B - Analyte concentration greater than MDC.
- R3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: AB0507214-1

# 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  
 Client Project 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	Prep Batch: AB050727-2 QC Batch ID: AB050727-2-3 Run ID: AB050727-2A Count Time: 90 minutes	Final Aliquot: 200 ml Result Units: pCi/l File Name: ABA0802
-----------------------	---	--	--

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	P
12587-47-2	GROSS BETA	188 +/- 31	6	234	80.5	70 - 130	P,M3

### Comments:

**Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- T - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control of 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 the reported activity is greater than the reported MDC.

**Abbreviations:**

- TPU - Total Propagated Uncertainty (see PAI SOP T43)
- MDC - Minimum Detectable Concentration (see PAI SOP 700)

Data Package ID: AB0507214-1

**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  
 Client Project ID: 05-07-1140

Field ID: Outfall 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: AB050727-3 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:****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.
- IT - 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)
- RDL - Below Detection Limit

Data Package ID: AB0507214-1



# Paragon Analytics

## Radiochemistry Case Narrative

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

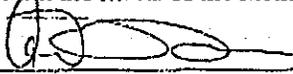
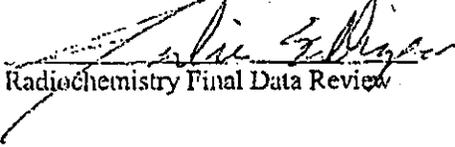
#### CalScience Environmental Laboratories

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 SOP783RS. 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.
4. 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 Technician8/12/05  
Date  
Radiochemistry Final Data Review8/15/05  
Date

**Ra-226 by Radon Emanation - Method 903.1**

PAI 783 Rev 5

**Method Blank Results**

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: Ca:Science Environmental Laboratories  
 Client/Project ID: 05-07-1140

Lab ID: RE050726-1MD

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

QC Batch ID: 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
13052-03-3	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:****Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 40-110%. 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)
- NDL - Below Detection Limit

M - Requested MDC not met.

R - Analyte concentration greater than MDC.

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

Data Package ID: REM0507214-1

**Ra-226 by Radon Emanation - Method 903.1**

PAI 783 Rev 5

**Laboratory Control Sample(s)**

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project 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 Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-G3-3	Ra-226	43 +/- 11	0	48.1	90.2	80 - 120	P

**Chemical Yield Summary**

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

**Comments:****Qualifiers/Flags:**

- U1 - Result is less than the sample specific MDC.
- U2 - Result is less than Requested MDC, greater than a 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 the reported activity is greater than the reported MDC.

**Abbreviations:**

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

Data Package ID: REM0507214-1

Date Printed: Monday, August 08, 2005

Paragon Analytics

LIMS Version: 5.207A

Page 1 of 2

# Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 5

## Laboratory Control Sample(s)

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project ID: 05-07-1140

Lab ID: RE050725-1LCSD

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	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13993-69-3	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/Flags:**

- U - Result is less than the sample specific MDC.
- L1 - 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 the reported activity is greater than the reported MDC.

**Abbreviations:**

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

Data Package ID: REM0507214-1

# Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 5

## Duplicate Sample Results (DER)

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client/Project ID: 05-07-1140

Field ID: Lab ID: RE050726-1LCSD	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 Prep Basis: Unfiltered 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	P

**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.
- MS - 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
- F - LCS Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits

**Abbreviations:**

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- DER - Duplicate Error Ratio (see PAI SOP 715)
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: REM0507214-1

**Ra-226 by Radon Emanation - Method 903.1**PAI 783 Rev 5  
Sample Results

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project 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
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CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
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
BARIUM	13860	13450	ug	97.1	40 - 110 %	

**Comments:****Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- V1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- V2 - Chemical Yield outside default limits.
- L1 - 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 Percented Uncertainty (See PAI SOP 713)
- MDC - Minimum Detectable Concentration (See PAI SOP 708)
- NDL - Below Detection Limit

Data Package ID: REM0507214-1



# Paragon Analyticals

## Radiochemistry Case Narrative

### Total Alpha Emitting Radium (Ra-226)

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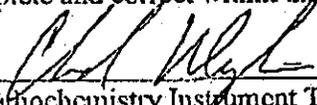
#### CalScience Environmental Laboratories

05-07-1140

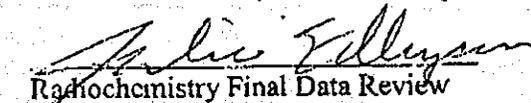
PA WO 0507214

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 Analyticals procedure SOP712R12.
3. The sample was analyzed for the presence of Total Alpha Emitting Radium Isotopes according to Paragon Analyticals 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 Analyticals 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.

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

8/10/05  
Date

  
Radiochemistry Final Data Review

8/18/07  
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  
 Client Project ID: 05-07-1140

Lab ID: TR050727-1MB

Sample Matrix: WATER  
 Prep SOP: PAI 712 Rev 12  
 Date Collected: 27-Jul-05  
 Date Prepared: 27-Jul-05  
 Date Analyzed: 31-Jul-05

Prep Batch: TR050727-1  
 QC Batch ID: 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
DARIUM	13850	14030	ug	101	40 - 110 %	Y1

**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 708)  
 BDL - Below Detection Limit

U1 - Requested MDC not met.  
 0 - Analyte concentration 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  
 Client/Project ID: 05-07-1140

Lab ID: TR050727-1LCS	Sample Matrix: WATER Prep SOP: PAI 712 Rev 12	Prep Batch: TR050727-1 QCBatchID: TR050727-1-1	Final Aliquot: 995 ml Result Units: pCi/l
	Date Collected: 27-Jul-05 Date Prepared: 27-Jul-05 Date Analyzed: 31-Jul-05	Run ID: TR050727-1A Count Time: 400 minutes	File Name: TRB0731

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
7410-14-4	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	ug	102	40 - 110 %	Y1

**Comments:****Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- L1 - Result is less than Requested MDC, greater than sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%, Cumulative 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.
- M1 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

**Abbreviations:**

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

Data Package ID: TR0507214-1

**Total Radium Analysis by GFPC**

PAI 724 Rev 8

**Sample Results**

Lab Name: Paragon Analytics  
 Work Order Number: 0507214  
 Client Name: CalScience Environmental Laboratories  
 Client Project ID: 05-07-1140

Field ID: Outfall Composite Lab ID: 0507214-1	Sample Matrix: WATER Prep SOP: PAI 712 Rev 12 Date Collected: 19-Jul-05 Date Prepared: 27-Jul-05 Date Analyzed: 31-Jul-05	Prep Batch: TR050727-1 QC Batch ID: TR050727-1-1 Run ID: TR050727-1A Count Time: 400 minutes Report Basis: Unfiltered	Final Aliquot: 995 ml Prep Basis: Unfiltered Moisture(%): NA Result Units: pCi/l 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	13360	ug	95.7	40 - 110 %	

**Comments:****Qualifiers/Flags:**

- (1) - 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 - Maximum Detectable Concentration (see PAI SOP 709)
- BDL - Below Detection Limit

Data Package ID: TR0507214-1



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## MICROBIOLOGY RESULTS

CRG ID#: 26479 Replicate #B1 Project ID: M0524b Batch ID 0719 Matrix: Reagents

Sample: QAQC Client Name: Southern California Edison  
Description: Procedural Blank Shawn Simmons

Date Sampled: Date Recieved: 19-Jul-05

Time Collected: Time Analyzed: 13:15

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#: **26480** Replicate #PC1 Project ID: M0524b Batch ID 0719 Matrix: Cultures

Sample QAQC

Client Name: Southern California Edison

Description: Positive Control

Shawn Simmons

Date Sampled:

Date Recieved: 19-Jul-05

Time Collected:

Time Analyzed: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26461** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Client Name: Southern California Edison  
Description: Shawn Simmons

Date Sampled: 18-Jul-05 Date Received: 18-Jul-05  
Time Collected: 12:20 Time Analyzed: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26462** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 12:20 Time Analyzed: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26463** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Received: 18-Jul-05  
Time Collected: 15:00 Time Analyzed: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26464** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 15:06 Time Analyzed: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26465** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
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
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

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## MICROBIOLOGY RESULTS

CRG ID#: **26466** 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 Date Recieved: 18-Jul-05  
Time Collected: 18:30 Time Analyzed: 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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## MICROBIOLOGY RESULTS

CRG ID#: **26467** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 21:00 Time Analyzed: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26468** Replicate #R1 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Description: Outfall Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 21:15 Time Analyzed: 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

# CRG Laboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26469** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 00:00 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26470** Replicate #R1 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: 00:10 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: 26471 Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
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
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26472** Replicate #R1 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: 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

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## MICROBIOLOGY RESULTS

CRG ID#: **26473** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 06:10 Time Analyzed: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26474** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Outfall Client Name: Southern California Edison  
Description: Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 06:00 Time Analyzed: 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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## MICROBIOLOGY RESULTS

CRG ID#: **26475** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05

Time Collected: 09:00 Time Analyzed: 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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## MICROBIOLOGY RESULTS

CRG ID#: **26476** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Outfall Client Name: Southern California Edison  
Description: Shawn Simmons

Date Sampled: 19-Jul-05 Date Received: 19-Jul-05  
Time Collected: 09:10 Time Analyzed: 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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## MICROBIOLOGY RESULTS

CRG ID#: **26477** Replicate #R1 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-05  
Time Collected: 12:02 Time Analyzed: 13:15

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#: **26478** Replicate #R1 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	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#: **26461** Replicate #R2 Project ID: M0524b Batch ID 0718 Matrix: Seawater

Sample Intake Description: Client Name: Southern California Edison  
Shawn Simmons

Date Sampled: 18-Jul-05 Date Recieved: 18-Jul-05  
Time Collected: 12:20 Time Analyzed: 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

# CRGLaboratories, Inc.

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## MICROBIOLOGY RESULTS

CRG ID#: **26478** Replicate #R2 Project ID: M0524b Batch ID 0719 Matrix: Seawater

Sample Outfall Client Name: Southern California Edison  
Description: Shawn Simmons

Date Sampled: 19-Jul-05 Date Recieved: 19-Jul-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
Total Coliform / MTF 20	SM 9221B	< 20	MPN/100 mL	20



**CRG**

## Marine Laboratories, Inc.

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August 15, 2005

Power Production Chemical  
Southern California Edison  
7301 Fenwick Lane, 2<sup>nd</sup> 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,  
O = CRG Marine Laboratories, Inc.  
Date: 2005.08.15 12:09:26 -0700

Reviewed and Approved

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# DATA REPORT

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# CRG Marine Laboratories, Inc.

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## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 25130

CRG ID#: 26609	Sample Description: Plant 2 Wellpoint System	Date Sampled: 22-Jul-05 07:55	
Replicate #: R1	Wellpoint System	Date Received: 25-Jul-05	
Batch ID: 25130-12053	Matrix: Seawater	Date Processed: 02-Aug-05	
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 04-Aug-05	

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	0.191	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	2.87	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	0.031	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.555	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	1.28	µg/L	0.005	0.01	1	NA
Lead (Pb)	Total	EPA 1640	0.555	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00158	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	0.364	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	0.022	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	5.01	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	78.2	µg/L	0.005	0.01	1	NA

MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); F= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable. California ELAP Certificate # 2261  
26609 RI

# CRG Marine Laboratories, Inc.

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## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 25130

CRG ID#: 26609	Sample Plant 2	Wellpoint System	Date Sampled: 22-Jul-05	07:55
Replicate #: R2	Description: Wellpoint System		Date Received: 25-Jul-05	
Batch ID: 25130-12053	Matrix: Seawater		Date Processed: 02-Aug-05	
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman		Date Analyzed: 04-Aug-05	

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	0.143	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	2.86	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	0.032	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.585	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	1.05	µg/L	0.005	0.01	1	NA
Lead (Pb)	Total	EPA 1640	0.527	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00159	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	0.391	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	0.116	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	5.02	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	79.5	µg/L	0.005	0.01	1	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  
26609 R2

# CRG Marine Laboratories, Inc.

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## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 25130

CRG ID#: 26610	Sample Description: Tank Farm	Wellpoint System	Date Sampled: 22-Jul-05 07:15
Replicate #: R1	Description: Wellpoint System		Date Received: 25-Jul-05
Batch ID: 25130-12053	Matrix: Seawater		Date Processed: 02-Aug-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman		Date Analyzed: 04-Aug-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	0.195	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	7.09	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	E0.008	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.375	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.346	µg/L	0.005	0.01	1	NA
Lead (Pb)	Total	EPA 1640	0.141	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	ND	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	0.386	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	1.7	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	3.08	µg/L	0.005	0.01	1	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  
26610 RI

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## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 25130

CRG ID#: 26611	Sample Description: GAGC LCM-CRG Seawater	Date Sampled:	Date Received:
Replicate #: LCM1	Description: Wellpoint System	Date Processed: 02-Aug-05	Date Analyzed: 04-Aug-05
Batch ID: 25130-12053	Matrix: Seawater		
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman		

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	0.095	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.34	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	0.115	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.255	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.839	µg/L	0.005	0.01	1	NA
Lead (Pb)	Total	EPA 1640	0.029	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00021	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	0.302	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	0.084	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	0.019	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.04	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	2.58	µg/L	0.005	0.01	1	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  
26611 LCM1

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 25130

<b>CRG ID#:</b> 26611	Sample Description:	LCM-CRG Seawater	<b>Date Sampled:</b>
<b>Replicate #:</b> LCM2	Wellpoint System		<b>Date Received:</b>
<b>Batch ID:</b> 25130-12053	Matrix:	Seawater	<b>Date Processed:</b> 02-Aug-05
<b>Instrument:</b> ICPMS #1 HP 4500	Analyst:	P. Hershelman	<b>Date Analyzed:</b> 04-Aug-05

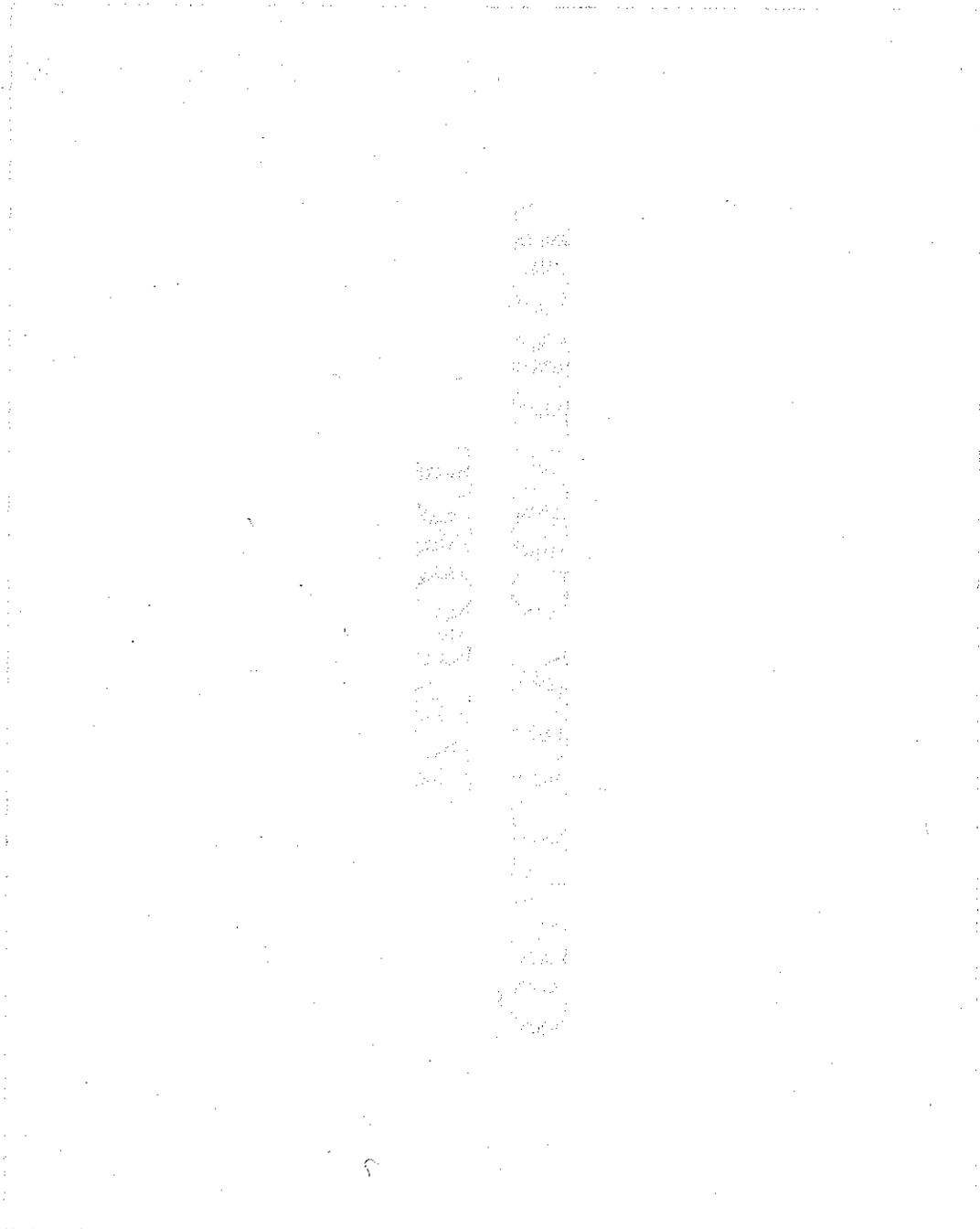
CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	0.134	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	1.51	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	0.113	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	0.285	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	0.818	µg/L	0.005	0.01	1	NA
Lead (Pb)	Total	EPA 1640	0.011	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	0.00015	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	0.286	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	0.016	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	2.12	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	1.38	µg/L	0.005	0.01	1	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  
26611 LCM2



# **QUALITY CONTROL REPORT**



**PROCEDURAL BLANK  
RESULTS**

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# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 25130

<b>CRG ID#:</b> 26608 <b>Replicate #:</b> B1 <b>Batch ID:</b> 25130-12053 <b>Instrument:</b> ICPMS #1 HP 4500	<b>Sample Description:</b> Wellpoint System <b>Matrix:</b> DI Water <b>Analyst:</b> P. Hershelman	<b>Date Sampled:</b> Procedural Blank <b>Date Received:</b> 02-Aug-05 <b>Date Processed:</b> 04-Aug-05 <b>Date Analyzed:</b> 04-Aug-05
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CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Arsenic (As)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Beryllium (Be)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Cadmium (Cd)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Chromium (Cr)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Copper (Cu)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Lead (Pb)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Mercury (Hg)	Total	EPA 1631E	ND	µg/L	0.00005	0.0001	1	NA
Nickel (Ni)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Selenium (Se)	Total	EPA 1640	ND	µg/L	0.01	0.015	1	NA
Silver (Ag)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Thallium (Tl)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Vanadium (V)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	NA
Zinc (Zn)	Total	EPA 1640	ND	µg/L	0.005	0.01	1	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  
26608 BI

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# 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

## Trace Metals

**Client: Southern California Edison** **CRG Project ID: 25130**

CRG ID#: 26611	Sample: LCM-CRG Seawater	Date Sampled:
Replicate #: LCS1	Description: Wellpoint System	Date Received:
Batch ID: 25130-12053	Matrix: Seawater	Date Processed: 02-Aug-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 04-Aug-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	Total	EPA 1640	74	25 µg/L	44 - 107%	PASS
Arsenic (As)	Total	EPA 1640	75	20 µg/L	71 - 114%	PASS
Beryllium (Be)	Total	EPA 1640	78	20 µg/L	62 - 113%	PASS
Cadmium (Cd)	Total	EPA 1640	102	25 µg/L	69 - 120%	PASS
Chromium (Cr)	Total	EPA 1640	94	20 µg/L	85 - 133%	PASS
Copper (Cu)	Total	EPA 1640	97	25 µg/L	72 - 128%	PASS
Lead (Pb)	Total	EPA 1640	115	25 µg/L	56 - 116%	PASS
Mercury (Hg)	Total	EPA 1631E	96	0.0125 µg/L	68 - 117%	PASS
Nickel (Ni)	Total	EPA 1640	96	25 µg/L	68 - 118%	PASS
Selenium (Se)	Total	EPA 1640	83	25 µg/L	55 - 110%	PASS
Silver (Ag)	Total	EPA 1640	82	20 µg/L	66 - 125%	PASS
Thallium (Tl)	Total	EPA 1640	91	20 µg/L	66 - 110%	PASS
Vanadium (V)	Total	EPA 1640	102	20 µg/L	85 - 133%	PASS
Zinc (Zn)	Total	EPA 1640	71	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 LCS1

# CRG Marine Laboratories, Inc.

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## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 25130

**CRG ID#:** 26611  
**Replicate #:** LCS2  
**Batch ID:** 25130-12073  
**Instrument:** ICPMS #1 HP 4500

**Sample Description:** LCM-CRG Seawater  
**Matrix:** Seawater  
**Analyst:** P. Hershelman

**Date Sampled:**  
**Date Received:**  
**Date Processed:** 02-Aug-05  
**Date Analyzed:** 04-Aug-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE		COMMENT
Antimony (Sb)	Total	EPA 1640	74	25 µg/L	44 - 107%	PASS	
Arsenic (As)	Total	EPA 1640	73	20 µg/L	71 - 114%	PASS	
Beryllium (Be)	Total	EPA 1640	74	20 µg/L	62 - 113%	PASS	
Cadmium (Cd)	Total	EPA 1640	104	25 µg/L	69 - 120%	PASS	
Chromium (Cr)	Total	EPA 1640	95	20 µg/L	85 - 133%	PASS	
Copper (Cu)	Total	EPA 1640	100	25 µg/L	72 - 128%	PASS	
Lead (Pb)	Total	EPA 1640	114	25 µg/L	56 - 116%	PASS	
Mercury (Hg)	Total	EPA 1631E	100	0.0125 µg/L	68 - 117%	PASS	
Nickel (Ni)	Total	EPA 1640	97	25 µg/L	68 - 118%	PASS	
Selenium (Se)	Total	EPA 1640	88	25 µg/L	55 - 110%	PASS	
Silver (Ag)	Total	EPA 1640	90	20 µg/L	66 - 125%	PASS	
Thallium (Tl)	Total	EPA 1640	90	20 µg/L	66 - 110%	PASS	
Vanadium (V)	Total	EPA 1640	100	20 µg/L	85 - 133%	PASS	
Zinc (Zn)	Total	EPA 1640	67	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

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# CRG Marine Laboratories, Inc.

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## Trace Metals

**Client:** Southern California Edison

**CRG Project ID:** 25130

**CRG ID#:** 26609      **Sample Description:** Plant 2 Wellpoint System      **Date Sampled:** 22-Jul-05 07:55  
**Batch ID:** 25130-12053      **Matrix:** Seawater      **Date Received:** 25-Jul-05  
**Instrument:** ICPMS #1 HP 4500      **Analyst:** P. Hershelman      **Date Processed:** 02-Aug-05  
**Date Analyzed:** 04-Aug-05

CONSTITUENT	FRACTION	METHOD	R1 µg/L	R2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	Total	EPA 1640	0.191	0.143	29	0 - 30%	PASS
Arsenic (As)	Total	EPA 1640	2.87	2.86	0	0 - 30%	PASS
Cadmium (Cd)	Total	EPA 1640	0.031	0.032	3	0 - 30%	PASS
Chromium (Cr)	Total	EPA 1640	0.555	0.585	5	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	5	0 - 30%	PASS
Mercury (Hg)	Total	EPA 1631E	0.00158	0.00159	1	0 - 30%	PASS
Nickel (Ni)	Total	EPA 1640	0.364	0.391	7	0 - 30%	PASS
Selenium (Se)	Total	EPA 1640	0.022	0.116	136	0 - 30%	FAIL
Vanadium (V)	Total	EPA 1640	5.01	5.02	0	0 - 30%	PASS
Zinc (Zn)	Total	EPA 1640	78.2	79.5	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  
26609

# CRG Marine Laboratories, Inc.

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 Edison

**CRG Project ID:** 25130

<b>CRG ID#:</b> 26611	Sample Description:	QA/QC	LCM-CRG Seawater	Date Sampled:	Date Received:
<b>Batch ID:</b> 25130-12053	Wellpoint System				02-Aug-05
<b>Instrument:</b> ICPMS #1 HP 4500	Matrix:				04-Aug-05
	Seawater				
	Analyst:				
	P. Hershelman				

CONSTITUENT	FRACTION	METHOD	LCM1 µg/L	LCM2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	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)	Total	EPA 1640	0.115	0.113	2	0 - 30%	PASS
Chromium (Cr)	Total	EPA 1640	0.255	0.285	11	0 - 30%	PASS
Copper (Cu)	Total	EPA 1640	0.839	0.818	3	0 - 30%	PASS
Lead (Pb)	Total	EPA 1640	0.029	0.011	90	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	5	0 - 30%	PASS
Thallium (Tl)	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

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

# CRG Marine Laboratories, Inc.

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 Edison **CRG Project ID:** 25130

**CRG ID#:** 26611 **Sample Description:** LCM-CRG Seawater  
**Batch ID:** 25130-12053 **QAQC Wellpoint System**  
**Instrument:** ICPMS #1 HP 4500 **Matrix:** Seawater  
**Analyst:** P. Hershelman

**Date Sampled:**  
**Date Received:**  
**Date Processed:** 02-Aug-05  
**Date Analyzed:** 04-Aug-05

CONSTITUENT	FRACTION	METHOD	LCS1		LCS2		% RPD	ACCEPTANCE RANGE	COMMENT
			% Recovery	% Recovery	% Recovery	% Recovery			
Antimony (Sb)	Total	EPA 1640	74	74	74	0	0 - 30%	PASS	
Arsenic (As)	Total	EPA 1640	75	73	73	3	0 - 30%	PASS	
Beryllium (Be)	Total	EPA 1640	78	74	74	5	0 - 30%	PASS	
Cadmium (Cd)	Total	EPA 1640	102	104	104	2	0 - 30%	PASS	
Chromium (Cr)	Total	EPA 1640	94	95	95	1	0 - 30%	PASS	
Copper (Cu)	Total	EPA 1640	97	100	100	3	0 - 30%	PASS	
Lead (Pb)	Total	EPA 1640	115	114	114	1	0 - 30%	PASS	
Mercury (Hg)	Total	EPA 1631E	96	100	100	4	0 - 30%	PASS	
Nickel (Ni)	Total	EPA 1640	96	97	97	1	0 - 30%	PASS	
Selenium (Se)	Total	EPA 1640	83	88	88	6	0 - 30%	PASS	
Silver (Ag)	Total	EPA 1640	82	90	90	9	0 - 30%	PASS	
Thallium (Tl)	Total	EPA 1640	91	90	90	1	0 - 30%	PASS	
Vanadium (V)	Total	EPA 1640	102	100	100	2	0 - 30%	PASS	
Zinc (Zn)	Total	EPA 1640	71	67	67	6	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  
26611

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 311

LECTURE 1

LECTURE 2

LECTURE 3

LECTURE 4

LECTURE 5

# **CHAIN-OF-CUSTODY**

THE  
CITY  
OF  
NEW  
YORK  
OFFICE  
OF  
THE  
COMPTROLLER  
AND  
TREASURER





**STL**

**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.

This report contains **000039** 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.

- 3) 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:

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

ESG 270407

**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: 1220-6358-097.098  
Please return and direct inquires to: S. Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Wellpoint System Email: shawn.simmons@sce.com

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

Sample ID	Date Collected	Time Collected	Description/Analytes
Plant 2 Wellpoint System			Perchlorate by EPA Method 8321A
Tank Farm Wellpoint System			Perchlorate by EPA Method 8321A
Plant 2 Wellpoint System			VOCs by Method 8260B, 3 x 40-mL vials
Tank Farm Wellpoint System			VOCs by Method 8260B, 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

**Special Instructions:**

Matrix is brackish water  
See attached of organic compounds to be tested for

**Chain of Custody:**

	Date: 7/26/05		Date: 7-26-05
	Time: 10:15		Time: 10:16
Relinquished By	Date:	Received By	Date:
Relinquished By	Time	Received By	Time:

5.0 - 4 = 4.6

**STL LOS ANGELES - PROJECT RECEIPT CHECKLIST** Date: 7-27-05

LIMS Lot #: ESG270407 Quote #: 53770  
 Client Name: S.C.E. Project: \_\_\_\_\_  
 Received by: ALV Date/Time Received: 7-26-05 10:15  
 Delivered by:  Client  STL  DHL  Fed Ex  UPS  Other \_\_\_\_\_

\*\*\*\*\* Initial / Date 7-27-05 ALV  
 Custody Seal Status Cooler:  Intact  Broken  None .....  
 Custody Seal Status Samples:  Intact  Broken  None .....  
 Custody Seal #(s): \_\_\_\_\_  No Seal # .....  
 Sampler Signature on COC  Yes  No  N/A .....  
 IR Gun # A Correction Factor -4 °C IR passed daily verification  Yes  No .....  
 Temperature - BLANK 5.0 °C +/- -4 CF = 4.6 °C .....  
 Temperature - COOLER ( \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C ) = \_\_\_\_\_ avg °C +/- \_\_\_\_\_ CF = \_\_\_\_\_ °C .....  
 Samples outside temperature criteria but received within 6 hours of final sampling  Yes  N/A .....  
 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)  N/A .....  
 Samples:  Intact  Broken  Other \_\_\_\_\_ .....  
 pH measured:  Yes  Anomaly (if checked, notify lab and file NCM)  N/A .....  
 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:  pH  Wet Chem  Metals (Filter/Pres)  Encore  >1/2 HT expired 1/18 .....  
 Outside Analysis(es) (Test/Lab/Date Sent Out) :  
Perchlorate .....  
 \_\_\_\_\_  
 \_\_\_\_\_

\*\*\*\*\* LEAVE NO BLANK SPACES ; USE N/A \*\*\*\*\*

Headspace Anomaly					
Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm

N/A 7-27-05 ALV

LIMS Lot # ESG270407

PROJECT RECEIPT CHECKLIST Cont'd

Fraction	1,2																		
VOAH/*	3																		
AGB	1																		
PB	1																		

\* 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/f1:HNO3-Lab filtered, n/f:HNO3-Field filtered, zna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

**Condition Upon Receipt Anomaly Form**  N/A 7-27-05 *AV*

<ul style="list-style-type: none"> <li>▪ <b>COOLERS</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Not Received (received COC only)</li> <li><input type="checkbox"/> Leaking</li> <li><input type="checkbox"/> Other:</li> </ul> </li> <li>▪ <b>TEMPERATURE (SPECS 4 ± 2°C)</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cooler Temp(s)</li> <li><input type="checkbox"/> Temperature Blank(s)</li> </ul> </li> <li>▪ <b>CONTAINERS</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Leaking      <input type="checkbox"/> Voa Vials with Bubbles &gt; 6mm</li> <li><input type="checkbox"/> Broken</li> <li><input type="checkbox"/> Extra</li> <li><input type="checkbox"/> Without Labels</li> <li><input type="checkbox"/> Other:</li> </ul> </li> <li>▪ <b>SAMPLES</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Samples NOT RECEIVED but listed on COC</li> <li><input type="checkbox"/> Samples received but NOT LISTED on COC</li> <li><input type="checkbox"/> Logged based on Label Information</li> <li><input type="checkbox"/> Logged based on info from other samples on COC</li> <li><input type="checkbox"/> Logged according to Work Plan</li> <li><input type="checkbox"/> Logged on HOLD UNTIL FURTHER NOTICE</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>CUSTODY SEALS (COOLER(S) CONTAINER(S))</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> None</li> <li><input type="checkbox"/> Not Intact</li> <li><input type="checkbox"/> Other</li> </ul> </li> <li>▪ <b>CHAIN OF CUSTODY (COC)</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Not relinquished by Client; No date/time relinquished</li> <li><input type="checkbox"/> Incomplete information provided</li> <li><input type="checkbox"/> Other    <input type="checkbox"/> COC not received – notify PM</li> </ul> </li> <li>▪ <b>LABELS</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Not the same ID/info as in COC</li> <li><input type="checkbox"/> Incomplete Information</li> <li><input type="checkbox"/> Markings/info illegible</li> <li><input type="checkbox"/> Torn</li> <li><input type="checkbox"/> Will be noted on COC--Client to send samples with new COC</li> <li><input type="checkbox"/> Mislabeled as to tests, preservatives, etc.</li> <li><input type="checkbox"/> Holding time expired – list sample ID and test</li> <li><input type="checkbox"/> Improper container used</li> <li><input type="checkbox"/> Not preserved/Improper preservative used</li> <li><input type="checkbox"/> Improper pH _____ Lab to preserve sample and document</li> <li><input type="checkbox"/> Insufficient quantities for analysis      <input type="checkbox"/> Other</li> </ul> </li> </ul>
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Comments:  
The 8270 bottles are labeled as having Sodium  
thiosulfate, but the pH is neutral

Corrective Action Implemented:  
 Client Informed: verbally on \_\_\_\_\_ By: \_\_\_\_\_  In writing on \_\_\_\_\_ By: \_\_\_\_\_  
 Sample(s) on hold until: \_\_\_\_\_  Sample(s) processed "as is."

Logged by/Date: Albert Vazquez 7/27/05      PM Review/Date: MT 7/30/05

SEVERN  
TRENT

STL

# Analytical Report

# **ANALYTICAL REPORT**

**Wellpoint System**

**Lot #: E5G270407**

**Shawn Simmons**

**Southern California Edison Com**

**SEVERN TRENT LABORATORIES, INC.**

**Marisol Tabirara  
Project Manager**

**August 12, 2005**



# EXECUTIVE SUMMARY - Detection Highlights

ESG270407

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
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**NO DETECTABLE PARAMETERS**

# METHODS SUMMARY

E5G270407

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3510C
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
8321A Perchlorate ICMSMS	SW846 8321A	SW846 8321A

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

E5G270407

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
HGERP	001	PLANT 2 WELLPOINT SYSTEM	07/26/05	
HGEVQ	002	TANK FARM WELLPOINT SYSTEM	07/26/05	

## 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.

**Southern California Edison Company**

**Client Sample ID: PLANT 2 WELLPOINT SYSTEM**

**GC/MS Volatiles**

**Lot-Sample #...**: E5G270407-001    **Work Order #...**: HGERP1AA    **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...**: 03:30  
**Dilution Factor:** 1  
**Analyst ID.....**: 015590    **Instrument ID...**: MSQ  
**Method.....**: SW846 8260B

PARAMETER	RESULT	REPORTING		
		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	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

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	90	(75 - 130)
1,2-Dichloroethane-d4	106	(65 - 135)
Toluene-d8	92	(80 - 130)



Southern California Edison Company

Client Sample ID: PLANT 2 WELLPOINT SYSTEM

GC/MS Semivolatiles

Lot-Sample #...: E5G270407-001 Work Order #...: HGERP1AC Matrix.....: W

PARAMETER	RESULT	REPORTING 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	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- 2-methylphenol	ND	50	ug/L	10
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	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- diene	ND	50	ug/L	6.0
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 & 4-Methylphenol	ND	10	ug/L	2.0
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- 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- benzene	ND	10	ug/L	5.0
2,4,5-Trichloro- phenol	ND	10	ug/L	5.0

(Continued on next page)

Southern California Edison Company

Client Sample ID: PLANT 2 WELLPOINT SYSTEM

GC/MS Semivolatiles

Lot-Sample #...: E5G270407-001 Work Order #...: HGERP1AC Matrix.....: W

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2,4,6-Trichloro-phenol	ND	10	ug/L	2.0

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorobiphenyl	66	(45 - 110)
2-Fluorophenol	41	(10 - 75 )
Phenol-d5	26	(10 - 60 )
2,4,6-Tribromophenol	90	(30 - 125)
Terphenyl-d14	77	(35 - 125)
Nitrobenzene-d5	68	(40 - 110)

Southern California Edison Company

Client Sample ID: PLANT 2 WELLPOINT SYSTEM

HPLC

Lot-Sample #...: E5G270407-001 Work Order #...: HGERP1AD 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...: 18:46  
Dilution Factor: 10  
Analyst ID.....: 004626 Instrument ID...: LCMS1  
Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	ND	0.10	ug/L	0.022





Southern California Edison Company

Client Sample ID: TANK FARM WELLPOINT SYSTEM

GC/MS Semivolatiles

Lot-Sample #...: ESG270407-002 Work Order #...: HGEVQ1AC Matrix.....: W

PARAMETER	RESULT	REPORTING 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	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- 2-methylphenol	ND	50	ug/L	10
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	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- diene	ND	50	ug/L	6.0
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 & 4-Methylphenol	ND	10	ug/L	2.0
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- 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- benzene	ND	10	ug/L	5.0
2,4,5-Trichloro- phenol	ND	10	ug/L	5.0

(Continued on next page)

Southern California Edison Company

Client Sample ID: TANK FARM WELLPOINT SYSTEM

GC/MS Semivolatiles

Lot-Sample #...: E5G270407-002 Work Order #...: HGEVQ1AC Matrix.....: W

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,6-Trichloro-phenol	ND	10	ug/L	2.0
<b>SURROGATE</b>				
	PERCENT RECOVERY	RECOVERY LIMITS		
2-Fluorobiphenyl	69	(45 - 110)		
2-Fluorophenol	38	(10 - 75 )		
Phenol-d5	27	(10 - 60.)		
2,4,6-Tribromophenol	100	(30 - 125)		
Terphenyl-d14	84	(35 - 125)		
Nitrobenzene-d5	64	(40 - 110)		

Southern California Edison Company

Client Sample ID: TANK FARM WELLPOINT SYSTEM

HPLC

Lot-Sample #...: E5G270407-002    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

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perchlorate	ND		0.10	ug/L	0.022

SEVERN  
TRENT

STL

QA/QC

# QC DATA ASSOCIATION SUMMARY

ESG270407

## Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	W	SW846 8260B		5216667	5216399
	W	SW846 8270C		5209573	
	W	SW846 8321A		5218074	5218035
002	W	SW846 8260B		5216667	5216399
	W	SW846 8270C		5209573	
	W	SW846 8321A		5218074	5218035

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5G270407      Work Order #...: HG1HM1AA      Matrix.....: WATER  
 MB Lot-Sample #: E5H040000-667  
 Analysis Date...: 08/03/05      Prep Date.....: 08/03/05      Analysis Time...: 21:06  
 Dilution Factor: 1      Prep Batch #...: 5216667      Instrument ID...: MSQ  
 Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
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	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

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	88	(75 - 130)
1,2-Dichloroethane-d4	98	(65 - 135)
Toluene-d8	93	(80 - 130)

NOTE (S) :

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

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #....: E5G270407  
 MB Lot-Sample #: E5G280000-573

Work Order #....: HGHML1AA

Matrix.....: WATER

Analysis Date...: 07/29/05  
 Dilution Factor: 1

Prep Date.....: 07/28/05  
 Prep Batch #....: 5209573

Analysis Time...: 11:38  
 Instrument ID...: MSS

Analyst ID.....: 007050

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzidine	ND	20	ug/L	SW846 8270C
N-Nitrosodimethylamine	ND	20	ug/L	SW846 8270C
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	ug/L	SW846 8270C
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) methane	ND	10	ug/L	SW846 8270C
bis (2-Chloroethyl) - ether	ND	10	ug/L	SW846 8270C
bis (2-Chloroisopropyl) ether	ND	10	ug/L	SW846 8270C
bis (2-Ethylhexyl) phthalate	ND	10	ug/L	SW846 8270C
4-Bromophenyl phenyl ether	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	ND	10	ug/L	SW846 8270C
2-Chlorophenol	ND	10	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Chrysene	ND	10	ug/L	SW846 8270C
Dibenz (a, h) anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
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

(Continued on next page)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: E5G270407

Work Order #...: HGHML1AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		
		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- 2-methylphenol	ND	50	ug/L	SW846 8270C
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- diene	ND	50	ug/L	SW846 8270C
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 & 4-Methylphenol	ND	10	ug/L	SW846 8270C
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- benzene	ND	10	ug/L	SW846 8270C
2,4,5-Trichloro- phenol	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro- phenol	ND	10	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #....: ESG270407

Work Order #....: HGHML1AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
<u>2-Fluorobiphenyl</u>	73	(45 - 110)		
<u>2-Fluorophenol</u>	38	(10 - 75)		
<u>Phenol-d5</u>	24	(10 - 60)		
<u>2,4,6-Tribromophenol</u>	89	(30 - 125)		
<u>Terphenyl-d14</u>	87	(35 - 125)		
<u>Nitrobenzene-d5</u>	71	(40 - 110)		

NOTE(S) :

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

METHOD BLANK REPORT

HPLC

Client Lot #...: E5G270407  
MB Lot-Sample #: R5H060000-074

Work Order #...: HG4RC1AA

Matrix.....: WATER

Analysis Date...: 08/06/05  
Dilution Factor: 1

Prep Date.....: 08/05/05  
Prep Batch #...: 5218074

Analysis Time...: 14:43  
Instrument ID...: LCMS1

Analyst ID.....: 004626

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Perchlorate	ND	0.010	ug/L	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  
 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

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>1,1-Dichloroethene</b>	<b>91</b>	<b>(65 - 135)</b>	<b>SW846 8260B</b>
<b>Benzene</b>	<b>78</b>	<b>(75 - 125)</b>	<b>SW846 8260B</b>
<b>Trichloroethene</b>	<b>79</b>	<b>(75 - 135)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>80</b>	<b>(75 - 125)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>78</b>	<b>(75 - 125)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	94	(75 - 130)
1,2-Dichloroethane-d4	92	(65 - 135)
Toluene-d8	96	(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 #....: 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

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
<b>1,1-Dichloroethene</b>	<b>10.0</b>	<b>9.14</b>	<b>ug/L</b>	<b>91</b>	<b>SW846 8260B</b>
<b>Benzene</b>	<b>10.0</b>	<b>7.83</b>	<b>ug/L</b>	<b>78</b>	<b>SW846 8260B</b>
<b>Trichloroethene</b>	<b>10.0</b>	<b>7.87</b>	<b>ug/L</b>	<b>79</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>10.0</b>	<b>8.01</b>	<b>ug/L</b>	<b>80</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>10.0</b>	<b>7.75</b>	<b>ug/L</b>	<b>78</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
<b>Bromofluorobenzene</b>	<b>94</b>	<b>(75 - 130)</b>
<b>1,2-Dichloroethane-d4</b>	<b>92</b>	<b>(65 - 135)</b>
<b>Toluene-d8</b>	<b>96</b>	<b>(80 - 130)</b>

**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 #...: 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

PARAMETER	PERCENT	RECOVERY	RPD	RPD	METHOD
	RECOVERY	LIMITS		LIMITS	
Acenaphthene	85	(50 - 100)			SW846 8270C
	83	(50 - 100)	2.5	(0-30)	SW846 8270C
4-Chloro-3-methylphenol	85	(45 - 95)			SW846 8270C
	88	(45 - 95)	2.9	(0-30)	SW846 8270C
2-Chlorophenol	70	(45 - 95)			SW846 8270C
	68	(45 - 95)	2.4	(0-30)	SW846 8270C
1,4-Dichlorobenzene	60	(35 - 95)			SW846 8270C
	55	(35 - 95)	7.5	(0-30)	SW846 8270C
2,4-Dinitrotoluene	95	(50 - 115)			SW846 8270C
	97	(50 - 115)	2.3	(0-30)	SW846 8270C
4-Nitrophenol	35	(10 - 50)			SW846 8270C
	37	(10 - 50)	6.5	(0-30)	SW846 8270C
N-Nitrosodi-n-propyl-amine	78	(40 - 110)			SW846 8270C
	80	(40 - 110)	2.4	(0-30)	SW846 8270C
Pentachlorophenol	95	(40 - 110)			SW846 8270C
	103	(40 - 110)	8.2	(0-30)	SW846 8270C
Phenol	26	(10 - 50)			SW846 8270C
	27	(10 - 50)	1.1	(0-30)	SW846 8270C
Pyrene	90	(50 - 120)			SW846 8270C
	93	(50 - 120)	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

SURROGATE	PERCENT	RECOVERY
	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)

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**LABORATORY CONTROL SAMPLE DATA REPORT**

**GC/MS Semivolatiles**

Client Lot #....: ESG270407      Work Order #....: HGHMLIAC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: ESG280000-573      HGHMLIAD-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

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Acenaphthene	100	85.3	ug/L	85		SW846 8270C
	100	83.2	ug/L	83	2.5	SW846 8270C
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
	100	68.5	ug/L	68	2.4	SW846 8270C
1,4-Dichlorobenzene	100	59.7	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
	100	37.2	ug/L	37	6.5	SW846 8270C
N-Nitrosodi-n-propyl-amine	100	78.4	ug/L	78		SW846 8270C
	100	80.3	ug/L	80	2.4	SW846 8270C
Pentachlorophenol	100	94.6	ug/L	95		SW846 8270C
	100	103	ug/L	103	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

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
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)

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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

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
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      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

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
Perchlorate	<b>0.100</b>	<b>0.0987</b>	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 #....: ESG270407      Work Order #....: HGJHQ1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5G290138-001      HGJHQ1AD-MSD  
 Date Sampled...: 07/27/05 15:00      Date Received...: 07/28/05 19:00      MS Run #.....: 5216399  
 Prep Date.....: 08/03/05      Analysis Date...: 08/04/05  
 Prep Batch #....: 5216667      Analysis Time...: 01:06  
 Dilution Factor: 1      Analyst ID.....: 015590      Instrument ID...: MSQ

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
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
	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
	78	(75 - 125)	3.3	(0-25)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 130)
	97	(75 - 130)
1,2-Dichloroethane-d4	94	(65 - 135)
	96	(65 - 135)
Toluene-d8	96	(80 - 130)
	98	(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.

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 #...: E5G270407      Work Order #...: HGJHQ1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5G290138-001      HGJHQ1AD-MSD  
 Date Sampled...: 07/27/05 15:00      Date Received...: 07/28/05 19:00      MS Run #.....: 5216399  
 Prep Date.....: 08/03/05      Analysis Date...: 08/04/05  
 Prep Batch #...: 5216667      Analysis Time...: 01:06  
 Dilution Factor: 1      Analyst ID.....: 015590      Instrument ID...: MSQ

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
1,1-Dichloroethene	22	10.0	27.9	ug/L	55 a		SW846 8260B
	22	10.0	27.0	ug/L	45 a	3.5	SW846 8260B
Benzene	ND	10.0	8.37	ug/L	84		SW846 8260B
	ND	10.0	7.88	ug/L	79	6.0	SW846 8260B
Trichloroethene	84	10.0		ug/L	0.0		SW846 8260B
	Qualifiers: MSB						
	84	10.0		ug/L	0.0	0.0	SW846 8260B
	Qualifiers: MSB						
Toluene	ND	10.0	8.42	ug/L	84		SW846 8260B
	ND	10.0	8.05	ug/L	80	4.5	SW846 8260B
Chlorobenzene	0.52	10.0	8.60	ug/L	81		SW846 8260B
	0.52	10.0	8.32	ug/L	78	3.3	SW846 8260B

SURROGATE	PERCENT		RECOVERY
	RECOVERY	LIMITS	LIMITS
Bromofluorobenzene	94		(75 - 130)
	97		(75 - 130)
1,2-Dichloroethane-d4	94		(65 - 135)
	96		(65 - 135)
Toluene-d8	96		(80 - 130)
	98		(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.

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: E5G270407      Work Order #...: HGEQ81AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5G270405-001      HGEQ81AD-MSD  
 Date Sampled...: 07/25/05 13:20      Date Received...: 07/26/05 10:15      MS Run #.....: 5218035  
 Prep Date.....: 08/05/05      Analysis Date...: 08/06/05  
 Prep Batch #...: 5218074      Analysis Time...: 18:06  
 Dilution Factor: 10      Analyst ID.....: 004626      Instrument ID...: LCMS1

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
Perchlorate	91	(50 - 150)			SW846 8321A
	85	(50 - 150)	1.9	(0-40)	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 DATA REPORT**

**HPLC**

Client Lot #...: E5G270407      Work Order #...: HGEQ81AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: E5G270405-001      HGEQ81AD-MSD  
 Date Sampled...: 07/25/05 13:20      Date Received...: 07/26/05 10:15      MS Run #.....: 5218035  
 Prep Date.....: 08/05/05      Analysis Date...: 08/06/05  
 Prep Batch #...: 5218074      Analysis Time...: 18:06  
 Dilution Factor: 10      Analyst ID.....: 004626      Instrument ID...: LCMS1

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Perchlorate	2.3	1.00	3.22	ug/L	91		SW846 8321A
	2.3	1.00	3.16	ug/L	85	1.9	SW846 8321A

**NOTE (S) :**

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

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.: 05-07-1269**  
**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 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: 07/22/05  
 Work Order No: 05-07-1269  
 Preparation: EPA 5030B  
 Method: DHS LUFT

Project: Wellpoint System

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Plant 2 Wellpoint System	05-07-1269-1	07/22/05	Aqueous	07/25/05	07/25/05	050725B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	100	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	75	49-133			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Tank Farm Wellpoint System	05-07-1269-2	07/22/05	Aqueous	07/25/05	07/25/05	050725B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	100	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	76	49-133			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	098-03-006-7,266	N/A	Aqueous	07/25/05	07/25/05	050725B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	100	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	73	49-133			

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

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

Date Received: 07/22/05  
 Work Order No: 05-07-1269  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Wellpoint System

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Plant 2 Wellpoint System	05-07-1269-1	07/22/05	Aqueous	07/25/05	07/26/05	050725B07

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	420	100	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
Decachlorobiphenyl	74	51-141			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Tank Farm Wellpoint System	05-07-1269-2	07/22/05	Aqueous	07/25/05	07/26/05	050725B07

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	670	100	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
Decachlorobiphenyl	81	51-141			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	098-03-039-777	N/A	Aqueous	07/25/05	07/26/05	050725B07

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	100	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
Decachlorobiphenyl	106	51-141			

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

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

Date Received: 07/22/05  
 Work Order No: 05-07-1269  
 Preparation: N/A  
 Method: EPA 8015B  
 Units: mg/L

Project: Wellpoint System

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Plant 2 Wellpoint System	05-07-1269-1	07/22/05	Aqueous	N/A	07/25/05	050725L01A

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2-Butanol	ND	0.10	1		Isobutanol	ND	0.10	1	
n-Butanol	ND	0.10	1		Isopropanol	ND	0.10	1	
Ethanol	ND	0.10	1		Methanol	ND	0.10	1	
Surrogates:	REC (%)	Control Limits		Qual					
Hexafluoro-2-propanol	98	63-147							

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Tank Farm Wellpoint System	05-07-1269-2	07/22/05	Aqueous	N/A	07/25/05	050725L01A

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2-Butanol	ND	0.10	1		Isobutanol	ND	0.10	1	
n-Butanol	ND	0.10	1		Isopropanol	ND	0.10	1	
Ethanol	ND	0.10	1		Methanol	ND	0.10	1	
Surrogates:	REC (%)	Control Limits		Qual					
Hexafluoro-2-propanol	103	63-147							

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-12-006-1,366	N/A	Aqueous	N/A	07/25/05	050725L01A

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2-Butanol	ND	0.10	1		Isobutanol	ND	0.10	1	
n-Butanol	ND	0.10	1		Isopropanol	ND	0.10	1	
Ethanol	ND	0.10	1		Methanol	ND	0.10	1	
Surrogates:	REC (%)	Control Limits		Qual					
Hexafluoro-2-propanol	102	63-147							

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



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

Date Received: 07/22/05  
 Work Order No: 05-07-1269  
 Preparation: EPA 5030B  
 Method: 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

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	103	108	70-112	4	0-17	

RPD - Relative Percent Difference, CL - Control Limit



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

Date Received: 07/22/05  
 Work Order No: 05-07-1269  
 Preparation: N/A  
 Method: 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	050725S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	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	

RPD - Relative Percent Difference , CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1269  
 Preparation: EPA 5030B  
 Method: DHS LUFT

Project: Wellpoint System

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-006-7,266	Aqueous	GC-5	07/25/05	07/25/05	050725B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	108	109	72-114	1	0-10	

RPD - Relative Percent Difference, CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1269  
 Preparation: EPA 3510C  
 Method: 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	07/25/05	07/26/05	050725B07

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	97	89	60-132	8	0-11	

RPD - Relative Percent Difference, CL - Control Limit



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

Date Received: N/A  
 Work Order No: 05-07-1269  
 Preparation: N/A  
 Method: EPA 8015B

Project: Wellpoint System

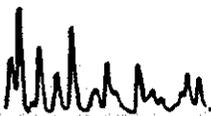
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-006-1.366	Aqueous	GC 12	N/A	07/25/05	050725L01A

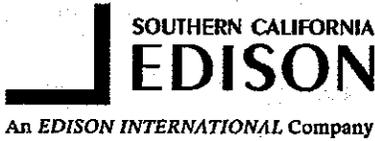
Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2-Butanol	102	101	70-130	1	0-25	
n-Butanol	93	92	70-130	1	0-25	
Isopropanol	99	97	70-130	2	0-25	

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-07-1269

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.





1269

**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 inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Wellpoint System Email: shawn.simmons@sce.com

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

Sample ID	Date Collected	Time Collected	Description/Analytes
Plant 2 Wellpoint System	7-22-05	0755	TPH-Diesel by DHS LUFT, test down to 100 ppb 1-L glass with HCl
Tank Farm Wellpoint System	7-22-05	0715	TPH-Diesel by DHS LUFT, test down to 100 ppb 1-L glass with HCl
Plant 2 Wellpoint System	7-22-05	0755	TPH-Gasoline, test down to 100 ppb 3 x 40-mL vials with HCl
Tank Farm Wellpoint System	7-22-05	0715	TPH-Gasoline, test down to 100 ppb 3 x 40-mL vials with HCl
Plant 2 Wellpoint System	7-22-05	0755	Alcohols (only) by Method 8015B 2 x 40-mL vials, no preservative
Tank Farm Wellpoint System	7-22-05	0715	Alcohols (only) by Method 8015B 2 x 40-mL vials, no preservative

**Special Instructions:**

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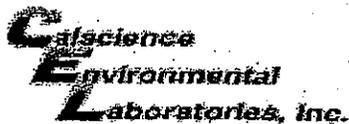
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**Chain of Custody:**

	Date: 7-22-05		Date:
Relinquished By	Time: 1015	Received By	Time:
	Date:		Date: 7/22/05
Relinquished By	Time:	Received By	Time: 1015



WORK ORDER #:

05 - 07 - 1269

Cooler 1 of 1

### SAMPLE RECEIPT FORM

CLIENT: D. Co. Edison

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.

Initial: [Signature]

#### CUSTODY SEAL INTACT:

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact) : \_\_\_\_\_ Not Applicable (N/A):

Initial: [Signature]

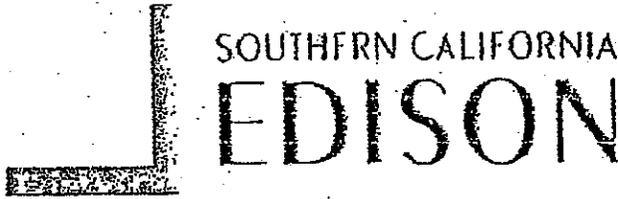
#### SAMPLE CONDITION:

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

Initial: [Signature]

#### 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

**Fax**

To: Melanie Gonzalez

Company: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: 949-475-5433

From: Shawn Simmons

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Providing  
continuous  
learning to  
succeed in  
today's world.*

CONFIDENTIALITY NOTE: This page (s) and any accompanying documents may contain confidential information intended for a specific individual and purpose. If you are NOT this intended 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:

<u>Sample</u>	<u>Date/Time of Collection</u>	<u>Date/Time of 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.

*B M Kolk*  
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 EMS Laboratories, Inc.

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:

Attn: Shawna 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  
117 West Bellevue Drive  
Pasadena, CA 91105-2548

Southern Calif. Edison P.O. Number:  
Please return and direct inquires to:  
In all correspondence refer to project:

V2033902  
S. Simmons  
Wellpoint System

SCE Accounting: 1220-6358-097.098  
Tel: (714) 895-0525 Fax: (714) 895-0515  
Email: shawn.simmons@sce.com

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

Sample ID	Date Collected	Time Collected	Description/Analytes
✓ Plant 2 Wellpoint System	7-27-05	0755	Asbestos fibers ≥0.5 micron by Method 100.1
✓ Tank Farm Wellpoint System	7-22-05	0715	Asbestos fibers ≥0.5 micron by Method 100.1
			Sample matrix is brackish

**Special Instructions:**

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**Chain of Custody:**

	Date: 7-22-05 Time: 1207		Date: 7-22-05 Time: 12:07 PM
Relinquished By	Time:	Received By	Time:
	Date:		Date:
Relinquished By	Time:	Received By	Time:



ANALYSIS OF WATER BY TEM ( EPA-600/4-83-043 ) EPA 100.1

LAB NO: 101590  
 CLIENT: Southern California Edison  
 7/26/05

Laboratory I.D.	Client I.D.	FILTER MEDIA DATA			No. of G.O.	Analyzed Area, mm <sup>2</sup>	Sample Volume (ml)
		Type	Diameter mm	Effective Area mm <sup>2</sup>			
101590-2	PLANT 2	FC	47	1017	20	0.188	5
101590-T	TANK FARM	FC	47	1017	20	0.188	5

INDIVIDUAL ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No. of Asbestos			Detection Limit (MF/L)	CONCENTRATION (MF/L)		
		Str	>5	>10		Str	Str >5um	Str >10um
101590-2	PLANT 2	N.D.	N.D.	N.D.	1.1	N.D.	N.D.	N.D.
101590-T	TANK FARM	N.D.	N.D.	N.D.	1.1	N.D.	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.

*B. M. Keller*  
 Authorized Signature

**Analysis of Water by Transmission Electron Microscopy  
(EPA-600/4-83-043)**

EMS No.	101590	Client	Southern California Edison
Sample No.	Plant 2	Date Analyzed	7/26/05
Fibers (chrysotile)		BDL*	MFL
Fibers > 5 µm in length (chrysotile)		BDL*	MFL
Fibers > 10 µm in length (chrysotile)		BDL*	MFL
Mass (chrysotile)		0	ug/L
More/Less than 5 Fibers in Sample (chrysotile)		LESS	
Poisson 95% Confidence Interval		0 to 4	MFL
Detection Limit		1.1	MFL

\* BDL : Below Detection Limit; MFL: Million Fibers per Liter

**Particle Size Distribution ( Chrysotile )**

Particle Length - Microns							
0 - 0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 - 4.99	5.00 - 9.99	10 & UP
0	0	0	0	0	0	0	0
Particle Width - Microns							
0 - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 - .49	.50 - .99	1 & UP
0	0	0	0	0	0	0	0
Aspect Ratio L/W							
0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 - 99	100 - 199	200 & UP
0	0	0	0	0	0	0	0

EMS Lab No. 101590  
Page      of     

Client SCE  
Sample No. PLANTA

# TEM ASBESTOS ANALYSIS

TYPE OF SAMPLE  
Air  Water   
Soil  Bulk   
Other

LENGTHS  
All Sizes (EPA)   
(µm) ≥ 65   
≥ 10   
≥ 5.0   
≥ 10.0   
PCM Ranges\*   
\*1 ≥ 0.25 µm width  
≥ 5.0 µm length

FILTER TYPE / AREA (mm<sup>2</sup>)  
MCE  385   
PE  314   
MCN  1017   
Other

PORE SIZE  
0.45 µm  0.8 µm   
0.1 µm  0.22 µm   
Other

G.O. Area (mm<sup>2</sup>) 00  
No. of G.O. to Analyze 70

EPA 600/R-94/134  100  100.2

## PREP ANALYSIS

DIRECT PREP   
INDIRECT PREP

72205  
SON 205-220  
FILE 225 + 1ml  
235 5ml

Volume      liters  
Working Volume 5 ml  
Weight      grams  
Ashd Area      %

Prepared By L. Kelly  
Date 7-22-05

MICROSCOPE  
H600A - Serial No. 542-36-01   
H600B - Serial No. 542-05-06   
H600C - Serial No. 542-24-03

Grid Address A  
Screen Magnification 1000x  
Camera Constant 285-3  
Accelerating Voltage 100 KV  
Beam Current 1.3 µA  
X-Factor SA

Date 7/26/05  
Analyst SA

## RECEIVING

METHOD OF ANALYSIS  
EPA 600-4-83-043  ISO   
Chrysotile ADX  
Amphibole ADX

LEVEL OF ANALYSIS  
3:1  5:1

ASPECT RATIO  
3:1  5:1

Grid Opening	Structure Number	Structure	Dimensions (mm)		Fiber Classification										EDS Analysis					Comments						
			Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ		Nb	Mg	Si	Ca	Fe	
<u>53</u>	<u>N5D</u>	<u>N5D</u>																								<u>bits of Fe fibers</u>
<u>54</u>	<u>N5D</u>	<u>N5D</u>																								
<u>55</u>	<u>N5D</u>	<u>N5D</u>																								
<u>56</u>	<u>N5D</u>	<u>N5D</u>																								
<u>57</u>	<u>N5D</u>	<u>N5D</u>																								
<u>58</u>	<u>N5D</u>	<u>N5D</u>																								

OBSERVATIONS:  
Clean   
Debris   
Gypsum   
Condition of the Grid:

Very Light   
Light   
Moderate   
Heavy   
Very Heavy   
Undissolved Filter   
Moderate   
Heavy   
Folded

# TEM ASBESTOS ANALYSIS

Client SCE  
Sample No. 101590

EMS Lab No. 101590  
Page 1 of 1

## RECEIVING ANALYSIS

### MICROSCOPE

- H600A - Serial No. 542-36-01
- H600B - Serial No. 542-05-06
- H600C - Serial No. 542-24-03

Grid Address \_\_\_\_\_ X  
 Screen Magnification 1000  
 Camera Constant 100  
 Accelerating Voltage 100 KV  
 Beam Current 10 uA  
 X-Factor \_\_\_\_\_

Analyst C. Kerk Date 7/16/05

Grid Opening	Structure Number	Structure	Dimensions (mm)		Fiber Classification										EDS Analysis					Comments						
			Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ		Na	Mg	Si	Ca	Fe	
<u>PSD</u>	<u>PSD</u>	<u>PSD</u>																								

### OBSERVATIONS:

Clean   
 Debris:   
 Gypsum:   
 Condition of the Grid:

- Very Light
- Very Light
- Good
- Light
- Light
- Scrappy
- Moderate
- Moderate
- Undissolved Filter
- Heavy
- Heavy
- Folded
- Very Heavy
- Very Heavy

# TEM ASBESTOS ANALYSIS

Client SCE  
Sample No. PLANT 2

EMS Lab No. 101590  
Page      of     

## RECEIVING ANALYSIS

**MICROSCOPE**

- H600A - Serial No. 542-36-01
- H600B - Serial No. 542-05-06
- H600C - Serial No. 542-24-03

Grid Address 9780  
Screen Magnification 18.3 X  
Camera Constant 10  
Accelerating Voltage 30 KV  
Beam Current 1.3 µA  
K-Factor 1.3

Analyst SA Date 7/26/05

Grid Opening	Structure Number	Structure	Dimensions (mm)		Fiber Classification										EDS Analysis					Comments						
			Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ		Na	Mg	Si	Ca	Fe	
0133	N5D																									
0136	N5D																									
0137	N5D																									
0136	N5D																									
0141	N5D																									
0141	N5D																									

**OBSERVATIONS:**

Clean  Debris:  Gypsum:  Condition of the Grid:

Very Light  Light  Moderate  Heavy  Very Heavy

Very Light  Light  Moderate  Heavy  Very Heavy

Good  Scrapy  Undissolved Filter  Folded

**Analysis of Water by Transmission Electron Microscopy  
(EPA-600/4-83-043)**

EMS No. 101590 Client Southern California Edison  
Sample No. Tank Farm

Date Analyzed 7/29/05

Fibers (chrysotile)	<u>BDL*</u>	MFL
Fibers > 5 µm in length (chrysotile)	<u>BDL*</u>	MFL
Fibers > 10 µm in length (chrysotile)	<u>BDL*</u>	MFL
Mass (chrysotile)	<u>0</u>	ug/L
More/Less than 5 Fibers in Sample (chrysotile)	<u>LESS</u>	
Poisson 95% Confidence Interval	<u>0 to 4</u>	MFL
Detection Limit	<u>1.1</u>	MFL

\* BDL : Below Detection Limit; MFL: Million Fibers per Liter

**Particle Size Distribution ( Chrysotile )**

Particle Length - Microns							
0 - 0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 - 4.99	5.00 - 9.99	10 & UP
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Particle Width - Microns							
0 - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 - .49	.50 - .99	1 & UP
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Aspect Ratio LW							
0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 - 99	100 - 199	200 & UP
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

# TEM ASBESTOS ANALYSIS

**RECEIVING**

**TYPE OF SAMPLE**  
 Air  Water  Bulk  Soil  Other

**METHOD OF ANALYSIS**  
 EPA 600/4-83-043  ISO

**LEVEL OF ANALYSIS**  
 Chrysotile  Amphibole

**ASPECT RATIO**  
 3:1  5:1

EPA/600/R-94/134 100.1  100.2

**LENGTHS**  
 All Sizes (EPA)  (µm) ≥ 0.5  ≥ 1.0  ≥ 5.0  ≥ 100   
 PCM Ranges\*  ≥ 0.25 µm width  ≥ 5.0 µm length

**FILTER TYPE / AREA (mm<sup>2</sup>)**  
 MCE  385   
 PC  314   
 MCN  1917   
 Other

**PORE SIZE**  
 0.45 µm  0.8 µm   
 0.1 µm  0.22 µm   
 Other

GO. Area (mm<sup>2</sup>) 00 534  
 No. of G.O. to Analyze 20

**PREP**

DIRECT PREP  INDIRECT PREP

Volume \_\_\_\_\_ filters  
 Working Volume 5 ml  
 Weight \_\_\_\_\_ grams  
 Ashed Area \_\_\_\_\_ %

Prepared By L. Kroll  
 Date \_\_\_\_\_

**ANALYSIS**

EMS Lab No. 101590 of \_\_\_\_\_ Page \_\_\_\_\_

**MICROSCOPE**  
 H600A - Serial No. 542-36-01   
 H600B - Serial No. 542-05-06   
 H600C - Serial No. 542-24-03

Grid Address A  
 Screen Magnification 1900 X  
 Camera Constant 58.00 KV  
 Accelerating Voltage 20 KV  
 Beam Current \_\_\_\_\_ µA  
 X-Factor \_\_\_\_\_

Analyst W. Kelly Date 7/28/05

Grid Opening	Structure Number	Structure	Dimensions (mm)		Fiber Classification										EDS Analysis					Comments					
			Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ		Nr	Mg	Si	Ca	Fe
<u>NS1</u>	<u>NS1</u>	<u>NS1</u>																							
<u>NS2</u>	<u>NS2</u>	<u>NS2</u>																							
<u>NS3</u>	<u>NS3</u>	<u>NS3</u>																							
<u>NS4</u>	<u>NS4</u>	<u>NS4</u>																							
<u>NS5</u>	<u>NS5</u>	<u>NS5</u>																							

**OBSERVATIONS:**

Clean  Debris:  Gypsum:  Condition of the Grid:

Very Light  Very Light  Good   
 Light  Light  Scrappy   
 Moderate  Moderate  Undissolved Filter   
 Heavy  Heavy  Folded   
 Very Heavy  Very Heavy

# TEM ASBESTOS ANALYSIS

EMS Lab No. 101690 of \_\_\_\_\_  
Page \_\_\_\_\_

Client SCE  
Sample No. FANK FROM WELLPOINT SYSTEM

RECEIVING

### MICROSCOPE

- H600A - Serial No. 542-36-01
- H600B - Serial No. 542-05-06
- H600C - Serial No. 542-24-03

Grid Address \_\_\_\_\_  
 Screen Magnification 1920 X  
 Camera Constant 283  
 Accelerating Voltage 10 KV  
 Beam Current 4r3  $\mu$ A  
 K-Factor \_\_\_\_\_

Analyst Kalle Date 7-29-05

## ANALYSIS

Grid Opening	Structure Number	Structure	Dimensions (mm)		Fiber Classification											EDS Analysis				Comments						
			Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ		Na	Mg	Si	Ca	Fe	
<u>4M-1</u>		<u>N20</u>																								
<u>623-3</u>		<u>N20</u>																								
<u>573-1</u>		<u>N20</u>																								
<u>715-1</u>		<u>N20</u>																								
<u>654</u>		<u>N20</u>																								
<u>241</u>		<u>N20</u>																								

**OBSERVATIONS:**

Clean  Debris:  Gypsum:  Condition of the Grid:

Very Light  Very Light  Good

Light  Light  Scrappy

Moderate  Moderate  Undissolved Filter

Heavy  Heavy  Folded

Very Heavy  Very Heavy



**Analysis of Water by Transmission Electron Microscopy  
(EPA-600/4-83-043)**

EMS No. 101590 Date Analyzed 7/26/05  
 Client Southern California Edison  
 Sample No. EMS BLANK

Fibers (chrysotile)	ND	MFL
> 5 Micron length (chrysotile)	ND	MFL
Mass (chrysotile)	0	ug/L
More/Less than 5 Fibers in Sample (chrysotile)	LESS	
Sensitivity Level	0.01	MFL

**Particle Size Distribution ( Chrysotile )**

Particle Length - Microns					
0 - 0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 & UP
0	0	0	0	0	0
Particle Width - Microns					
0 - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 & UP
0	0	0	0	0	0
Aspect Ratio 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

# TEM ASBESTOS ANALYSIS

EMMS Lab No. 101590 of \_\_\_\_\_  
 Page \_\_\_\_\_

Client EMMS blank  
 Sample No. 7-22-01

## RECEIVING

TYPE OF SAMPLE  
 Air  Water   
 Soil  Bulk   
 Other \_\_\_\_\_

METHOD OF ANALYSIS  
 EPA 600/4-83-043  ISO

LEVEL OF ANALYSIS  
 Chrysotile CR-000  
 Amphibole ADX-000

ASPECT RATIO  
 3:1  5:1

EPA/600/R-94/134  100.1  100.2

## PREP

FILTER TYPE / AREA (mm<sup>2</sup>)  
 MCE  385   
 PC  314   
 MCN  1017   
 Other \_\_\_\_\_

PORE SIZE  
 0.45  $\mu$ m  0.8  $\mu$ m   
 0.1  $\mu$ m  0.22  $\mu$ m   
 Other \_\_\_\_\_

GO. Area (mm<sup>2</sup>) 0.094  
 No. of G.O. to Analyze 20

LENGTHS  
 All Sizes (EPA)   
 ( $\mu$ m)  $\geq 0.5$    
 $\geq 1.0$    
 $\geq 5.0$    
 $\geq 10.0$    
 PCM Range\*   
 \* $\geq 0.25$   $\mu$ m width  
 $\geq 5.0$   $\mu$ m length)

DIRECT PREP   
 INDIRECT PREP

Volume \_\_\_\_\_ liters  
 Working Volume 500 ml  
 Weight \_\_\_\_\_ grams  
 Asted Area \_\_\_\_\_ %

Prepared By LK  
 Date 7-22-01

## ANALYSIS

Grid Address A  
 Screen Magnification 1900 X  
 Camera Constant 2948  
 Accelerating Voltage 100 KV  
 Beam Current 10  $\mu$ A  
 K-Factor 114

Analyst Blake Date 7/26/01

Grid Opening	Structure Number	Structure	Dimensions (mm)		Fiber Classification										EDS Analysis					Comments					
			Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZQ		Na	Mg	Si	Ca	Fe
<u>C3-1</u>		<u>N20</u>																							
<u>H2-6</u>		<u>N20</u>																							
<u>F3-3</u>		<u>N20</u>																							
<u>F4-1</u>		<u>N20</u>																							
<u>G14-0</u>		<u>N20</u>																							
<u>W5-1</u>		<u>N20</u>																							
<u>F4-1</u>		<u>N30</u>																							
<u>E1-1</u>		<u>N50</u>																							
<u>K3-6</u>		<u>N50</u>																							
<u>H4-0</u>		<u>N50</u>																							

### OBSERVATIONS:

Clean   
 Debris:   
 Gypsum:   
 Condition of the Grid:

Very Light   
 Very Light   
 Good

Light   
 Light   
 Scrappy

Moderate   
 Moderate   
 Undissolved Filter

Heavy   
 Heavy   
 Folded

Very Heavy   
 Very Heavy

# TEM ASBESTOS ANALYSIS

Client EMS blank  
 Sample No. 7-27-01

EMS Lab No. 101590  
 Page      of     

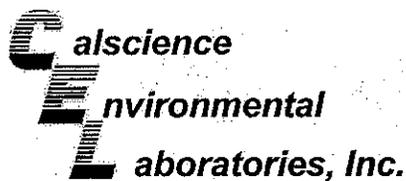
## RECEIVING ANALYSIS

MICROSCOPE  
 H600A - Serial No. 542-36-01   
 H600B - Serial No. 542-05-06   
 H600C - Serial No. 542-24-03

Grid Address B440  
 Screen Magnification 29.1  
 Camera Constant 100 KV  
 Accelerating Voltage 10  $\mu$   
 Beam Current 1.4  
 K-Factor       
 Analyst Lodde Date 7/26/05

Grid Opening Number	Structure	Dimensions (nm)		Fiber Classification										EDS Analysis					Comments							
		Width	Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADK	AQ	ADQ	AZQ	AZZ		Na	Mg	Si	Ca	Fe		
E2-6	N>D																									
E3-7	N>D																									
C3-6	N>D																									
C4-7	N>D																									
H3-3	N>D																									
H4-4	N>D																									
F4-7	N>D																									
F5-7	N>D																									
G4-7	N>D																									
G3-6	N>D																									

**OBSERVATIONS:**  
 Clean  Debris:  Gypsum:   
 Condition of the Grid:   
 Very Light  Light  Moderate  Very Heavy   
 Very Light  Light  Moderate  Heavy  Very Heavy   
 Good  Scrappy  Undissolved Filter  Folded



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,

A handwritten signature in black ink, appearing to read "S. Lane".

Calscience Environmental  
Laboratories, Inc.  
Steven L. Lane  
Laboratory Director

A handwritten signature in black ink, appearing to read "M. Lane".

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

Date Received: 10/03/05  
 Work Order No: 05-10-0025  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Long Beach NPDES

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051003-Intake-TPH	05-10-0025-1	10/03/05	Aqueous	10/03/05	10/03/05	051003B03

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	79	51-141				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051003-001-TPH	05-10-0025-2	10/03/05	Aqueous	10/03/05	10/03/05	051003B03

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	180	100	84	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	74	51-141				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method:Blank	098-03-039-916	N/A	Aqueous	10/03/05	10/03/05	051003B03

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	99	51-141				

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



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

Date Received: N/A  
 Work Order No: 05-10-0025  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Long Beach NPDES

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-039-916	Aqueous	GC 23	10/03/05	10/03/05	051003B03

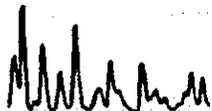
Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	96	97	60-132	1	0-11	

RPD - Relative Percent Difference, CL - Control Limit

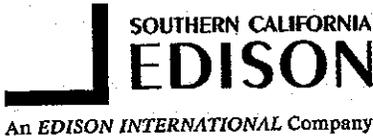
Work Order Number: 05-10-0025

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<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



0025



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:  
Please return and direct inquires to:  
In all correspondence refer to project:

Q1033917  
Shawn Simmons  
Long Beach NPDES

Release Number: A002  
Tel: (714) 895-0525 Fax: (714) 895-0515  
Email: shawn.simmons@sce.com

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

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	0925	TPH as Diesel by DHS Luft
			Report TPH-Diesel down to 100 µg/L. if >100 µg/L
			Please J-flag if <100 µg/L.
			24 hour RUSH
			copy results to: Tim.Hemig@nrgenergy.com, and
			Scott.Seipel@shawgrp.com

**Special Instructions:**

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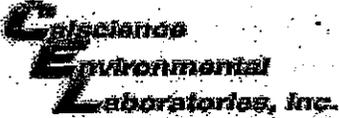
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**Chain of Custody:**

	Date: 10/03/05		Date: 10-03-05
Relinquished By	Time: 1207	Received By	Time: 18:07
	Date:		Date:
Relinquished By	Time	Received By	Time:



WORK ORDER #:

05 - 10 - 0025

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: S.A. Edison

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.
2.6 C IR thermometer.
Ambient temperature.

Initial: [Signature]

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Applicable (N/A): [checked]

Initial: [Signature]

SAMPLE CONDITION:

Table with 4 columns: Item, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sample container label(s), Sample container(s) intact, Correct containers for analyses, Proper preservation, VOA vial(s) free of headspace, Tedlar bag(s) free of condensation.

Initial: [Signature]

COMMENTS:

Blank lines for handwritten 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 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: 09/26/05  
 Work Order No: 05-09-1475  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: 05144

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB050926-C1	05-09-1475-1	09/26/05	Aqueous	09/26/05	09/27/05	050926B13

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	230	100	84	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	103	51-141				

LB050926-2	05-09-1475-2	09/26/05	Aqueous	09/26/05	09/27/05	050926B13
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Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	190	100	84	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	106	51-141				

LB050926-3	05-09-1475-3	09/26/05	Aqueous	09/26/05	09/27/05	050926B13
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Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	280	100	84	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	58	51-141				

LB050926-4	05-09-1475-4	09/26/05	Aqueous	09/26/05	09/27/05	050926B13
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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
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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	94	51-141				

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

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

Date Received: N/A  
 Work Order No: 05-09-1475  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: 05144

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-039-905	Aqueous	GC-23	09/26/05	09/27/05	050926B13

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	90	89	60-132	2	0-11	

PRELIMINARY REPORT

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-09-1475

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Non-target 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.





314'

1475



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

Southern Calif. Edison P.O. Number: Q1033917 Release Number: A002  
Please return and direct inquires to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: 05144 Email: shawn.simmons@sce.com

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

3 }

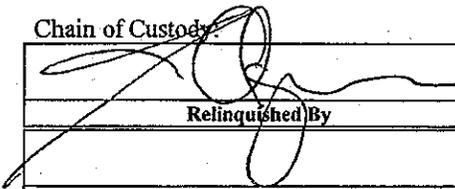
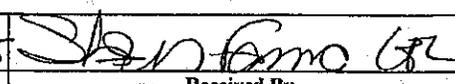
Sample ID	Date Collected	Time Collected	Description/Analytes
LB050926-3	9/26/05	1025	TPH-Diesel by DHS Luft
LB050926-3	9/26/05	↓	Hexavalent Chromium by EPA 7199
LB050926-3	9/26/05	↓	Biochemical Oxygen Demand by EPA 405.1
LB050926-3	9/26/05	↓	Chemical Oxygen Demand by EPA 410.4

PRELIMINARY REPORT

Special Instructions:

Samples are of brackish water.  
Report TPH-Diesel down to 100 ppb.  
Report J-Flagged Results for Hexavalent Chromium

Chain of Custody:

	Date: 9/26/05 Time: 1435		Date: 9/26/05 Time: 1435
Relinquished By		Received By	
	Date:		Date:
Relinquished By	Time	Received By	Time:



WORK ORDER #:

05 - 09 - 1475

Cooler 1 of 1

**SAMPLE RECEIPT FORM**

CLIENT: S. Ca Edison

DATE: 9/26/05

**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):**

- 3.2 °C Temperature blank.
- °C IR thermometer
- Ambient temperature.

Initial: [Signature]

**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact): \_\_\_\_\_ Not Applicable (N/A):

Initial: [Signature]

**SAMPLE CONDITION:**

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

Initial: [Signature]

**COMMENTS:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Handwritten notes at the top of the page, including a date and possibly a title or subject line.

Main body of handwritten text, consisting of several paragraphs of notes.

Second main section of handwritten text, continuing the notes or providing additional details.

Final section of handwritten text at the bottom of the page, possibly concluding the notes.

**Calscience  
Environmental  
Laboratories, Inc.**



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,

A handwritten signature in cursive script that reads "S. Lane".

Calscience Environmental  
Laboratories, Inc.  
Steven L. Lane  
Laboratory Director

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

Date Received: 10/03/05  
 Work Order No: 05-10-0025  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Long Beach NPDES

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051003-Intake-TPH	05-10-0025-1	10/03/05	Aqueous	10/03/05	10/03/05	051003B03

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	79	51-141				

LB-051003-001-TPH	05-10-0025-2	10/03/05	Aqueous	10/03/05	10/03/05	051003B03
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Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	180	100	84	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	74	51-141				

Method: Blank	098-03-039-916	N/A	Aqueous	10/03/05	10/03/05	051003B03
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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	99	51-141				

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

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

Date Received: N/A  
 Work Order No: 05-10-0025  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Long Beach NPDES

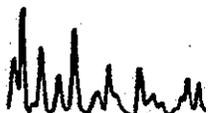
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-039-916	Aqueous	GC 23	10/03/05	10/03/05	051003B03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	96	97	60-132	1	0-11	

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-10-0025

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



0025



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 inquiries to: Shawn Simmons Tel: (714) 895-0525 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach NPDES Email: shawn.simmons@sce.com

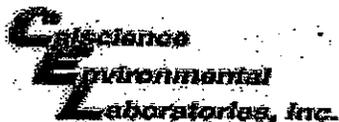
Sample(s) are submitted for treatment/disposition as described below.

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	0925	TPH as Diesel by DHS Luft
			Report TPH-Diesel down to 100 µg/L. if > 100 µg/L
			Please J-flag if < 100 µg/L.
			24 hour RUSH
			copy results to: Tim.Hemig@nrgenergy.com, and
			Scott.Scipel@shawgrp.com

Special Instructions:

Chain of Custody:

<i>Jorge M. Escobar</i>	Date: 10/03/05	<i>Shawn Simmons</i>	Date: 10.03.05
Relinquished By	Time: 1207	Received By	Time: 1207
	Date:		Date:
Relinquished By	Time:	Received By	Time:



WORK ORDER #:

05 - 10 - 0025

Cooler 1 of 1

### SAMPLE RECEIPT FORM

CLIENT: S. A. Edson

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.
- 2.6 °C IR thermometer.
- Ambient temperature.

Initial: [Signature]

#### CUSTODY SEAL INTACT:

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact): \_\_\_\_\_ Not Applicable (N/A):

Initial: [Signature]

#### SAMPLE CONDITION:

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

Initial: [Signature]

#### COMMENTS:

\_\_\_\_\_

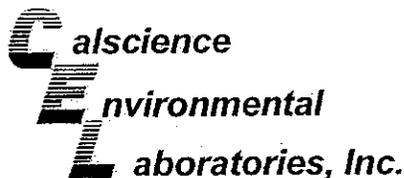
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\_\_\_\_\_

\_\_\_\_\_



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,

A handwritten signature in black ink that reads "S. Lane".

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: 10/05/05  
 Work Order No: 05-10-0202  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Long Beach NPDES

Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051005 - Intake-TPH	05-10-0202-1	10/05/05	Aqueous	10/05/05	10/05/05	051005B03

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	140	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	97	51-141			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051005 - 001-TPH	05-10-0202-2	10/05/05	Aqueous	10/05/05	10/05/05	051005B03

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	110	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	51	51-141			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LB-051005 - RB-TPH	05-10-0202-3	10/05/05	Aqueous	10/05/05	10/05/05	051005B03

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	180	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	59	51-141			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	098-03-039-923	N/A	Aqueous	10/05/05	10/05/05	051005B03

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	97	51-141			

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers



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

Date Received: N/A  
 Work Order No: 05-10-0202  
 Preparation: EPA 3510C  
 Method: DHS LUFT

Project: Long Beach NPDES

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
098-03-039-923	Aqueous	GC-23	10/05/05	10/05/05	051005B03

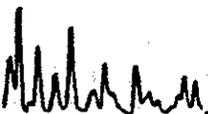
Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	91	91	60-132	0	0-11	

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 05-10-0202

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<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore; the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike 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.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
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.



0202



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 inquires to: Ralph Esqueda Tel: (714) 895-0517 Fax: (714) 895-0515  
In all correspondence refer to project: Long Beach NPDES Email: ralph.esqueda@sce.com  
Sample(s) are submitted for treatment/disposition as described below.

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
LB-051005 - RB-TPH	10/05/05	1120	TPH as Diesel by DHS Luft
			Required detection limit 50 µg/L.
			<b>24 HOUR RUSH</b>
			Copy results to: Tim.Hemig@nrgenergy.com, and Scott.Seipel@shawgrp.com

Special Instructions:

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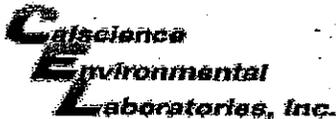
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Chain of Custody:

	Date: 10/5/05		Date: 10-5-05
	Time: 13:07		Time: 13:07
Relinquished By	Date:	Received By	Date:
Relinquished By	Time:	Received By	Time:



WORK ORDER #:

05 - 10 - 0202

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: J. Cal. Edison

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.
29 C IR thermometer.
Ambient temperature.

Initial: [Signature]

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Applicable (N/A):

Initial: [Signature]

SAMPLE CONDITION:

Table with 4 columns: Description, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sample container label(s), Sample container(s) intact, Correct containers for analyses, Proper preservation, VOA vial(s) free of headspace, Tedlar bag(s) free of condensation.

Initial: [Signature]

COMMENTS:

Blank lines for handwritten comments.