



SAN DIEGO REGIONAL  
WATER QUALITY  
CONTROL BOARD

South Bay Power Plant  
990 Bay Blvd  
Chula Vista, CA 91911-1651  
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2009 JUL 30 P 2: 21

July 30, 2009

California Regional Water Quality  
Control Board - San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123

Attn: Executive Officer

Dear Mr. Robertus,

Pursuant to Order No. R9-2004-0154 (NPDES-No. CA0001368), Monitoring and Reporting Program paragraph G1, we are herewith submitting the discharge monitoring report for the South Bay Power Plant. The report is for the month of June 2009. There were no exceedances for the month of June 2009.

The enclosed report demonstrates that the South Bay Power Plant complied with its final effluent limits for copper (3.53 ug/l average monthly; 4.44 ug/l daily maximum) using EPA Method 1638.

A copy of the DMR report has been forwarded to the State Water Resources Control Board.

If you have any questions regarding this report, please contact Tom Liebst at (619) 498-5223.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Cigainero".

Leonard J. Cigainero  
Plant Manager

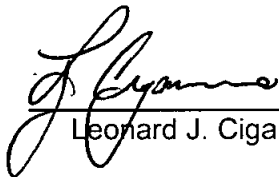
LJC:tel  
403.40.01  
EHS 09-071

Dynegy South Bay LLC

I hereby submit the June 2009 Discharge Monitoring Report(s) for the SOUTH BAY POWER PLANT in accordance with the Waste Discharge Requirements prescribed in Regional Board Order No. R9-2004-0154.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Signature:

  
Leonard J. Cigainero

Title:

Plant Manager

Date:

July 30, 2009

Pursuant to Order No. R9-2004-0154 reporting requirement 14(a), the following representative is authorized to sign and certify all reports required by this order:

1. Plant Manager

SOUTH BAY POWER PLANT  
CONTROL BOARD

2009 JUL 30 P 2: 22

**SOUTH BAY POWER PLANT**  
**Monthly Intake and Receiving Water**  
**Monitoring Study**  
**June 2009**

**Prepared for:**

**Dynegy South Bay LLC**  
South Bay Power Plant  
990 Bay Boulevard  
Chula Vista, California 91911



**SOUTH BAY POWER PLANT**  
**Monthly Intake and Receiving Water**  
**Monitoring Study**  
**June 2009**

**Prepared for:**

**Dynegy South Bay LLC**  
South Bay Power Plant  
990 Bay Boulevard  
Chula Vista, California 91911

**Prepared by:**

**Weston Solutions**  
2433 Impala Drive  
Carlsbad, California 92010

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## 1 INTRODUCTION

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This monthly intake and receiving water monitoring program was conducted in compliance with specifications set forth in the California Regional Water Quality Control Board San Diego Region, "Monitoring and Reporting Program No. R9-2004-0154 (NPDES No. CA0001368) for the South Bay Power Plant, San Diego County." The receiving water monitoring program requires monthly monitoring of temperature, dissolved oxygen, water transparency, salinity, and metals.

San Diego Gas & Electric Company began operation of the fossil-fueled steam generation facility in south San Diego Bay in 1960 with one generating unit. Additional units became operational in 1962, 1964, and 1971. Each generating unit draws cooling water from the bay and returns the thermally-enhanced effluent to the bay. The discharge is separated from the intake by an earthen dike.

Duke Energy Power Services took over operation of the plant in April 1999. In May 2006, operations of the plant were transferred to LSP South Bay LLC. On April 1, 2007, operations were transferred to Dynegy South Bay LLC. This report is prepared for Dynegy South Bay LLC.

## 2 METHODS

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### 2.1 Field Methods

The intake and eleven receiving water monitoring stations (Figure 1) were sampled on 9 June 2009. Stations were located at positions sampled during previous studies (Ford et al. 1973). Positions for these stations were re-established by KLI in 1987 using Loran coordinates, compass bearings, and visual observations from landmarks established during previous studies. Global Positioning System satellite navigation was utilized in the 1991 study by KLI to increase station location accuracy. During the present survey, a Differential Global Positioning System (DGPS) was used to provide station location within 5 meters accuracy.

All stations were sampled between noon and 6:00PM. Tidal height during sampling is shown in Figure 2. Sampling occurred twelve days prior to the new moon.

This monitoring program is designed to allow representative gradient sampling of the area directly influenced by the discharge, an area away from the initial influence of the discharge but within the elevated temperature field, and an area judged to be outside substantial influence from the discharge.

Physical and chemical water column measurements from the intake and each receiving water monitoring station included temperature, salinity, water transparency, and dissolved oxygen. A Seabird SBE-25 Sealogger was used to measure depth, temperature, salinity, and dissolved oxygen. This instrument scans all sensors at 8 scans per second as the instrument is lowered through the water column. The data is stored in the units' memory and are retrieved in the laboratory directly into a database. The scans are averaged by 1-m depth intervals using software provided by Seabird. The unit was lowered at a speed of 0.2 - 0.4 m/sec so that each depth interval was sampled several times. Transparency was recorded as Secchi disc extinction depth (m). Air temperature was determined for each station using an Orion Model 820 dissolved oxygen/temperature meter.

Grab samples were collected at each station at mid-depth in the water column with a Niskin bottle. After retrieval of the sample, sample jars were filled from the sampler. Prior to sampling each station, the sampler was washed using standard de-contamination procedures. Samples were delivered to Dynegy South Bay LLC for transfer to the laboratory.



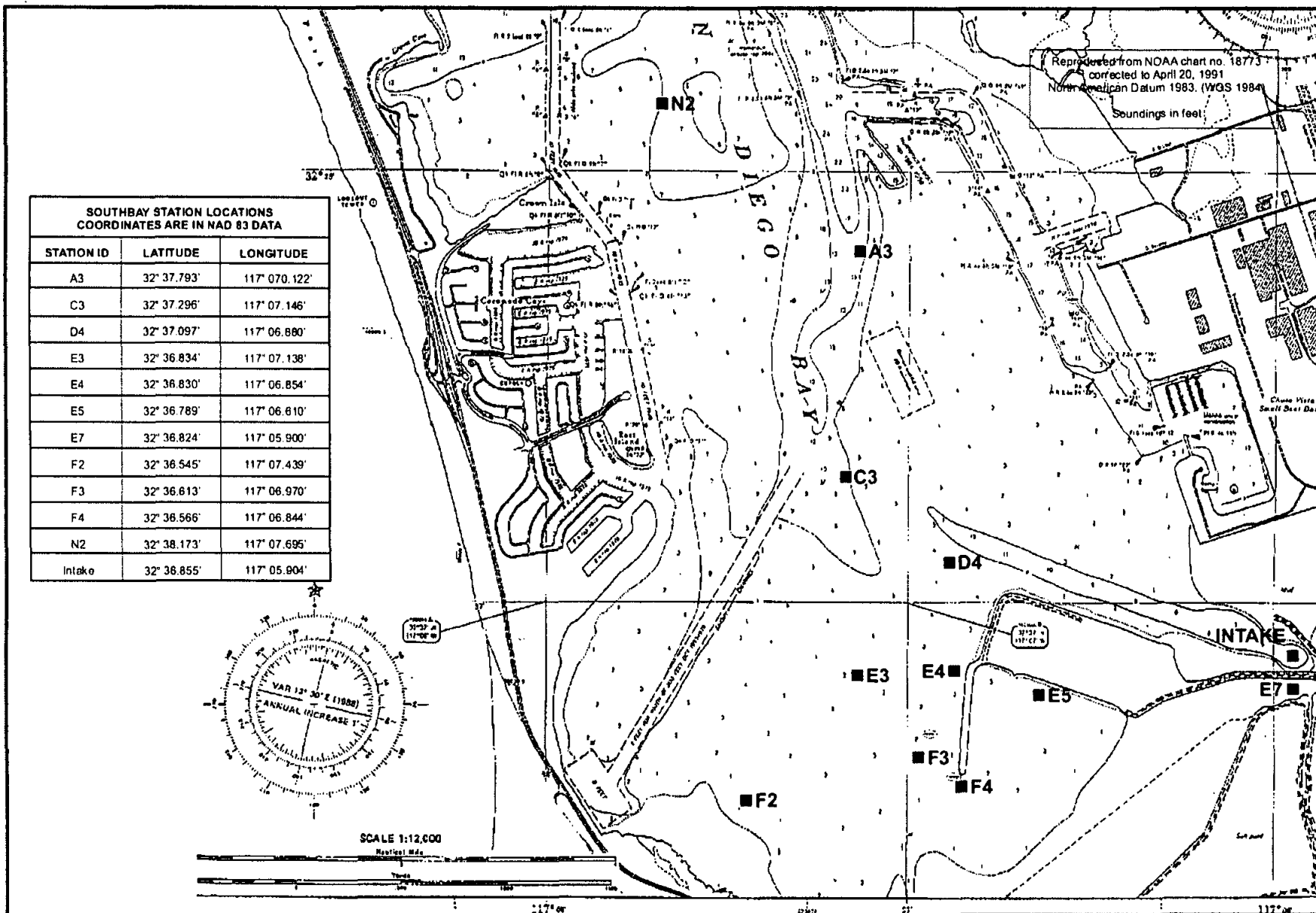


Figure 1. Sampling Station Locations for South Bay Monitoring Program.

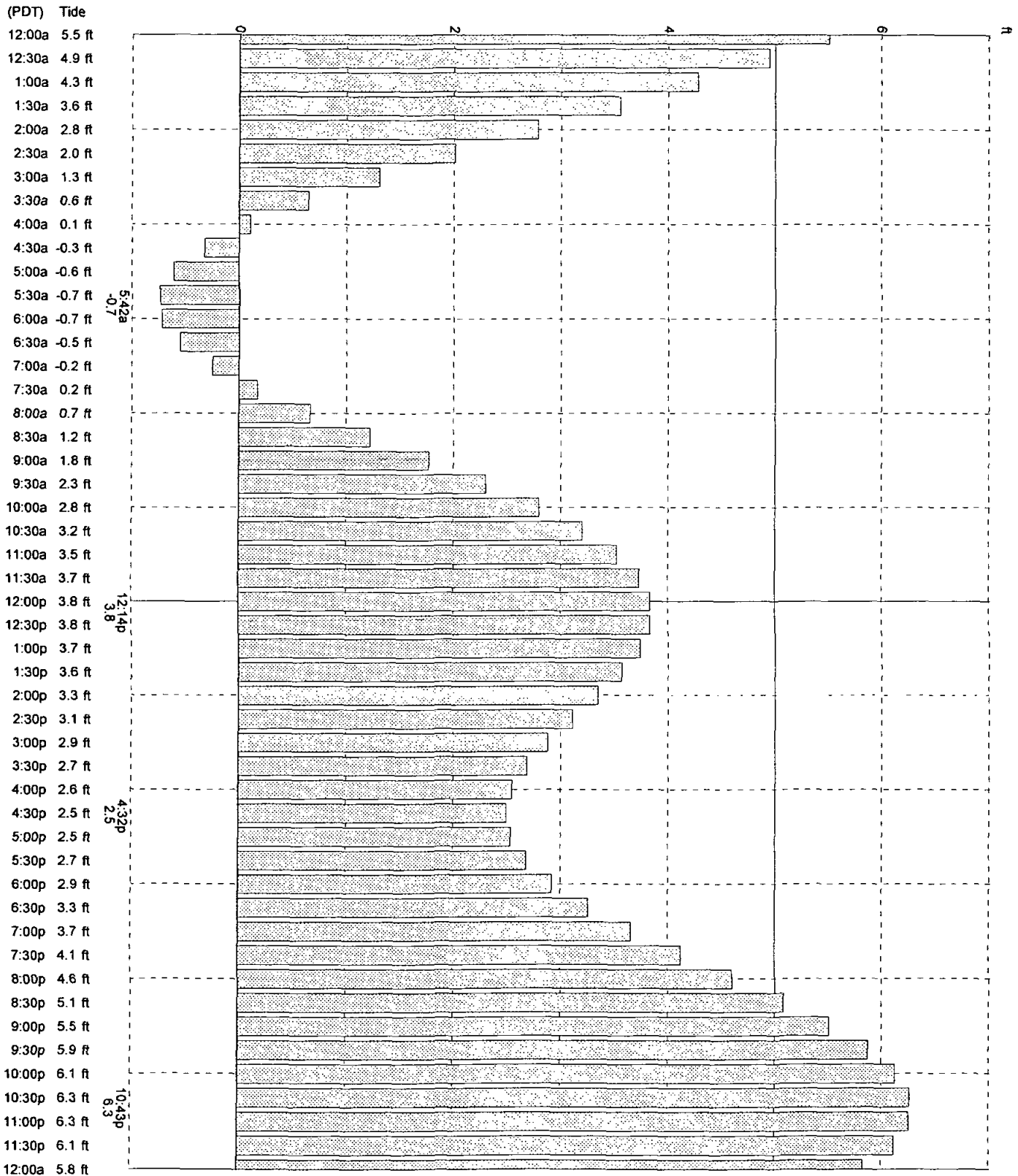
# Tides-National City, San Diego Bay

based on San Diego, California (NOAA)  
32° 40' N 117° 7' W

Tuesday, June 9, 2009

**Average Tides**  
Mean Range: 4.3 ft  
MHHW: 5.9 ft  
Mean Tide: 3.0 ft

**Daily Highs & Lows**  
5:42a -0.7 ft Low  
12:14p 3.8 ft High  
4:32p 2.5 ft Low  
10:43p 6.3 ft High



© Nautical Software (503) 579-1414 **Figure 2. Tidal heights during sampling.**

## 3 RESULTS

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### 3.1 Physical and Chemical Characteristics of the Water Column

Physical and chemical water column measurements collected at the intake and each station are summarized in Table 1 and Figure 3. Air temperature at the time of collection ranged from 63.9°F to 67.5°F. All data was collected between 1200 and 1700 hours. Water column measurements including temperature, transparency, salinity, and dissolved oxygen were within the range of data collected during previous studies (LCMR 1977-79; LES (LOSL) 1980-81; WCC 1982-83; KLI 1986-91; MEC 1996).

#### 3.1.1 Temperature

Temperature profiles at most stations varied little with depth (Figure 3), as is typical in a shallow bay. Temperatures at Station E7 were 0.2°F to 3.7°F higher than the other stations. Surface water temperatures ranged from 72.9°F at Station N2 to 76.3°F at Station E7 and bottom temperatures ranged from 72.6°F at Intake to 74.8°F at Station E7.

#### 3.1.2 Salinity

Salinity measurements ranged from 34.7‰ (Station N2) to 35.9‰ (Stations F4 and E5) in surface waters and from 30.1‰ (Station E5) to 35.9‰ (Station F4) in bottom waters.

#### 3.1.3 Dissolved Oxygen

Surface and bottom dissolved oxygen measurements ranged from 5.9 mg/L (Station F4) to 7.5 mg/L (Intake) in surface waters and from 5.5 mg/L (Intake) to 6.7 mg/L (Stations N2 and E4) in bottom waters. Percent saturation ranged from 86% (Station F4) to 110% (Intake) in surface waters and from 78% (Intake) to 96% (Station E4) in bottom waters.

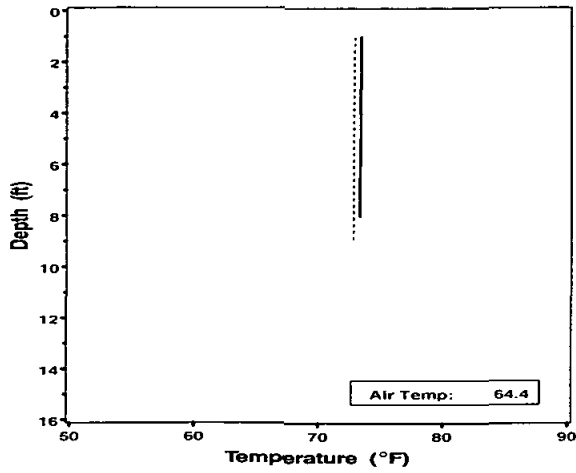
#### 3.1.4 Transparency

Secchi disk transparency ranged from 1.0 m (Station F2) to 2.5 m (Intake). Transparency values were within the range of values typically recorded in the past.

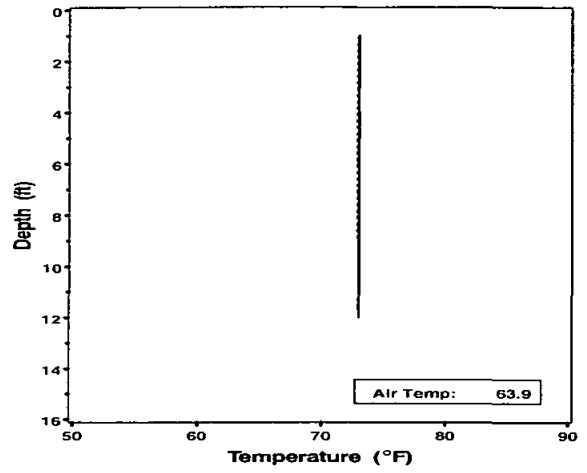
**Table 1. Monthly Intake and Receiving Water Monitoring Station Measurements, South San Diego Bay,  
9 June 2009.**

Parameters Physical and Chemical Data	STATIONS												
	N2	A3	C3	D4	E3	E4	F2	F3	F4	E5	E7	Intake	
Water Column Temp. (°F)													
Surface	72.9	73.4	73.1	74.7	74.4	75.0	74.1	74.7	74.5	74.5	76.3	76.1	
2 ft	72.9	73.4	73.0	74.7	74.4	75.0	74.0	74.6	74.4	74.4	75.0	76.1	
4 ft	72.8	73.4	73.0	74.7	74.2	75.0	.	74.5	74.4	74.1	74.9	75.9	
6 ft	72.8	73.4	73.0	.	.	74.7	.	74.4	74.3	73.4	74.9	74.5	
8 ft	72.8	73.3	73.0	.	.	.	.	.	.	.	74.8	73.0	
10 ft	.	.	73.0	.	.	.	.	.	.	.	.	72.9	
12 ft	.	.	73.0	.	.	.	.	.	.	.	.	72.6	
14 ft													
16 ft													
Transparency (m)	2.0	2.0	1.5	2.0	2.0	2.0	1.0	1.5	2.0	1.5	2.0	2.5	
Salinity (ppt) - Surface	34.7	34.9	34.8	35.3	35.3	35.6	35.3	35.7	35.9	35.9	35.2	35.3	
Salinity (ppt) - Bottom	34.7	34.0	34.8	33.0	35.4	33.5	35.3	34.9	35.9	30.1	35.5	34.2	
D.O. (mg/L) - Surface	6.7	6.5	6.5	6.6	6.5	6.6	6.3	6.2	5.9	6.0	7.0	7.5	
(% of Saturation)	(96)	(93)	(93)	(96)	(95)	(96)	(90)	(91)	(86)	(87)	(102)	(110)	
(Receiving/Intake)	0.90	0.87	0.88	0.88	0.88	0.89	0.84	0.83	0.80	0.80	0.93	1.00	
D.O. (mg/L) - Bottom	6.7	6.4	6.5	6.6	6.5	6.7	6.2	6.1	5.9	5.7	5.9	5.5	
(% of Saturation)	(95)	(92)	(93)	(95)	(94)	(96)	(89)	(88)	(86)	(80)	(84)	(78)	
(Receiving/Intake)	1.22	1.17	1.19	1.20	1.18	1.21	1.13	1.11	1.07	1.04	1.06	1.00	
Bottom Depth (ft) at MLLW	6.1	4.7	8.2	2.5	1.9	2.4	-0.3	2.9	2.3	2.8	5.3	9.6	
Air Temperature (°F)	66.0	64.4	63.9	66.4	66.9	66.9	63.9	67.5	67.3	65.8	63.9	66.4	
Date Sampled	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	9Jun09	
Time Sampled (PDT)	1200	1203	1218	1342	1324	1333	1227	1315	1311	1254	1242	1355	
Tide Height (ft) (At Sampling Time)	3.8	3.8	3.8	3.5	3.6	3.6	3.8	3.6	3.7	3.7	3.7	3.4	

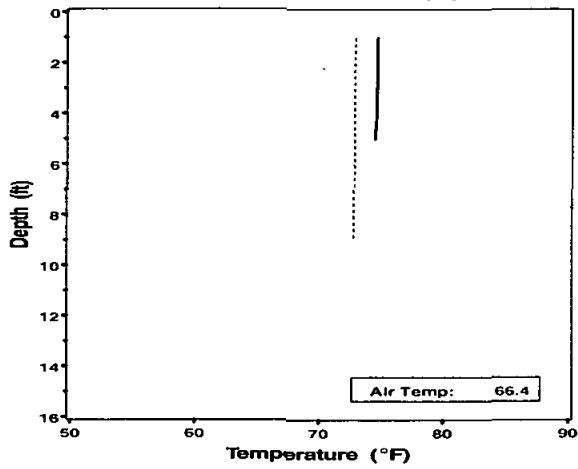
**Station A3 distance (ft) = 11250**



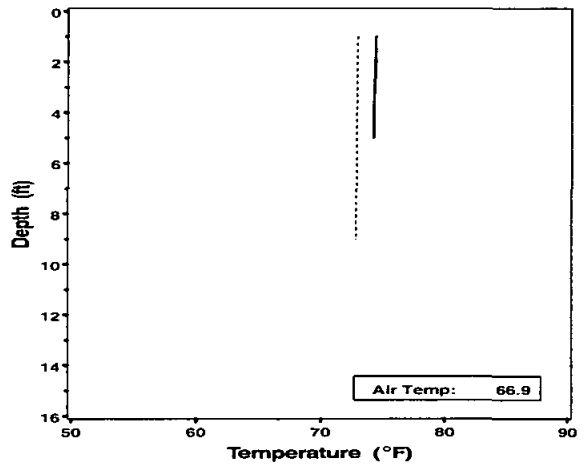
**Station C3 distance (ft) = 9000**



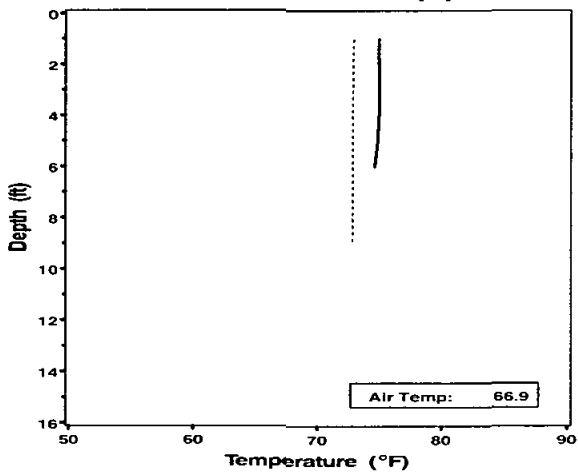
**Station D4 distance (ft) = 7501**



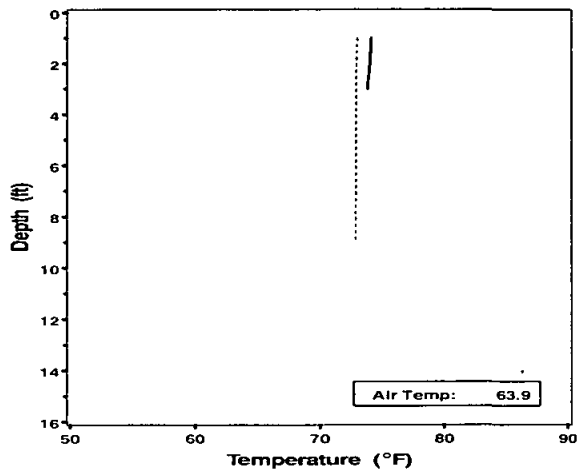
**Station E3 distance (ft) = 6700**



**Station E4 distance (ft) = 6000**

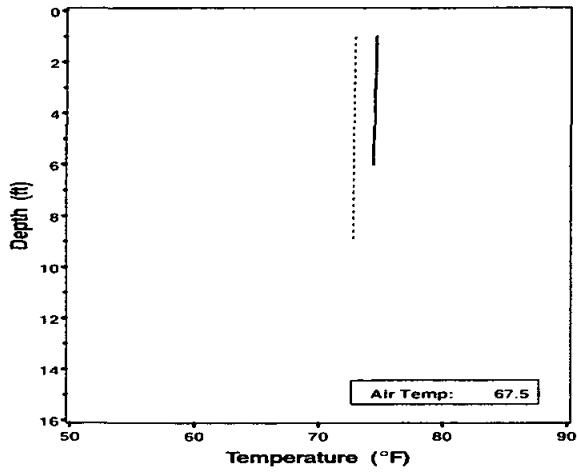


**Station F2 distance (ft) = 7500**

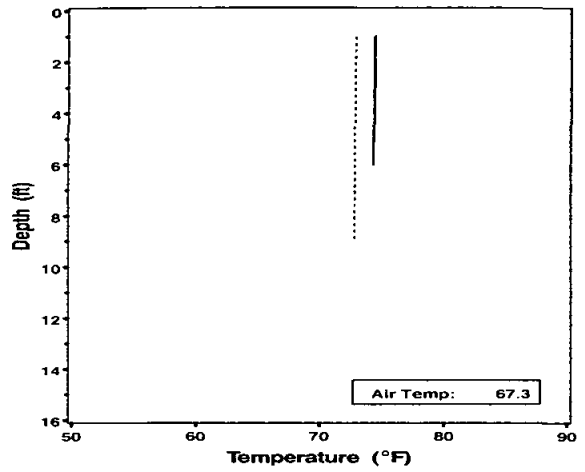


**Figure 3. Temperature Profiles by Station.**  
**Distance from the Discharge is Reported in Feet.**  
(solid line = station temperatures, dashed line = N2 temperatures)

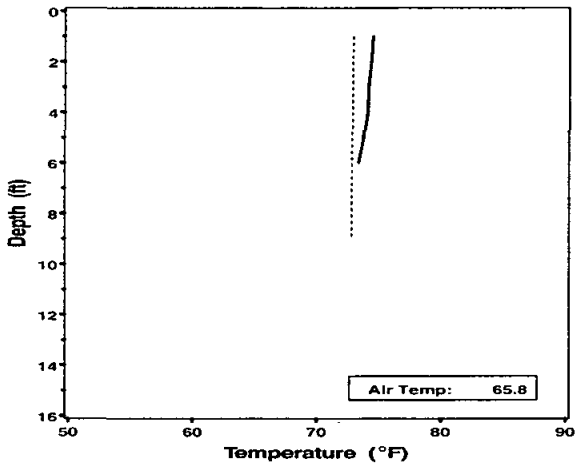
Station F3 distance (ft) = 5300



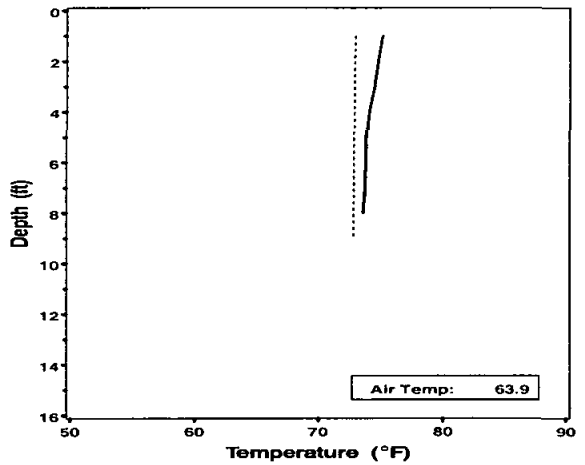
Station F4 distance (ft) = 4500



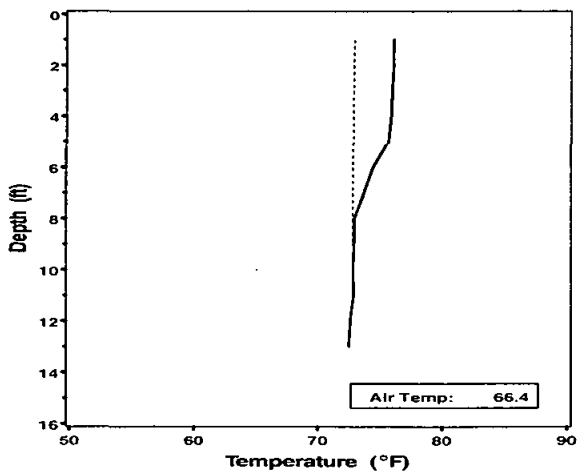
Station E5 distance (ft) = 3300



Station E7 distance (ft) = 100



Station INTAKE



Station N2 distance (ft) = 14000

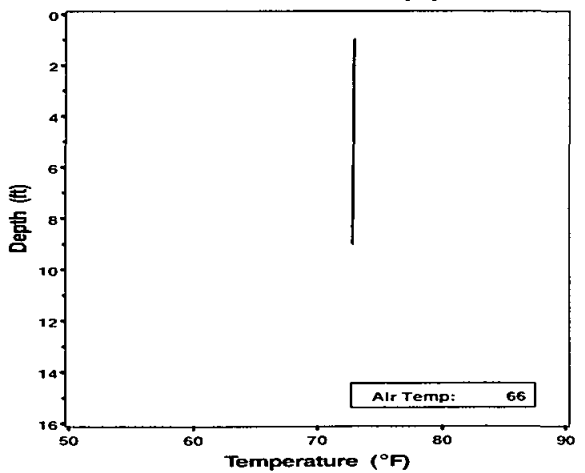


Figure 3. Continued.

## 4 PERSONNEL AND TASK ASSIGNMENTS

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Project Manager	Chris Clark
Field Operations	Brad Benson
Data Manager	Chris Clark
Report Preparation	Chris Clark
QA Review	Sheila Holt
Report Production	Michelle Patzius

## 5 LITERATURE CITED

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- Ford, R.L., R.L. Chambers and J.M. Merino. 1973. Thermal distribution and biological studies for the south San Diego Bay Power Plant. Final Report. Vol. 5A: Biological Measurements. EEL Tech. Rpt. P-25072. 188 pp.
- KLI (Kinnetic Laboratories Inc.) 1986-1991, 1993 South Bay Power Plant Receiving Water Monitoring Program for San Diego Gas and Electric. KLI Technical Reports
- LCMR (Lockheed Center for Marine Research). 1977. South Bay Power Plant receiving water monitoring program. Tech. Rpt. submitted to CRWQCB, San Diego. 66 pp.
- LCMR (Lockheed Center for Marine Research). 1978. South Bay Power Plant receiving water monitoring program. Tech. Rpt. submitted to CRWQCB, San Diego. 58 pp.
- LCMR (Lockheed Center for Marine Research). 1979. South Bay Power Plant receiving water monitoring program. Tech. Rpt. submitted to CRWQCB, San Diego. 56 pp.
- LES (Lockheed Environmental Sciences). 1980. South Bay Power Plant Receiving Water Monitoring Program. Four-year cumulative analysis rept. (1977-1980). SDG&E Contract J-828019.
- LOSL (Lockheed Ocean Science Laboratories). 1981. South Bay Power Plant Receiving Water Monitoring Program. Tech. Rpt. submitted to CRWQCB, San Diego. 62 pp.
- MEC (MEC Analytical Systems, Inc.). 1996. South Bay Power Plant. Annual Receiving Water Monitoring Study. Prepared for San Diego Gas & Electric Company, October 1996.
- WCC (Woodward-Clyde Consultants). 1982. South Bay Power Plant receiving water monitoring program. Submitted to: CRWQCB, San Diego, 53 pp.
- WCC (Woodward-Clyde Consultants). 1983. South Bay Power Plant receiving water monitoring program. Submitted to: CRWQCB, San Diego, 53 pp.



## Appendix A-1. Instrumentation.

Depth	Seaview Fathometer
Station Location	Landmarks, LEICA MX400B DGPS
Water Temperature, Salinity, Dissolved Oxygen	Seabird SBE-25 Sealogger
Transparency	Secchi Disc
Air Temperature	Orion Model 820

## Appendix A-2. Calibration.

### SEABIRD II

#### Pre-Calibration

Date	June 8, 2009
Calibrated by	Kasey Skrivseth
Bath Temperature	23.216°C
Dissolved Oxygen-Winkler	8.400mg/L
Dissolved Oxygen-Sensor	8.316 mg/L
Differential less than 5%?	Yes
pH 7	7.002
pH 8	8.034
pH 9	9.012

#### Post-Calibration

Date	June 23, 2009
Calibrated by	Kasey Skrivseth
Bath Temperature	22.225 °C
Dissolved Oxygen-Winkler	8.500 mg/L
Dissolved Oxygen-Sensor	8.440 mg/L
Differential less than 5%?	Yes
pH 7	6.985
pH 8	8.038
pH 9	9.010



**WESTON**  
SOLUTIONS  
2433 Impala Drive  
Carlsbad, CA 92010

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009  
 Wastestream: Once-through Cooling Water (Intake and Combined Discharge)

Signed   
 Extract Sample Point: CW Inlet and Discharge  
 Collected By: Operations Personnel  
 Analyzed By: Operations Personnel

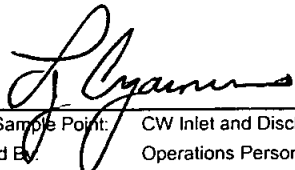
PARAMETER: Temperature (Combined Discharge Deg F Minus Intake Deg F)  
 Units: Degrees Fahrenheit

DATE	DAILY AVERAGE DIFFERENCE	DAILY MAXIMUM DIFFERENCE
01	3.1	8.0
02	6.7	9.3
03	2.1	5.9
04	2.4	4.1
05	2.0	3.7
06	2.1	3.4
07	2.4	3.6
08	2.5	4.3
09	2.0	3.4
10	2.7	4.6
11	2.2	4.2
12	1.9	3.0
13	2.1	3.2
14	1.4	2.1
15	8.1	13.7
16	6.2	10.5
17	2.0	4.1
18	2.7	4.8
19	2.0	3.2
20	1.6	1.8
21	1.9	3.5
22	2.5	3.7
23	2.6	3.9
24	2.2	3.0
25	2.7	4.1
26	3.3	4.0
27	8.4	15.9
28	9.4	12.3
29	7.5	9.7
30	5.0	5.9

DISCHARGE DAYS		
AVERAGE	3.4	5.6
REQUIREMENTS:	15.0	25.0

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009  
 Wastestream: Once-through Cooling Water (Intake and Combined Discharge)

Signed   
 Extract Sample Point: CW Inlet and Discharge (S1)  
 Collected By: Operations Personnel  
 Analyzed By: Operations Personnel

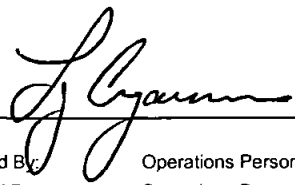
PARAMETER: Temperature (Average of 24 readings)  
 Units: Degrees Fahrenheit

DATE	DAILY AVERAGE INTAKE	DAILY AVERAGE DISCHARGE
01	69.3	72.4
02	71.3	78.0
03	72.5	74.7
04	72.7	75.1
05	73.7	75.6
06	74.1	76.2
07	74.2	76.6
08	74.7	77.1
09	74.9	76.9
10	74.2	76.9
11	74.6	76.9
12	73.6	75.5
13	74.4	76.6
14	74.5	75.9
15	74.9	83.0
16	76.1	82.3
17	76.1	78.0
18	76.3	79.0
19	75.7	77.6
20	73.3	74.9
21	73.7	75.6
22	74.8	77.3
23	75.1	77.6
24	75.2	77.4
25	75.0	77.7
26	75.7	79.0
27	75.7	84.2
28	76.0	85.3
29	75.0	82.4
30	75.0	80.0

DISCHARGE DAYS AVERAGE 74.4 77.9

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009  
 Wastestream: Combined Discharge

Signed   
 Collected By: Operations Personnel  
 Analyzed By: Operations Personnel

PARAMETER: Flow Rate  
 Units: Million Gallons per Day (MGD)

DATE	COMBINED DISCHARGE
01	160.1
02	130.3
03	79.6
04	42.0
05	42.0
06	42.0
07	77.3
08	36.8
09	42.0
10	42.0
11	42.0
12	42.0
13	42.0
14	68.8
15	85.0
16	56.4
17	98.7
18	49.4
19	49.4
20	49.4
21	47.4
22	50.7
23	70.9
24	105.0
25	123.5
26	61.0
27	158.5
28	268.1
29	338.9
30	307.5

DISCHARGE DAYS  
 AVERAGE 93.6

REQUIREMENTS: 601.1

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed   
 Collected By: SDG&E Environmental Lab  
 Analyzed By: SDG&E Environmental Lab

WASTESTREAM NAME: Combined Discharge - Property Line, S2 06/04/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 *	<40	1 TRC sample was analyzed on 06/04/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	4 *	<1	

\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 06/11/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 **	<40	1 TRC sample was analyzed on 06/11/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	4 **	<1	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 06/18/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 **	<40	1 TRC sample was analyzed on 06/18/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	5 **	<1	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 06/25/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	111 **	<40	2 TRC samples were analyzed on 06/25/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	19 **	<7	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 40 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 01/00/00  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	-- **	--	
LB/DAY	GRAB	Instant Maximum	-- **	--	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 00 minutes



DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed \_\_\_\_\_  
 Collected By: SDG&E Environmental Lab  
 Analyzed By: SDG&E Environmental Lab

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 06/04/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 *	<40	1 TRC sample was analyzed on 06/04/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	4 *	<1	

\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 06/11/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 **	<40	1 TRC sample was analyzed on 06/11/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	4 **	<1	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 06/18/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 **	<40	1 TRC sample was analyzed on 06/18/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	5 **	<1	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 06/25/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	111 **	<40	2 TRC samples were analyzed on 06/25/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	19 **	<7	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 40 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 --  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	-- **	--	0
LB/DAY	GRAB	Instant Maximum	-- **	--	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 00 minutes

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed   
 Collected By: SDG&E Environmental Lab  
 Analyzed By: SDG&E Environmental Lab

WASTESTREAM NAME: Cooling Water Inlet 06/04/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 *	<40	1 TRC sample was analyzed on 06/04/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	4 *	<1	

\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Cooling Water Inlet 06/11/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 **	<40	1 TRC sample was analyzed on 06/11/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	4 **	<1	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Cooling Water Inlet 06/18/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	144 **	<40	1 TRC sample was analyzed on 06/18/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	5 **	<1	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 20 minutes

WASTESTREAM NAME: Cooling Water Inlet 06/25/09  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	111 **	<40	2 TRC samples were analyzed on 06/25/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	19 **	<7	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 40 minutes


WASTESTREAM NAME: Cooling Water Inlet --  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	-- **	--	0
LB/DAY	GRAB	Instant Maximum	-- **	--	

\*\*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 00 minutes

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed   
 Collected By: Plant Laboratory Personnel  
 Analyzed By: SDG&E Environmental Lab

WASTESTREAM NAME: Combined Discharge - Property Line, S2  
 PARAMETER NAME: OIL & GREASE, n-hexane extractable material method

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
MG/L	GRAB	--	--	<5.0	
LB/DAY	GRAB	--	--	<1751	

WASTESTREAM NAME: Combined Discharge - Property Line, S2  
 PARAMETER NAME: RESIDUE, non-filterable (TSS)

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
MG/L	GRAB	--	--	10.0	
LB/DAY	GRAB	--	--	3503	

WASTESTREAM NAME: Cooling Water Inlet  
 PARAMETER NAME: RESIDUE, non-filterable (TSS)

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
MG/L	GRAB	--	--	4.2	
LB/DAY	GRAB	--	--	1471	

WASTESTREAM NAME: Combined Discharge - Property Line, S2  
 PARAMETER NAME: pH

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
pH	GRAB	--	6.0 - 9.0	7.91 - 8.11	

WASTESTREAM NAME: Cooling Water Intake  
 PARAMETER NAME: pH

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
pH	GRAB	--	6.0 - 9.0	7.92 - 8.20	

WASTESTREAM NAME: Cooling Water Effluent - Weather Station, S1  
 PARAMETER NAME: pH


UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
pH	GRAB	--	6.0 - 9.0	7.36 - 7.85	

WASTESTREAM NAME: Combined Discharge  
 PARAMETER NAME: CHLORINE, TOTAL RESIDUAL - Hach DPD Method

METHOD	MDL	PQL
mg/l	0.04	0.4

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed   
 Collected By: Plant Laboratory Personnel  
 Analyzed By: SDG&E Environmental Lab

WASTESTREAM NAME: Cooling Water Inlet  
 PARAMETER NAME: COPPER, TOTAL RECOVERABLE - Method 1640

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	COMP 24	--	--	1.39	
LB/DAY	COMP 24	--	--	1.86	

WASTESTREAM NAME: Combined Discharge - Property Line, S2  
 PARAMETER NAME: COPPER, TOTAL RECOVERABLE - Method 1640

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	COMP 24	--	--	1.37	
LB/DAY	COMP 24	--	--	1.83	

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

ADDENDUM 1

Facility Name: South Bay Power Plant  
Order No: R9-2004-0154  
Report Freq: Monthly  
Report For: June, 2009  
Report Due: July, 2009

Signed   
Collected By: SDG&E Environmental Lab  
Analyzed By: SDG&E Environmental Lab

TOTAL RESIDUAL CHLORINE RESULTS

Date: 6/4/2009 Station: Combined Discharge (S2, Property Line)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:50	<40
0:00	0
0:00	0
0:00	0

Date: 6/11/2009 Station: Combined Discharge (S2, Property Line)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:50	<40
0:00	0
0:00	0
0:00	0

Date: 6/18/2009 Station: Combined Discharge (S2, Property Line)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:50	<40
0:00	0
0:00	0
0:00	0

Date: 6/25/2009 Station: Combined Discharge (S2, Property Line)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:50	<40
13:40	<40
0:00	0
0:00	0

Date: 1/0/1900 Station: Combined Discharge (S2, Property Line)

<u>Sample Time</u>	<u>Result (ug/l)</u>
0:00	0
0:00	0
0:00	0
0:00	0

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

ADDENDUM 1

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed   
 Collected By: SDG&E Environmental Lab  
 Analyzed By: SDG&E Environmental Lab

TOTAL RESIDUAL CHLORINE RESULTS

Date: 6/4/2009 Station: Cooling Water Effluent (S1, Weather Station)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:55	<40
0:00	0
0:00	0
0:00	0

Date: 6/11/2009 Station: Cooling Water Effluent (S1, Weather Station)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:55	<40
0:00	0
0:00	0
0:00	0

Date: 6/18/2009 Station: Cooling Water Effluent (S1, Weather Station)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:55	<40
0:00	0
0:00	0
0:00	0

Date: 6/25/2009 Station: Cooling Water Effluent (S1, Weather Station)

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:55	<40
13:45	<40
0:00	0
0:00	0

Date: 1/0/1900 Station: Cooling Water Effluent (S1, Weather Station)

<u>Sample Time</u>	<u>Result (ug/l)</u>
0:00	0
0:00	0
0:00	0
0:00	0

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

ADDENDUM 1

Facility Name: South Bay Power Plant  
Order No: R9-2004-0154  
Report Freq: Monthly  
Report For: June, 2009  
Report Due: July, 2009

Signed   
Collected By: SDG&E Environmental Lab  
Analyzed By: SDG&E Environmental Lab

TOTAL RESIDUAL CHLORINE RESULTS

Date: 6/4/2009 Station: Cooling Water Intake

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:40	<40
0:00	0
0:00	0
0:00	0

Date: 6/11/2009 Station: Cooling Water Intake

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:40	<40
0:00	0
0:00	0
0:00	0

Date: 6/18/2009 Station: Cooling Water Intake

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:40	<40
0:00	0
0:00	0
0:00	0

Date: 6/25/2009 Station: Cooling Water Intake

<u>Sample Time</u>	<u>Result (ug/l)</u>
12:40	<40
13:30	<40
0:00	0
0:00	0

Date: 1/0/1900 Station: Cooling Water Intake

<u>Sample Time</u>	<u>Result (ug/l)</u>
0:00	0
0:00	0
0:00	0
0:00	0

Facility Name: South Bay Power Plant  
 Order No: R9-2004-0154  
 Report Freq: Monthly  
 Report For: June, 2009  
 Report Due: July, 2009

Signed   
 Collected By: SDG&E Environmental Lab  
 Analyzed By: SDG&E Environmental Lab

Receiving Water Metals

	Reporting	Sample Stations											
	Limit	A3	C3	D4	E3	E4	E5	E7	F2	F3	F4	N2	S1
	ug/L												
Silver	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	1.0	2.6	1.5	1.8	1.7	1.5	1.7	1.9	1.9	3.2	2.4	1.9	1.3
Cadmium	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium *6	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.2	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	0.50	2.20	1.35	1.87	1.62	1.80	1.62	1.65	2.51	1.32	2.02	1.74	1.50

ND = Non-detectable



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Page 26

NAME: DUKE ENERGY SOUTH BAY, LLC  
ADDRESS: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

CA0001368  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 91911

MAJOR  
(SUBR09)  
COOLING WATER EFFLUENT  
External Outfall

FACILITY: SOUTH BAY POWER PLANT  
LOCATION: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

FROM

YEAR	MO	DAY	TO	YEAR	MO	DAY
09	06	01		09	06	30

No Discharge

ATTN:TOM LIEBST

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit 00011 IN 0 Allowed Increase	SAMPLE MEASUREMENT	*****	*****		*****	3.4	15.9				
	PERMIT REQUIREMENT	*****	*****		*****	15 DAILY AV	25 DAILY MX	deg F		Continuous	MEASRD
Oxygen, dissolved (DO) 00300 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****		5.9	*****	*****				
	PERMIT REQUIREMENT	*****	*****		Req. Mon. MINIMUM	*****	*****	mg/L		Monthly	MEASRD
Oxygen, dissolved percent saturation 00301 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****		84	*****	*****				
	PERMIT REQUIREMENT	*****	*****		Req. Mon. MINIMUM	*****	*****	%		Monthly	MEASRD
pH 00400 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****		7.91	*****	8.11				
	PERMIT REQUIREMENT	*****	*****		7 MINIMUM	*****	9 MAXIMUM	SU		Monthly	GRAB
Solids, total suspended 00530 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	3503		*****	*****	10.0				
	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	mg/L		Monthly	GRAB
Arsenic, total recoverable 00978 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	1.3		*****	*****	1.0				
	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Silver total recoverable 01079 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	<1.3		*****	*****	<1.0				
	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>CONRAD J. CIGAINERD / PLANT MANAGER</i> TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE		
		619-498-5384	09 07 30	AREA Code	NUMBER	YEAR

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Page 27

NAME: DUKE ENERGY SOUTH BAY, LLC  
ADDRESS: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911  
FACILITY: SOUTH BAY POWER PLANT  
LOCATION: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911  
ATTN:TOM LIEBST

CA0001368  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 91911  
MAJOR (SUBR09)  
COOLING WATER EFFLUENT  
External Outfall

FROM						TO					
YEAR	MO	DAY	YEAR	MO	DAY	YEAR	MO	DAY	YEAR	MO	DAY
09	06	01	09	06	30						

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Zinc, total recoverable	SAMPLE MEASUREMENT	*****	<26.7		*****	*****	<20				
01094 10 Effluent Gross	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Cadmium, total recoverable	SAMPLE MEASUREMENT	*****	<0.3		*****	*****	<0.25				
01113 10 Effluent Gross	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Lead, total recoverable	SAMPLE MEASUREMENT	*****	<6.7		*****	*****	<5.0				
01114 10 Effluent Gross	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Chromium, total recoverable	SAMPLE MEASUREMENT	*****	<0.7		*****	*****	<0.5				
01118 10 Effluent Gross	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Copper, total recoverable	SAMPLE MEASUREMENT	*****	1.83		*****	1.37	1.37				
01119 10 Effluent Gross	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	3.53 MO AVG	4.44 DAILY MX	ug/L		Monthly	COMP24
Oil and grease	SAMPLE MEASUREMENT	*****	<1751		*****	*****	<5.0				
03582 10 Effluent Gross	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	mg/L		Monthly	GRAB
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	93.6	338.9		*****	*****	*****				
50050 10 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	*****	*****	*****			Continuous	MEASRD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER LEONARD J. CIGAINES / PLANT MANAGER TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE		
		619-498-5384	09 07 30	AREA Code	NUMBER	YEAR

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Page 28

NAME: DUKE ENERGY SOUTH BAY, LLC

ADDRESS: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

FACILITY: SOUTH BAY POWER PLANT

LOCATION: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

ATTN:TOM LIEBST

CA0001368  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 91911

MAJOR  
(SUBR09)  
COOLING WATER EFFLUENT  
External Outfall

FROM						TO							
YEAR	MO	DAY		YEAR	MO	DAY	YEAR	MO	DAY		YEAR	MO	DAY
09	06	01		09	06	30							

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Chlorine, total residual 50060 1 0 Effluent Gross	SAMPLE MEASUREMENT	24.5	96.2		*****	*****	0.04				
	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	lb/d	*****	*****	2 MAXIMUM	mg/L		Weekly	GRAB
Mercury, total recoverable 71901 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	<0.3		*****	*****	<0.20				
	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Chromium, hexavalent tot recoverable 78247 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	<13.4		*****	*****	<10				
	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
%Surv Static 96Hr Acute Atherinops Affinis TRB6L 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****		100	100	*****				
	PERMIT REQUIREMENT	*****	*****		70 MINIMUM	90 MO AV MN	*****	% survival		Monthly	COMP24
Static 48Hr Chronic Macrocystis Pyrifera TTK1D 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****		*****	*****	1				
	PERMIT REQUIREMENT	*****	*****		*****	*****	Req. Mon. DAILY MX	tox chronic		Monthly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>EDWARD J. Cipriano</i> / PLANT MANAGER TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE		
		619-498-5384		09	07	30
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>[Signature]</i>		AREA Code	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: DUKE ENERGY SOUTH BAY, LLC

ADDRESS: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

FACILITY: SOUTH BAY POWER PLANT

LOCATION: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

ATTN:TOM LIEBST

CA0001368  
PERMIT NUMBER

INFA  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 91911

MAJOR (SUBR09)  
COOLING WATER INTAKE  
Influent Structure

FROM						TO					
YEAR	MO	DAY	YEAR	MO	DAY	YEAR	MO	DAY	YEAR	MO	DAY
09	06	01	09	06	30						

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	*****	*****		*****	74.4	79.4				
00011 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	deg F		Continuous	MEASRD
Transparency, secchi disc (inches)	SAMPLE MEASUREMENT	*****	98.4		*****	*****	*****				
00077 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	in	*****	*****	*****			Monthly	MEASRD
Oxygen, dissolved (DO)	SAMPLE MEASUREMENT	*****	*****		5.5	*****	*****				
00300 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		Req. Mon. MINIMUM	*****	*****	mg/L		Monthly	MEASRD
Oxygen, dissolved percent saturation	SAMPLE MEASUREMENT	*****	*****		78	*****	*****				
00301 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		Req. Mon. MINIMUM	*****	*****	%		Monthly	MEASRD
pH	SAMPLE MEASUREMENT	*****	*****		7.92	*****	8.20				
00400 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		Req. Mon. MINIMUM	*****	Req. Mon. MAXIMUM	SU		Monthly	GRAB
Salinity	SAMPLE MEASUREMENT	*****	*****		*****	*****	35.3				
00480 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		*****	*****	Req. Mon. DAILY MX	ppt		Monthly	MEASRD
Solids, total suspended	SAMPLE MEASUREMENT	*****	1471		*****	*****	4.2				
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	mg/L		Monthly	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>LEONARD J. CIGAINER / PLANT MANAGER</i> TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE		
		619-498-5384		09	07	30
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>[Signature]</i>		AREA Code	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Page 30

NAME: DUKE ENERGY SOUTH BAY, LLC

ADDRESS: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

FACILITY: SOUTH BAY POWER PLANT

LOCATION: 990 BAY BLVD WEST  
CHULA VISTA, CA 91911

ATTN:TOM LIEBST

CA0001368  
PERMIT NUMBER

INFA  
DISCHARGE NUMBER

DMR Mailing ZIP CODE: 91911

MAJOR  
(SUBR09)  
COOLING WATER INTAKE  
Influent Structure

FROM						TO					
YEAR	MO	DAY		YEAR	MO	DAY		YEAR	MO	DAY	
09	06	01		09	06	30					

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Copper, total recoverable	SAMPLE MEASUREMENT	*****	1.86		*****	*****	1.39				
01119 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	Req. Mon. DAILY MX	lb/d	*****	*****	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Chlorine, total residual	SAMPLE MEASUREMENT	<2.5	<7		*****	<40	<40				
50060 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	lb/d	*****	Req. Mon. MO AVG	Req. Mon. DAILY MX	ug/L		Weekly	GRAB
%Surv Static 96Hr Acute Atherinops Affinis	SAMPLE MEASUREMENT	*****	*****		100	*****	*****				
TRB6L G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		Req. Mon. MINIMUM	*****	*****	% survival		Monthly	COMP24
Static 48Hr Chronic Macrocyctis Pyrifera	SAMPLE MEASUREMENT	*****	*****		*****	*****	1				
TTK1D G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****		*****	*****	Req. Mon. DAILY MX	tox chronic		Monthly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>RONALD J. CISNEROS / PLANT MANAGER</i> TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE		
		619-498-5384		09	07	30
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>[Signature]</i>		AREA Code	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



A Sempra Energy utility®

15 June 2009

Tom Liebst  
Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista, CA 91911  
RE: Dynergy South Bay Monthly - June 2009

Enclosed are the results of analyses for samples received by the laboratory on 06/10/09 11:13.  
If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Authorized Signature

Christopher Q. Dong  
Senior Chemist

Name / Title

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1

Dyegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dyegy South Bay Monthly - June 2009  
Project Manager: Tom Liebst

Reported:  
06/15/09 13:51

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SBOD060909 - PL	0906061-01	Water	06/09/09 13:29	06/10/09 11:13
SBOD060909 - I	0906061-02	Water	06/09/09 13:18	06/10/09 11:13

Dynergy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynergy South Bay Monthly - June 2009  
 Project Manager: Tom Liebst

Reported:  
 06/15/09 13:51

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SBOD060909 - PL (0906061-01) Water</b> <b>Sampled: 06/09/09 13:29</b> <b>Received: 06/10/09 11:13</b>										
HEM	ND	1.4	5.0	mg/l	1	9F11007	06/11/09	06/11/09	EPA 1664A	
<b>Total Suspended Solids</b>	<b>10</b>	0.40	0.40	"	"	9F12006	06/12/09	06/12/09	SM 2540 D	
<b>SBOD060909 - I (0906061-02) Water</b> <b>Sampled: 06/09/09 13:18</b> <b>Received: 06/10/09 11:13</b>										
<b>Total Suspended Solids</b>	<b>4.2</b>	0.40	0.40	mg/l	1	9F12006	06/12/09	06/12/09	SM 2540 D	



Dynegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Monthly - June 2009  
 Project Manager: Tom Liebst

Reported:  
 06/15/09 13:51

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 9F11007 - No Prep. - TO**

**Blank (9F11007-BLK1)**

Prepared & Analyzed: 06/11/09

HEM	ND	1.4	5.0	mg/l							
-----	----	-----	-----	------	--	--	--	--	--	--	--

**LCS (9F11007-BS1)**

Prepared & Analyzed: 06/11/09

HEM	37.6	1.4	5.0	mg/l	40.0		94.0	80-120			
-----	------	-----	-----	------	------	--	------	--------	--	--	--

**Matrix Spike (9F11007-MS1)**

Source: 0906061-01

Prepared & Analyzed: 06/11/09

HEM	40.4	1.4	5.0	mg/l	40.0	ND	101	78-118			
-----	------	-----	-----	------	------	----	-----	--------	--	--	--

**Matrix Spike (9F11007-MS2)**

Source: 0906063-01

Prepared & Analyzed: 06/11/09

HEM	38.6	1.4	5.0	mg/l	40.0	3.70	87.2	78-118			
-----	------	-----	-----	------	------	------	------	--------	--	--	--

**Matrix Spike (9F11007-MS3)**

Source: 0906067-12

Prepared & Analyzed: 06/11/09

HEM	40.5	1.4	5.0	mg/l	40.0	ND	101	78-118			
-----	------	-----	-----	------	------	----	-----	--------	--	--	--

**Reference (9F11007-SRM1)**

Prepared & Analyzed: 06/01/09

HEM	65.0	1.4	5.0	mg/l	65.0		100	70.7-108.2			
-----	------	-----	-----	------	------	--	-----	------------	--	--	--

**Batch 9F12006 - No Prep. -TG**

**Blank (9F12006-BLK1)**

Prepared & Analyzed: 06/12/09

Total Suspended Solids	ND	0.40	0.40	mg/l							
------------------------	----	------	------	------	--	--	--	--	--	--	--

**Duplicate (9F12006-DUP1)**

Source: 0906061-01

Prepared & Analyzed: 06/12/09

Total Suspended Solids	10.3	0.40	0.40	mg/l		10.1		1.96	20		
------------------------	------	------	------	------	--	------	--	------	----	--	--

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Monthly - June 2009  
Project Manager: Tom Liebst

Reported:  
06/15/09 13:51

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

DYNEGY SOUTH BAY, LLC

06/10/09

Lab No. 09-06-061

**Work ID: Dynegy South Bay Monthly - June 2009**

Client Name: Tom Liebst  
 Client Address: 990 Bay Blvd., Chula Vista, CA 91911  
 Client Phone: (619) 498-5295

Client Code: Dynegy South Bay, LLC  
 Project Code: NPDES Monthly

Number of Containers: 4  
 Due Date: 2 weeks

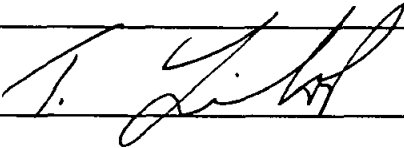
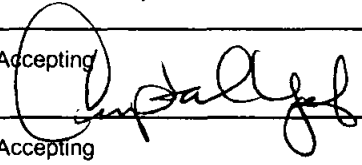
Sampled by (Print): Tom Liebst

Sampled by (Signature): \_\_\_\_\_

Sample ID	Bottle	Sample Point	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
SB0D060909 - PL	01A	S2	6/9/2009	12:42	Water	2 x 1-1L Amber Glass *	4°C, pH<2w/H <sub>2</sub> SO <sub>4</sub>	1664-HEM
SB0D060909 - PL	01B	S2	6/9/2009	13:29	Water	1-Gallon Cubitainer	4°C	Solids, TSS SM 2540D
SB0D060909 - I	02A	Inlet	6/9/2009	13:18	Water	1-Gallon Cubitainer	4°C	Solids, TSS SM 2540D

**'Comments:**

\* 1664-HEM sampled in duplicate.

Releasing		Date	6/10/09	Time	0938	Accepting		Date	6-10-09	Time	9:38
Releasing		Date		Time		Accepting		Date		Time	



A Sempra Energy utility®

08 June 2009

Tom Liebst  
Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista, CA 91911  
RE: Dynergy South Bay Copper June2009 (1)

Enclosed are the results of analyses for samples received by the laboratory on 06/02/09 10:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

  
Authorized Signature

Christopher Q. Dong  
Senior Chemist

\_\_\_\_\_  
Name / Title

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Copper June2009 (1)  
Project Manager: Tom Liebst

Reported:  
06/08/09 13:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Inlet 24-hr Composite	0906008-01	Water	06/02/09 08:45	06/02/09 10:44
S2 (24-hr composite)	0906008-02	Water	06/02/09 08:55	06/02/09 10:44
Field Blank (Grab)	0906008-03	Water	06/02/09 08:45	06/02/09 10:44

#### REPORT COMMENTS

#### 1. SAMPLE ANALYSIS - ANALYST'S INITIALS

EPA 1638 Copper, Total - SCG

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Copper June2009 (1)  
Project Manager: Tom Liebst

Reported:  
06/08/09 13:21

**California ELAP Certified Methods  
San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Inlet 24-hr Composite (0906008-01) Water</b> <b>Sampled: 06/02/09 08:45</b> <b>Received: 06/02/09 10:44</b>										
Copper	1.39	0.0690	0.500	ug/l	1	9F03008	06/03/09	06/05/09	EPA 1638-Total	
<b>S2 (24-hr composite) (0906008-02) Water</b> <b>Sampled: 06/02/09 08:55</b> <b>Received: 06/02/09 10:44</b>										
Copper	1.37	0.0690	0.500	ug/l	1	9F03008	06/03/09	06/05/09	EPA 1638-Total	
<b>Field Blank (Grab) (0906008-03) Water</b> <b>Sampled: 06/02/09 08:45</b> <b>Received: 06/02/09 10:44</b>										
Copper	ND	0.0690	0.500	ug/l	1	9F03008	06/03/09	06/05/09	EPA 1638-Total	

Dynergy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynergy South Bay Copper June2009 (1)  
 Project Manager: Tom Liebst

Reported:  
 06/08/09 13:21

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 9F03008 - EPA 3005A</b>											
<b>Blank (9F03008-BLK1)</b> Prepared: 06/03/09 Analyzed: 06/05/09											
Copper	ND	0.0690	0.500	ug/l							
<b>LCS (9F03008-BS1)</b> Prepared: 06/03/09 Analyzed: 06/05/09											
Copper	178	0.0690	0.500	ug/l	200		88.8	80-120			
<b>Duplicate (9F03008-DUP1)</b> Source: 0905152-02 Prepared: 06/03/09 Analyzed: 06/05/09											
Copper	ND	0.0690	0.500	ug/l		2.07				20	
<b>Duplicate (9F03008-DUP2)</b> Source: 0906008-02 Prepared: 06/03/09 Analyzed: 06/05/09											
Copper	1.46	0.0690	0.500	ug/l		1.37			6.15	20	
<b>Matrix Spike (9F03008-MS1)</b> Source: 0905152-02 Prepared: 06/03/09 Analyzed: 06/05/09											
Copper	89.4	0.0690	0.500	ug/l	200	2.07	43.7	75-125			QM-12
<b>Matrix Spike (9F03008-MS2)</b> Source: 0906008-02 Prepared: 06/03/09 Analyzed: 06/05/09											
Copper	90.0	0.0690	0.500	ug/l	200	1.37	44.3	75-125			QM-12

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Copper June2009 (1)  
Project Manager: Tom Liebst

**Reported:**  
06/08/09 13:21

### Notes and Definitions

QM-12 The MS and/or MSD percent recoveries indicate bias due to the sample matrix. Method criteria were satisfied.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



Lab ID No. 09.06.008

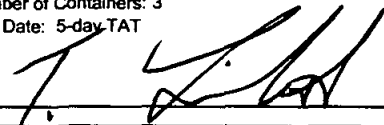
WORK ID: Dynegy South Bay Monthly Copper - June 2009 (1)

Client Code: Dynegy South Bay, LLC  
Project Code: NPDES Monthly

Client Name: Tom Liebst  
Client Address: 990 Bay Blvd, Chula Vista, CA 91911  
Client Phone: (619) 498-5223

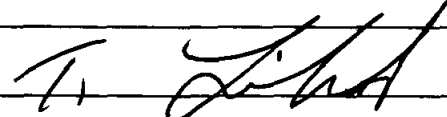
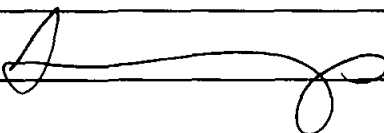
Number of Containers: 3  
Due Date: 5-day TAT

Sampled by (Print): T. LIEBST

Sampled by (Signature): 

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
Inlet	24-hr Composite	1A	6-1-09 6-2-09	0845 0845	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
S2	24-hr Composite	2A	6-2-09	0845	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
Field Blank	Grab	15A	6-2-09	0845	Water	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638

Comments: \* Note: QC requirements = 10% duplicate samples and 10% spiked samples.

Releasing		Date	6/2/09	Time	1030	Accepting	
Releasing		Date		Time		Accepting	6-2-09-1030

SDG&E



A Sempra Energy utility®

17 June 2009

Tom Liebst  
Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista, CA 91911  
RE: Dynergy South Bay Copper - June 2009 (2)

Enclosed are the results of analyses for samples received by the laboratory on 06/10/09 09:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

  
Authorized Signature

Christopher Q. Dong  
Senior Chemist

\_\_\_\_\_  
Name / Title

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1

Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynergy South Bay Copper - June 2009 (2)  
Project Manager: Tom Liebst

Reported:  
06/17/09 13:36

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A3 (grab)	0906035-01	Water	06/09/09 12:03	06/10/09 09:38
C3 (grab)	0906035-02	Water	06/09/09 12:18	06/10/09 09:38
D4 (grab)	0906035-03	Water	06/09/09 13:42	06/10/09 09:38
E3 (grab)	0906035-04	Water	06/09/09 13:24	06/10/09 09:38
E4 (grab)	0906035-05	Water	06/09/09 13:33	06/10/09 09:38
E5 (grab)	0906035-06	Water	06/09/09 12:54	06/10/09 09:38
E7 (grab)	0906035-07	Water	06/09/09 12:42	06/10/09 09:38
F2 (grab)	0906035-08	Water	06/09/09 12:27	06/10/09 09:38
F3 (grab)	0906035-09	Water	06/09/09 13:15	06/10/09 09:38
F4 (grab)	0906035-10	Water	06/09/09 13:10	06/10/09 09:38
N2 (grab)	0906035-11	Water	06/09/09 12:00	06/10/09 09:38
S1 (grab)	0906035-12	Water	06/09/09 13:55	06/10/09 09:38
Field Blank	0906035-13	Water	06/09/09 11:10	06/10/09 09:38

#### REPORT COMMENTS

#### 1. SAMPLE ANALYSIS - ANALYST'S INITIALS

EPA 1638 Copper - SCG

Dynegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Copper - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/17/09 13:36

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A3 (grab) (0906035-01) Water</b> <b>Sampled: 06/09/09 12:03</b> <b>Received: 06/10/09 09:38</b>										
Copper	2.20	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>C3 (grab) (0906035-02) Water</b> <b>Sampled: 06/09/09 12:18</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.35	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>D4 (grab) (0906035-03) Water</b> <b>Sampled: 06/09/09 13:42</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.87	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>E3 (grab) (0906035-04) Water</b> <b>Sampled: 06/09/09 13:24</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.62	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>E4 (grab) (0906035-05) Water</b> <b>Sampled: 06/09/09 13:33</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.80	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>E5 (grab) (0906035-06) Water</b> <b>Sampled: 06/09/09 12:54</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.62	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>E7 (grab) (0906035-07) Water</b> <b>Sampled: 06/09/09 12:42</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.65	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>F2 (grab) (0906035-08) Water</b> <b>Sampled: 06/09/09 12:27</b> <b>Received: 06/10/09 09:38</b>										
Copper	2.51	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>F3 (grab) (0906035-09) Water</b> <b>Sampled: 06/09/09 13:15</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.32	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynergy South Bay Copper - June 2009 (2)  
Project Manager: Tom Liebst

Reported:  
06/17/09 13:36

**California ELAP Certified Methods  
San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>F4 (grab) (0906035-10) Water</b> <b>Sampled: 06/09/09 13:10</b> <b>Received: 06/10/09 09:38</b>										
Copper	2.02	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>N2 (grab) (0906035-11) Water</b> <b>Sampled: 06/09/09 12:00</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.74	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>S1 (grab) (0906035-12) Water</b> <b>Sampled: 06/09/09 13:55</b> <b>Received: 06/10/09 09:38</b>										
Copper	1.50	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	
<b>Field Blank (0906035-13) Water</b> <b>Sampled: 06/09/09 11:10</b> <b>Received: 06/10/09 09:38</b>										
Copper	ND	0.0690	0.500	ug/l	1	9F12005	06/12/09	06/16/09	EPA 1638-Total	

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dyegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dyegy South Bay Copper - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/17/09 13:36

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F12005 - EPA 3005A**

**Blank (9F12005-BLK1)**

Prepared: 06/12/09 Analyzed: 06/16/09

Copper ND 0.0690 0.500 ug/l

**LCS (9F12005-BS1)**

Prepared: 06/12/09 Analyzed: 06/16/09

Copper 181 0.0690 0.500 ug/l 200 90.5 80-120

**Duplicate (9F12005-DUP1)**

Source: 0906035-02

Prepared: 06/12/09 Analyzed: 06/16/09

Copper 1.34 0.0690 0.500 ug/l 1.35 0.746 20

**Duplicate (9F12005-DUP2)**

Source: 0906035-12

Prepared: 06/12/09 Analyzed: 06/16/09

Copper 1.56 0.0690 0.500 ug/l 1.50 3.87 20

**Matrix Spike (9F12005-MS1)**

Source: 0906035-02

Prepared: 06/12/09 Analyzed: 06/16/09

QM-12

Copper 85.6 0.0690 0.500 ug/l 200 1.35 42.1 75-125

**Matrix Spike (9F12005-MS2)**

Source: 0906035-12

Prepared: 06/12/09 Analyzed: 06/16/09

QM-12

Copper 85.5 0.0690 0.500 ug/l 200 1.50 42.0 75-125

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Copper - June 2009 (2)  
Project Manager: Tom Liebst

**Reported:**  
06/17/09 13:36

### Notes and Definitions

QM-12 The MS and/or MSD percent recoveries indicate bias due to the sample matrix. Method criteria were satisfied.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Lab ID No.  
09-de-035

WORK ID: Dynegy South Bay Monthly Copper - June 2009 (2)

Client Code: Dynegy South Bay, LLC  
Project Code: NPDES Monthly

Client Name: Tom Liebst  
Client Address: 990 Bay Blvd, Chula Vista, CA 91911  
Client Phone: (619) 498-5223

Number of Containers: 13 (total)  
Due Date: 5-day TAT

Sampled by (Print):

Sampled by (Signature):

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
A3	Grab	1A	6/9/09	1203	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
C3	Grab	2A		1218	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
D4	Grab	3A		1342	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E3	Grab	4A		1324	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E4	Grab	5A		1333	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E5	Grab	6A		1254	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E7	Grab	7A		1242	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
F2	Grab	8A		1227	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
F3	Grab	9A		1315	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
F4	Grab	10A		1310	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
N2	Grab	11A		1200	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
S1	Grab	12A		1355	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
Field Blank	Grab	13A	✓	1110	Water	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638

Comments: \* Note: QC requirements = 10% duplicate samples and 10% spiked samples.

Releasing	<i>Vasey Skyruse</i>	Date	6/9/09	Time	1420	Accepting	<i>T. Liebst</i>	Date	6/9/09	Time	1420
Releasing	<i>T. Liebst</i>	Date	6/10/09	Time	0938	Accepting	<i>Capital Yof</i>	Date	6-10-09	Time	9:38





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23 June 2009

Tom Liebst  
Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista, CA 91911  
RE: Dynergy South Bay Metals June 2009 (1)

Enclosed are the results of analyses for samples received by the laboratory on 06/02/09 10:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Authorized Signature

Christopher Q. Dong  
Senior Chemist

Name / Title

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San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Metals June 2009 (1)  
Project Manager: Tom Liebst

Reported:  
06/23/09 07:20

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S2 24 - hr Composite	0906009-01	Water	06/02/09 08:55	06/02/09 10:46
S2 (grab)	0906009-02	Water	06/02/09 09:48	06/02/09 10:46
Field Blank (Grab)	0906009-03	Water	06/02/09 09:45	06/02/09 10:46

#### REPORT COMMENTS

1. This replaces the report issued on 16 June 2009. The silver results that was inadvertently reported for the S2 Grab sample has been deleted.

#### 2. SAMPLE ANALYSIS - ANALYST'S INITIALS

EPA 200 Series GFAA Metals - SCG  
EPA 200 Series ICAP Metals - JLC  
EPA 200 Series ICP-MS Metals - SGC  
SM 3500-Cr B, Hexavalent Chromium - JLC

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Metals June 2009 (1)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 07:20

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>S2 24 - hr Composite (0906009-01) Water</b> Sampled: 06/02/09 08:55 Received: 06/02/09 10:46										
Silver	ND	0.017	1.0	ug/l	1	9F08002	06/08/09	06/09/09	EPA 200.8	
Arsenic	0.97	0.51	1.0	"	"	"	"	"	"	J
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F04001	06/04/09	06/10/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F08002	06/08/09	06/09/09	EPA 200.7	
<b>S2 (grab) (0906009-02) Water</b> Sampled: 06/02/09 09:48 Received: 06/02/09 10:46										
Chromium	ND	0.43	0.50	ug/l	1	9F08002	06/08/09	06/09/09	EPA 200.8	
Hexavalent Chromium	ND	10	10	"	"	9F03002	06/02/09	06/03/09	SM 3500-Cr B	
<b>Field Blank (Grab) (0906009-03) Water</b> Sampled: 06/02/09 09:45 Received: 06/02/09 10:46										
Silver	ND	0.017	1.0	ug/l	1	9F08002	06/08/09	06/09/09	EPA 200.8	
Arsenic	ND	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	"	"	
Hexavalent Chromium	ND	10	10	"	"	9F03002	06/02/09	06/03/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F04001	06/04/09	06/10/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F08002	06/08/09	06/09/09	EPA 200.7	

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Metals June 2009 (1)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 07:20

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F03002 - EPA 3005A**

**Blank (9F03002-BLK1)**

Prepared: 06/02/09 Analyzed: 06/03/09

Hexavalent Chromium ND 10 10 ug/l

**LCS (9F03002-BS1)**

Prepared: 06/02/09 Analyzed: 06/03/09

Hexavalent Chromium 1060 10 10 ug/l 1000 106 90-110

**Duplicate (9F03002-DUP1)**

Source: 0906009-02

Prepared: 06/02/09 Analyzed: 06/03/09

Hexavalent Chromium ND 10 10 ug/l ND 200

**Matrix Spike (9F03002-MS1)**

Source: 0906009-02

Prepared: 06/02/09 Analyzed: 06/03/09

Hexavalent Chromium 1070 10 10 ug/l 1000 ND 107 75-125

**Batch 9F04001 - EPA 3005A**

**Blank (9F04001-BLK1)**

Prepared: 06/04/09 Analyzed: 06/10/09

Lead ND 2.5 2.5 ug/l

**LCS (9F04001-BS1)**

Prepared: 06/04/09 Analyzed: 06/10/09

Lead 1090 2.5 2.5 ug/l 1000 109 80-120

**Duplicate (9F04001-DUP1)**

Source: 0905151-02

Prepared: 06/04/09 Analyzed: 06/10/09

Lead ND 2.5 2.5 ug/l ND 200

**Duplicate (9F04001-DUP2)**

Source: 0905151-08

Prepared: 06/04/09 Analyzed: 06/10/09

Lead ND 2.5 2.5 ug/l ND 200

**Matrix Spike (9F04001-MS1)**

Source: 0905151-02

Prepared: 06/04/09 Analyzed: 06/10/09

Lead 1160 2.5 2.5 ug/l 1000 ND 116 75-125

**Matrix Spike (9F04001-MS2)**

Source: 0905151-08

Prepared: 06/04/09 Analyzed: 06/10/09

Lead 1080 2.5 2.5 ug/l 1000 ND 108 75-125

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Metals June 2009 (1)  
Project Manager: Tom Liebst

Reported:  
06/23/09 07:20

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F04001 - EPA 3005A**

**Matrix Spike (9F04001-MS2)** Source: 0905151-08 Prepared: 06/04/09 Analyzed: 06/10/09

**Batch 9F08001 - EPA 7470A**

**Blank (9F08001-BLK1)** Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l

**LCS (9F08001-BS1)** Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 4.72 0.20 0.20 ug/l 5.00 94.4 85-115

**Duplicate (9F08001-DUP1)** Source: 0906009-01 Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l ND 200

**Duplicate (9F08001-DUP2)** Source: 0906034-03 Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l ND 200

**Duplicate (9F08001-DUP3)** Source: 0906034-09 Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l ND 200

**Matrix Spike (9F08001-MS1)** Source: 0906009-01 Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 3.60 0.20 0.20 ug/l 5.00 ND 72.0 70-130

**Matrix Spike (9F08001-MS2)** Source: 0906034-03 Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 4.58 0.20 0.20 ug/l 5.00 ND 91.7 70-130

**Matrix Spike (9F08001-MS3)** Source: 0906034-09 Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 4.70 0.20 0.20 ug/l 5.00 ND 94.0 70-130

**Batch 9F08002 - EPA 3005A**

**Blank (9F08002-BLK1)** Prepared: 06/08/09 Analyzed: 06/09/09

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Metals June 2009 (1)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 07:20

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F08002 - EPA 3005A**

**Blank (9F08002-BLK1)**

Prepared: 06/08/09 Analyzed: 06/09/09

Cadmium	ND	0.14	0.25	ug/l							
Zinc	ND	20	20	"							
Chromium	ND	0.43	0.50	"							
Silver	ND	0.017	1.0	"							
Arsenic	ND	0.51	1.0	"							

**LCS (9F08002-BS1)**

Prepared: 06/08/09 Analyzed: 06/09/09

Cadmium	1000	0.14	0.25	ug/l	1000		99.8	85-115			
Silver	486	0.017	1.0	"	500		97.2	85-115			
Zinc	971	20	20	"	1000		97.1	80-120			
Chromium	976	0.43	0.50	"	1000		97.6	85-115			
Arsenic	1100	0.51	1.0	"	1000		108	85-115			

**Duplicate (9F08002-DUP1)**

Source: 0906009-01

Prepared: 06/08/09 Analyzed: 06/09/09

Zinc	ND	20	20	ug/l	ND						200
Silver	ND	0.017	1.0	"	ND						200
Chromium	ND	0.43	0.50	"	ND						200
Cadmium	ND	0.14	0.25	"	ND						200
Arsenic	1.8	0.51	1.0	"	0.97				59.1		200

**Matrix Spike (9F08002-MS1)**

Source: 0906009-01

Prepared: 06/08/09 Analyzed: 06/09/09

Zinc	1010	20	20	ug/l	1000	ND	101	75-125			
Cadmium	680	0.14	0.25	"	1000	ND	68.4	70-130			
Arsenic	920	0.51	1.0	"	1000	0.97	92.1	70-130			
Silver	310	0.017	1.0	"	500	ND	61.9	70-130			
Chromium	786	0.43	0.50	"	1000	ND	78.6	70-130			

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Metals June 2009 (1)  
Project Manager: Tom Liebst

Reported:  
06/23/09 07:20

### Notes and Definitions

QM-12 The MS and/or MSD percent recoveries indicate bias due to the sample matrix. Method criteria were satisfied.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Lab ID No. 09.06.009

WORK ID: Dynegy South Bay Monthly Metals - June 2009 (1) -

Client Code: Dynegy South Bay, LLC  
Project Code: NPDES Monthly

Client Name: Tom Liebst  
Client Address: 990 Bay Blvd, Chula Vista, CA 91911  
Client Phone: (619) 498-5223

Number of Containers: 6  
Due Date: 10-day TAT

Sampled by (Print): T. LIEBST

Sampled by (Signature): [Signature]

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
S2	24-hr Composite	1A	6-1-6/2/09	0855	Seawater	500 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
S2	Grab	2A	6/2/09	0948	Seawater	125 mL HDPE	4C, pH<2 w/HNO3	Cr Total GFAA 3113 B
S2	Grab	2B	6/2/09	0948	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
Field Blank	Grab	3A	6/2/09	0945	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
Field Blank	Grab	3B	6/2/09	0945	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B

Comments: \* Note: QC requirements = 10% duplicate samples and 10% spiked samples.  
SBPP Receiving Water Metals = ICPMS Cd, GFAA Pb, Cr, Ag; HG/AAS As; CVAA Hg; ICP Zn

Releasing: [Signature] Date 6/2/09 Time 1030  
Accepting: [Signature] Date 6.2.09 Time 1030

0000000000000000





A Sempra Energy utility®

23 June 2009

Tom Liebst  
Dynergy South Bay, LLC  
990 Bay Boulevard  
Chula Vista, CA 91911  
RE: Dynergy South Bay Metals - June 2009 (2)

Enclosed are the results of analyses for samples received by the laboratory on 06/10/09 09:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

  
Authorized Signature

Christopher Q. Dong  
Senior Chemist

\_\_\_\_\_  
Name / Title

San Diego Gas & Electric  
ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Metals - June 2009 (2)  
Project Manager: Tom Liebst

Reported:  
06/23/09 08:24

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A3 (grab)	0906034-01	Water	06/09/09 12:03	06/10/09 09:38
C3 (grab)	0906034-02	Water	06/09/09 12:18	06/10/09 09:38
D4 (grab)	0906034-03	Water	06/09/09 13:42	06/10/09 09:38
E3 (grab)	0906034-04	Water	06/09/09 13:24	06/10/09 09:38
E4 (grab)	0906034-05	Water	06/09/09 13:33	06/10/09 09:38
E5 (grab)	0906034-06	Water	06/09/09 12:54	06/10/09 09:38
E7 (grab)	0906034-07	Water	06/09/09 12:42	06/10/09 09:38
F2 (grab)	0906034-08	Water	06/09/09 12:27	06/10/09 09:38
F3 (grab)	0906034-09	Water	06/09/09 13:15	06/10/09 09:38
F4 (grab)	0906034-10	Water	06/09/09 13:10	06/10/09 09:38
N2 (grab)	0906034-11	Water	06/09/09 12:00	06/10/09 09:38
S1 (grab)	0906034-12	Water	06/09/09 13:55	06/10/09 09:38
Field Blank	0906034-13	Water	06/09/09 11:10	06/10/09 09:38

#### REPORT COMMENTS

#### 1. SAMPLE ANALYSIS - ANALYST'S INITIALS

EPA 200 Series GFAA Metals - SCG  
EPA 200 Series ICAP Metals - JLC  
EPA 200 Series ICP-MS Metals - SCG  
SM 3500-Cr B, Hexavalent Chromium - JLC

San Diego Gas & Electric  
ELAP Certificate No. 1289

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Dynergy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynergy South Bay Metals - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 08:24

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A3 (grab) (0906034-01) Water</b> <b>Sampled: 06/09/09 12:03</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	2.6	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	0.28	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/17/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>C3 (grab) (0906034-02) Water</b> <b>Sampled: 06/09/09 12:18</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.5	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/17/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>D4 (grab) (0906034-03) Water</b> <b>Sampled: 06/09/09 13:42</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.8	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/17/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	

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 Chula Vista CA, 91911

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 Project Number: Dynegy South Bay Metals - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 08:24

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>E3 (grab) (0906034-04) Water</b> <b>Sampled: 06/09/09 13:24</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.7	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/17/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>E4 (grab) (0906034-05) Water</b> <b>Sampled: 06/09/09 13:33</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.5	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/17/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>E5 (grab) (0906034-06) Water</b> <b>Sampled: 06/09/09 12:54</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.7	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	

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 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Metals - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 08:24

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>E7 (grab) (0906034-07) Water</b> Sampled: 06/09/09 12:42 Received: 06/10/09 09:38										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.9	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>F2 (grab) (0906034-08) Water</b> Sampled: 06/09/09 12:27 Received: 06/10/09 09:38										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.9	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>F3 (grab) (0906034-09) Water</b> Sampled: 06/09/09 13:15 Received: 06/10/09 09:38										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	3.2	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	

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 990 Bay Boulevard  
 Chula Vista CA, 91911

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 Project Manager: Tom Liebst

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 06/23/09 08:24

**California ELAP Certified Methods  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>F4 (grab) (0906034-10) Water</b> <b>Sampled: 06/09/09 13:10</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	2.4	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>N2 (grab) (0906034-11) Water</b> <b>Sampled: 06/09/09 12:00</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.9	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	
<b>S1 (grab) (0906034-12) Water</b> <b>Sampled: 06/09/09 13:55</b> <b>Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	1.3	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/18/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	

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990 Bay Boulevard  
Chula Vista CA, 91911

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Project Manager: Tom Liebst

Reported:  
06/23/09 08:24

**California ELAP Certified Methods  
San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Field Blank (0906034-13) Water    Sampled: 06/09/09 11:10    Received: 06/10/09 09:38</b>										
Silver	ND	0.017	1.0	ug/l	1	9F15004	06/15/09	06/22/09	EPA 200.8	
Arsenic	ND	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	06/18/09	"	
Hexavalent Chromium	ND	3.4	10	"	"	9F11008	06/10/09	06/10/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9F08001	06/11/09	06/12/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9F15002	06/15/09	06/17/09	SM 3113 B	
Zinc	ND	20	20	"	"	9F15004	06/15/09	06/16/09	EPA 200.7	

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 06/23/09 08:24

**California ELAP Certified Methods - Quality Control  
 San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F08001 - EPA 7470A**

**Blank (9F08001-BLK1)**

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l

**LCS (9F08001-BS1)**

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 4.72 0.20 0.20 ug/l 5.00 94.4 85-115

**Duplicate (9F08001-DUP1)**

Source: 0906009-01

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l ND 200

**Duplicate (9F08001-DUP2)**

Source: 0906034-03

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l ND 200

**Duplicate (9F08001-DUP3)**

Source: 0906034-09

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury ND 0.20 0.20 ug/l ND 200

**Matrix Spike (9F08001-MS1)**

Source: 0906009-01

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 3.60 0.20 0.20 ug/l 5.00 ND 72.0 70-130

**Matrix Spike (9F08001-MS2)**

Source: 0906034-03

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 4.58 0.20 0.20 ug/l 5.00 ND 91.7 70-130

**Matrix Spike (9F08001-MS3)**

Source: 0906034-09

Prepared: 06/11/09 Analyzed: 06/12/09

Mercury 4.70 0.20 0.20 ug/l 5.00 ND 94.0 70-130

**Batch 9F11008 - No Prep.-Metals**

**Blank (9F11008-BLK1)**

Prepared & Analyzed: 06/10/09

Hexavalent Chromium ND 3.4 10 ug/l

**LCS (9F11008-BS1)**

Prepared & Analyzed: 06/10/09

Hexavalent Chromium 1070000 3.4 10 ug/l 1000000 107 90-110

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Reported:  
 06/23/09 08:24

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F11008 - No Prep.-Metals**

**LCS (9F11008-BS1)** Prepared & Analyzed: 06/10/09

**Duplicate (9F11008-DUP1)** Source: 0906034-02 Prepared & Analyzed: 06/10/09

Hexavalent Chromium	ND	3.4	10	ug/l		ND				200	
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**Duplicate (9F11008-DUP2)** Source: 0906034-11 Prepared & Analyzed: 06/10/09

Hexavalent Chromium	ND	3.4	10	ug/l		ND				200	
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**Matrix Spike (9F11008-MS1)** Source: 0906034-02 Prepared & Analyzed: 06/10/09

Hexavalent Chromium	1080000	3.4	10	ug/l	1000000	ND	108	75-125			
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**Matrix Spike (9F11008-MS2)** Source: 0906034-11 Prepared & Analyzed: 06/10/09

Hexavalent Chromium	1070000	3.4	10	ug/l	1000000	ND	107	75-125			
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**Batch 9F15002 - EPA 3015A**

**Blank (9F15002-BLK1)** Prepared: 06/15/09 Analyzed: 06/17/09

Lead	ND	5.0	5.0	ug/l							
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**LCS (9F15002-BS1)** Prepared: 06/15/09 Analyzed: 06/17/09

Lead	1070	5.0	5.0	ug/l	1000		107	80-120			
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**Duplicate (9F15002-DUP1)** Source: 0906034-03 Prepared: 06/15/09 Analyzed: 06/17/09

Lead	ND	5.0	5.0	ug/l		ND				200	
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**Duplicate (9F15002-DUP2)** Source: 0906034-09 Prepared: 06/15/09 Analyzed: 06/18/09

Lead	ND	5.0	5.0	ug/l		ND				200	
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**Matrix Spike (9F15002-MS1)** Source: 0906034-03 Prepared: 06/15/09 Analyzed: 06/17/09

Lead	960	5.0	5.0	ug/l	1000	ND	96.0	75-125			
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 Project Number: Dynegy South Bay Metals - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 08:24

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9F15002 - EPA 3015A**

**Matrix Spike (9F15002-MS2)** Source: 0906034-09 Prepared: 06/15/09 Analyzed: 06/18/09

Lead	948	5.0	5.0	ug/l	1000	ND	94.8	75-125			
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**Batch 9F15004 - EPA 3010A**

**Blank (9F15004-BLK1)** Prepared: 06/15/09 Analyzed: 06/22/09

Silver	ND	0.017	1.0	ug/l							
Chromium	ND	0.43	0.50	"							
Zinc	ND	20	20	"							
Cadmium	ND	0.14	0.25	"							
Arsenic	ND	0.51	1.0	"							

**LCS (9F15004-BS1)**

Prepared: 06/15/09 Analyzed: 06/22/09

Silver	538	0.017	1.0	ug/l	500		108	85-115			
Cadmium	1100	0.14	0.25	"	1000		114	85-115			
Chromium	1100	0.43	0.50	"	1000		110	85-115			
Zinc	982	20	20	"	1000		98.2	80-120			
Arsenic	1100	0.51	1.0	"	1000		108	85-115			

**Duplicate (9F15004-DUP1)**

Source: 0906034-03 Prepared: 06/15/09 Analyzed: 06/18/09

Chromium	ND	0.43	0.50	ug/l		ND				200	
Arsenic	1.9	0.51	1.0	"		1.8			5.61	200	
Zinc	ND	20	20	"		ND				200	
Cadmium	ND	0.14	0.25	"		ND				200	
Silver	ND	0.017	1.0	"		ND				200	

**Duplicate (9F15004-DUP2)**

Source: 0906034-09 Prepared: 06/15/09 Analyzed: 06/16/09

Zinc	ND	20	20	ug/l		ND				200	
Chromium	ND	0.43	0.50	"		ND				200	
Silver	ND	0.017	1.0	"		ND				200	
Arsenic	3.0	0.51	1.0	"		3.2			6.32	200	
Cadmium	ND	0.14	0.25	"		ND				200	

**Matrix Spike (9F15004-MS1)**

Source: 0906034-03 Prepared: 06/15/09 Analyzed: 06/18/09

Chromium	958	0.43	0.50	ug/l	1000	ND	95.8	70-130			
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San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
 990 Bay Boulevard  
 Chula Vista CA, 91911

Project: NPDES Monthly  
 Project Number: Dynegy South Bay Metals - June 2009 (2)  
 Project Manager: Tom Liebst

Reported:  
 06/23/09 08:24

**California ELAP Certified Methods - Quality Control**  
**San Diego Gas & Electric**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 9F15004 - EPA 3010A**

**Matrix Spike (9F15004-MS1) Source: 0906034-03 Prepared: 06/15/09 Analyzed: 06/16/09**

Zinc	1040	20	20	ug/l	1000	ND	104	75-125			
Arsenic	1100	0.51	1.0	"	1000	1.8	113	70-130			
Cadmium	870	0.14	0.25	"	1000	ND	87.4	70-130			
Silver	424	0.017	1.0	"	500	ND	84.7	75-130			

**Matrix Spike (9F15004-MS2) Source: 0906034-09 Prepared: 06/15/09 Analyzed: 06/16/09**

Zinc	1140	20	20	ug/l	1000	ND	114	75-125			
Silver	441	0.017	1.0	"	500	ND	88.1	75-130			
Cadmium	910	0.14	0.25	"	1000	ND	91.1	70-130			
Chromium	928	0.43	0.50	"	1000	ND	92.8	70-130			
Arsenic	1200	0.51	1.0	"	1000	3.2	115	70-130			

San Diego Gas & Electric  
 ELAP Certificate No. 1289

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dynegy South Bay, LLC  
990 Bay Boulevard  
Chula Vista CA, 91911

Project: NPDES Monthly  
Project Number: Dynegy South Bay Metals - June 2009 (2)  
Project Manager: Tom Liebst

Reported:  
06/23/09 08:24

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab ID No. 09-06-034

WORK ID: Dynegy South Bay Monthly Metals - June 2009 (2)

Client Code: Dynegy South Bay, LLC  
Project Code: NPDES Monthly

Client Name: Tom Liebst  
Client Address: 990 Bay Blvd, Chula Vista, CA 91911  
Client Phone: (619) 498-5223

Number of Containers: 26 (total)  
Due Date: 10-day TAT

Sampled by (Print):

Sampled by (Signature):

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
A3	Grab	1A	6/9/09	1203	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
A3	Grab	1B		1203	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
C3	Grab	2A		1218	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
C3	Grab	2B		1218	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
D4	Grab	3A		1342	Seawater	500 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
D4	Grab	3B		1342	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
E3	Grab	4A		1324	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
E3	Grab	4B		1324	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
E4	Grab	5A		1333	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
E4	Grab	5B		1333	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
E5	Grab	6A		1254	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
E5	Grab	6B	✓	1254	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B

Comments: \* Note: QC requirements = 10% duplicate samples and 10% spiked samples.  
SBPP Receiving Water Metals = ICPMS Cd; GFAA Pb, Cr, Ag; HG/AAS As; CVAA Hg; ICP Zn

Releasing	<i>Vasey Skinnsett</i>	Date	6/9/09	Time	1420	Accepting	<i>T. Liebst</i>	6/9/09	1420
Releasing	<i>T. Liebst</i>	Date	6/10/09	Time	0938	Accepting	<i>Capital Jelf</i>	6-10-09	@ 9:38

SDG&E

Lab ID No.  
09-06-034

WORK ID: Dynegy South Bay Monthly Metals - June 2009 (2)

Client Code: Dynegy South Bay, LLC  
Project Code: NPDES Monthly

Client Name: Tom Liebst  
Client Address: 990 Bay Blvd, Chula Vista, CA 91911  
Client Phone: (619) 498-5223

Number of Containers: 26 (total)  
Due Date: 10-day TAT

Sampled by (Print):

Sampled by (Signature):

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
E7	Grab	7A	6/9/09	1242	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
E7	Grab	7B		1242	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
F2	Grab	8A		1227	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
F2	Grab	8B		1227	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
F3	Grab	9A		1315	Seawater	500 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
F3	Grab	9B		1315	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
F4	Grab	10A		1310	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
F4	Grab	10B		1310	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
N2	Grab	11A		1200	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
N2	Grab	11B		1200	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
S1	Grab	12A		1355	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
S1	Grab	12B		1355	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
Field Blank	Grab	13A		1110	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Ag Total GFAA 3113 B; As Total HG/AAS; Cd Total ICP-MS 200.8; Cr Total GFAA 3113 B; Hg Total CVAA 245.1; Pb Total GFAA 3113 B; Zn Total ICP 200.7
Field Blank	Grab	13B	✓	1110	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B

Comments: \* Note: QC requirements = 10% duplicate samples and 10% spiked samples.

SBPP Receiving Water Metals = ICPMS Cd; GFAA Pb, Cr, Ag; HG/AAS As; CVAA Hg; ICP Zn

Releasing	<i>Kasey Skrivseth</i>	Date	6/9/09	Time	1420	Accepting	<i>T. Liebst</i>	Date	6/9/09	Time	1420
Releasing	<i>T. Liebst</i>	Date	6/10/09	Time	0938	Accepting	<i>Chris [unclear]</i>	Date	6/10/09	Time	9:38



WESTON SOLUTIONS, INC.  
 2433 Impala Drive  
 Carlsbad, CA 92010  
 (760) 795-6900 / (760) 931-1580 FAX  
 www.westonsolutions.com

July 17, 2009

Dynegy South Bay LLC  
 990 Bay Boulevard  
 Chula Vista, CA 91911  
 Attn: Tom Liebst

RE: Toxicity Testing Results - Test Substances So. Bay Inlet and So. Bay Property Line (S2)

Dear Mr. Liebst:

Attached please find the reports for the Kelp chronic and the *Mysidopsis bahia* acute tests performed on test substances So. Bay Inlet and So. Bay Property Line (S2). Samples were received on June 10, 2009 and were processed between June 10<sup>th</sup> and 14<sup>th</sup>. The results for these tests are listed in the tables below.

<i>Chronic Toxicity Tests</i>					
Test	Sample ID	NOEC (%)	LOEC (%)	EC <sub>50</sub> (%)	TUc
<i>Macrocystis pyrifera</i> (Giant Kelp)	So. Bay Inlet (Germination / Growth)	100/100	>100/>100	>100/>100	1 / 1
	So. Bay Property Line (S2) (Germination / Growth)	100/100	>100/>100	>100/>100	1 / 1

<i>Acute Toxicity Tests</i>			
Test	Sample ID	% Control Survival	% Sample Survival (Relative to Control)
<i>Mysidopsis bahia</i>	So. Bay Inlet	100	100
	So. Bay Property Line (S2)		100

All testing was performed consistent with our laboratory's quality assurance program. All results are to be considered in their entirety, and Weston Solutions is not responsible for use of less than the complete report. Results apply only to the samples tested.

If you have any questions regarding the attached report, or require additional testing, please call me at (760) 795-6959 or email at amy.margolis@westonsolutions.com. Thank you for using the aquatic testing services of Weston Solutions, Inc.

Sincerely,

Amy Margolis  
 Laboratory Manager

Attachments: 2 reports, copies of bench sheets, Toxcalc analyses and data, 2 reference toxicant data and statistical analyses, updated control charts for each report, Chain of Custody, and internal sample receipt forms

Weston Solutions, Inc.

Analytical Report

Client: Dynege South Bay LLC  
 Project: SBPP Toxicity Samples – June  
 Sample Matrix: Liquid  
 Sample Name/ID: So. Bay Inlet  
 So. Bay Property Line (S2)

Date Received: 10 June 09  
 Date Test Started: 10 June 09  
 Date Test Ended: 12 June 09  
 Test ID No.: C090610.0347  
 C090610.0447

Giant Kelp Germination and Growth Bioassay  
 Weston Testing Protocol BIO047  
 EPA/600/R-95/136

Test Organism: *Macrocystis pyrifera*

Concentrations Tested: Control, 6.25, 12.5, 25, 50 and 100%.

Summary of Results – Germination

	NOEC	LOEC	EC <sub>50</sub>	TU <sub>c</sub>
Inlet	100%	>100%	>100%	1
Property Line (S2)	100%	>100%	>100%	1
Ref Tox	<5.6 ppb	5.6 ppb	113.9 ppb	N/A

Summary of Results – Growth

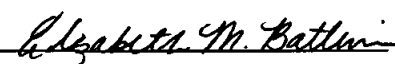
	NOEC	LOEC	EC <sub>50</sub>	TU <sub>c</sub>
Inlet	100%	>100%	>100%	1
Property Line (S2)	100%	>100%	>100%	1
Ref Tox	<5.6 ppb	5.6 ppb	153.3 ppb	N/A

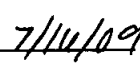
Chronic Toxicity Statement – Germination:

Test substance So. Bay Inlet produced no effect on the germination of kelp at 48 hours. The NOEC was 100 percent and the EC<sub>50</sub> was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TU<sub>c</sub>), was calculated to be 1. Test substance So. Bay Property Line (S2) produced no effect on the germination of kelp at 48 hours. The NOEC was 100 percent and the EC<sub>50</sub> was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TU<sub>c</sub>), was calculated to be 1.

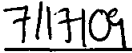
Chronic Toxicity Statement – Growth:

Test substance So. Bay Inlet produced no effect on the growth of kelp at 48 hours. The NOEC was 100 percent and the EC<sub>50</sub> was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TU<sub>c</sub>), was calculated to be 1. Test substance So. Bay Property Line (S2) produced no effect on the growth of kelp at 48 hours. The NOEC was 100 percent and the EC<sub>50</sub> was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TU<sub>c</sub>), was calculated to be 1.

  
 QA Unit

 7/14/09  
 Date

  
 Approved

 7/17/09  
 Date



**Weston Solutions, Inc.**

Analytical Report

**Client:** Dynegey South Bay LLC  
**Project:** SBPP Toxicity Samples – June  
**Sample Matrix:** Liquid  
**Sample Name/ID:** So. Bay Inlet  
 So. Bay Property Line (S2)

**Date Received:** 10 June 09  
**Date Test Started:** 10 June 09  
**Date Test Ended:** 12 June 09  
**Test ID No.:** C090610.0347  
 C090610.0447

**Giant Kelp Germination and Growth Bioassay**

Weston Testing Protocol BIO047

EPA/600/R-95/136

Test Organism: *Macrocystis pyrifera*

**Test Solution Physical and Chemical Data**

Inlet Conc. (%)	D.O. (mg/L)*		Temperature (°C)*			Salinity (ppt)*		pH*	
	Start	End	Start	24 Hr	End	Start	End	Start	End
Control (0)	7.6	8.1	15.6	14.7	14.1	33.6	33.5	8.0	8.0
6.25	7.6	7.8	15.3	14.2	14.0	33.7	33.7	8.0	8.0
12.5	7.5	7.8	15.4	14.2	14.0	33.8	33.7	8.0	8.0
25	7.6	7.9	15.3	14.2	14.1	34.1	34.0	8.0	8.0
50	7.7	7.9	15.3	14.1	13.9	34.5	34.6	8.0	8.0
100	7.6	7.9	15.2	14.1	14.0	35.3	36.0	8.0	8.0

Property Line (S2) Conc. (%)	D.O. (mg/L)*		Temperature (°C)*			Salinity (ppt)*		pH*	
	Start	End	Start	24 Hr	End	Start	End	Start	End
Control (0)	7.6	8.1	15.6	14.7	14.1	33.6	33.5	8.0	8.0
6.25	7.6	7.8	14.9	14.3	13.9	33.8	33.7	8.0	8.0
12.5	7.5	7.8	15.1	14.3	13.9	33.9	33.7	8.0	8.0
25	7.7	8.0	15.0	14.3	14.0	34.1	33.9	8.0	8.0
50	7.6	7.8	15.1	14.2	13.8	34.4	34.3	8.0	8.0
100	7.6	7.8	15.0	14.2	13.9	35.2	35.1	8.0	8.0

\*Water quality measured on surrogate chambers.

**Protocol Deviations:** none

Weston Solutions, Inc.

Analytical Report

**Client:** Dynegy South Bay LLC  
**Project:** SBPP Toxicity Samples – June  
**Sample Matrix:** Liquid  
**Sample Name/ID:** So. Bay Inlet  
So. Bay Property Line (S2)  
**Date Received:** 10 June 09  
**Date Test Started:** 10 June 09  
**Date Test Ended:** 12 June 09  
**Test ID No.:** C090610.0347  
C090610.0447

**APPENDIX**

Pertinent Test Data

**TEST:** Giant Kelp Germination and Growth Bioassay, Weston Testing Protocol BIO047, EPA/600/R-95/136.

**DILUTION WATER:** Control water (zero time), Scripps Institution of Oceanography, La Jolla, CA.  
Salinity 33.6 ppt  
pH 8.0  
Dissolved Oxygen 7.6 mg/L  
Temperature 15.6 °C

**TEST ORGANISM:** Giant kelp, *Macrocystis pyrifera*, from Dave Gutoff, San Diego, CA.

**TEST CHAMBER:** 60-mL sterile, disposable petri dish. Five replicates. A Control and concentrations of 6.25, 12.5, 25, 50, 100 percent for samples So. Bay Inlet and So. Bay. Property Line (S2). Test substance volume per replicate = 40 mL.

**EXPERIMENTAL DESIGN:**

1. Twenty-four hour composite samples from South Bay Inlet and South Bay Property Line (S2) were collected ending at 0840 and 0850 hours, respectively, on June 10, 2009. South Bay Power Plant personnel delivered samples to Weston Solutions at 1017 hours the same day with temperatures upon arrival of 15.6 and 14.9°C, respectively. Proper Chain of Custody procedures were followed.
2. Temperatures of the effluent were adjusted to 15±1°C, and the initial dissolved oxygen levels were greater than 4.0 mg/L.
3. 7,500 spores per mL were placed into each chamber.
4. Test chambers were held at 15±1°C for 48 hours with a photoperiod of 16 hours light: 8 hours darkness.
5. Chambers were randomly placed according to a computer generated chart.

**ACCEPTABILITY CRITERIA:** ≥ 70% germination and ≥ 10µm germ tube growth length in the control; NOEC < 35 µg/L for germination and MSD < 20% relative to control for both germination and tube length in the reference toxicant.

**REFERENCE TOXICITY** Material: CuCl<sub>2</sub> · 2 Hydrate, Lot #06404BJ, received 9/22/08, opened 9/26/08, expires 2/28/11.  
Species: *M. pyrifera* spores  
Test Date: 6/10/09  
48 hour EC<sub>50</sub> Germination: 113.90 ppb  
Germination NOEC: <5.6 ppb  
48 hour EC<sub>50</sub> Tube Length: 153.33 ppb  
Germination tube growth NOEC: <5.6 ppb  
Length mean square: 0.38  
Mean Control Germination: 93.6 %  
Mean Control Germination Tube Length: 14.1 µm  
Laboratory Mean EC<sub>50</sub> for Germination: 115.99 ppb  
Laboratory Mean EC<sub>50</sub> for Growth: 144.66 ppb  
Control charts attached

**STUDY DIRECTOR:** K. Skrivseth  
**INVESTIGATORS:** K. Skrivseth, A. Lovell, A. Langford, T. Gerlinger, J. Hansen

**Macrocyctis Germination and Growth Test-Proportion Germinated**

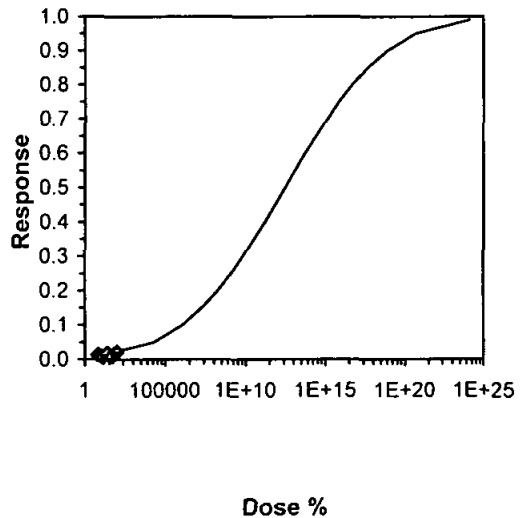
Start Date: 6/10/2009 16:25 · Test ID: C090610.0347 · Sample ID: So. Bay Inlet  
 End Date: 6/12/2009 15:20 · Lab ID: CCA-Weston, Carlsbad · Sample Type: EFF3-Power Plant ·  
 Sample Date: 6/10/2009 08:40 · Protocol: EPAW 95-EPA West Coast · Test Species: MP-Macrocyctis pyrifera ·  
 Comments:

Conc-%	1	2	3	4	5
Control	0.9100	0.9500	0.9300	0.9200	0.9700
6.25	0.9600	0.9400	0.9100	0.8900	0.9200
12.5	0.9600	0.9300	0.9200	0.9100	0.9300
25	0.8700	0.8800	0.9500	0.9600	0.9300
50	0.9600	0.9300	0.9200	0.9100	0.9200
100	0.9300	0.9500	0.8700	0.9100	0.9200

Conc-%	Transform: Arcsin Square Root							t-Stat	1-Tailed Critical	MSD	Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N					
Control	0.9360	1.0000	1.3190	1.2661	1.3967	3.977	5				32	500
6.25	0.9240	0.9872	1.2951	1.2327	1.3694	4.081	5	0.708	2.360	0.0797	38	500
12.5	0.9300	0.9936	1.3051	1.2661	1.3694	2.995	5	0.412	2.360	0.0797	35	500
25	0.9180	0.9808	1.2873	1.2019	1.3694	5.836	5	0.938	2.360	0.0797	41	500
50	0.9280	0.9915	1.3013	1.2661	1.3694	3.093	5	0.524	2.360	0.0797	36	500
100	0.9160	0.9786	1.2801	1.2019	1.3453	4.115	5	1.153	2.360	0.0797	42	500

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.94941	0.9	0.16271	-0.8533						
Bartlett's Test indicates equal variances (p = 0.83)	2.15491	15.0863								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	0.04385	0.04675	0.00095	0.00285	0.88849	5, 24

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	0.20027	0.42611	-0.6349	1.03544	0.064	0.79596	7.81473	0.85	12.4761	4.99331	3
Intercept	2.50144	0.75011	1.03122	3.97166							
TSCR	0.06411	0.01095	0.04266	0.08557							
Point	Probits	%	95% Fiducial Limits								
EC01	2.674	7.24309									
EC05	3.355	18316.3									
EC10	3.718	1193767									
EC15	3.964	2E+07									
EC20	4.158	1.9E+08									
EC25	4.326	1.3E+09									
EC40	4.747	1.6E+11									
EC50	5.000	3E+12									
EC60	5.253	5.5E+13									
EC75	5.674	7E+15									
EC80	5.842	4.8E+16									
EC85	6.036	4.5E+17									
EC90	6.282	7.5E+18									
EC95	6.645	4.9E+20									
EC99	7.326	1.2E+24									



**Macrocystis Germination and Growth Test-Growth-Length**

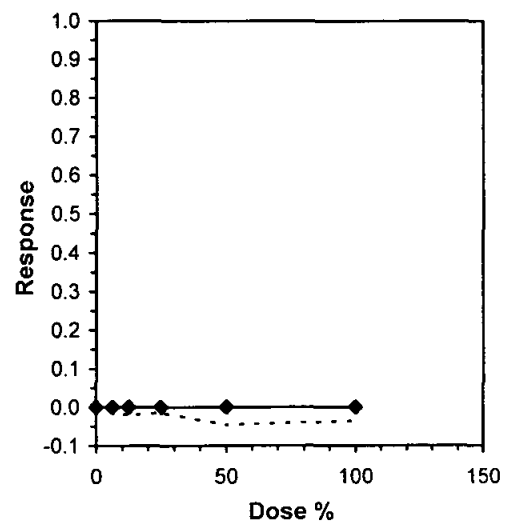
Start Date: 6/10/2009 16:25 · Test ID: C090610.0347 · Sample ID: So. Bay Inlet  
 End Date: 6/12/2009 15:20 · Lab ID: CCA-Weston, Carlsbad · Sample Type: EFF3-Power Plant  
 Sample Date: 6/10/2009 08:40 · Protocol: EPAW 95-EPA West Coast · Test Species: MP-Macrocystis pyrifera  
 Comments:

Conc-%	1	2	3	4	5
Control	14.750	13.750	13.500	14.250	14.250
6.25	14.000	14.000	14.750	14.000	14.750
12.5	14.500	15.000	13.750	14.250	14.500
25	14.000	14.250	14.250	14.500	14.500
50	15.000	15.000	13.750	15.250	14.750
100	15.000	14.750	14.500	14.750	14.000

Conc-%	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
Control	14.100	1.0000	14.100	13.500	14.750	3.456	5				14.408	1.0000	
6.25	14.300	1.0142	14.300	14.000	14.750	2.873	5	-0.724	2.360	0.652	14.408	1.0000	
12.5	14.400	1.0213	14.400	13.750	15.000	3.154	5	-1.086	2.360	0.652	14.408	1.0000	
25	14.300	1.0142	14.300	14.000	14.500	1.463	5	-0.724	2.360	0.652	14.408	1.0000	
50	14.750	1.0461	14.750	13.750	15.250	3.975	5	-2.354	2.360	0.652	14.408	1.0000	
100	14.600	1.0355	14.600	14.000	15.000	2.597	5	-1.811	2.360	0.652	14.408	1.0000	

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96279	0.9	-0.5528	0.03266						
Bartlett's Test indicates equal variances (p = 0.61)	3.6007	15.0863								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	0.65168	0.04622	0.27208	0.19062	0.25038	5, 24

Linear Interpolation (200 Resamples)				
Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Test: MC-Macrocyctis Germination and Growth Test

Test ID: C090610.0347

Species: MP-Macrocyctis pyrifer

Protocol: EPAW 95-EPA West Coast

Sample ID: So. Bay Inlet

Sample Type: EFF3-Power Plant

Start Date: 6/10/2009 16:25 End Date: 6/12/2009 15:20

Lab ID: CCA-Weston, Carlsbad

Pos	ID	Rep	Group	Total Counted	Number Germ	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Cal Factor	Notes
1	1	1	Control	100	91	5	6	7	7	5	6	7	5	6	5	2.5	
2	2	2	Control	100	95	5	5	6	8	5	5	5	6	5	5	2.5	
3	3	3	Control	100	93	5	7	6	4	6	6	6	4	5	5	2.5	
4	4	4	Control	100	92	5	6	5	7	6	6	5	6	6	5	2.5	
5	5	5	Control	100	97	6	5	5	6	7	4	5	6	6	7	2.5	
6	1		6.250	100	96	5	6	5	6	6	5	7	6	5	5	2.5	
7	2		6.250	100	94	7	6	5	6	5	6	7	4	5	5	2.5	
8	3		6.250	100	91	5	9	5	5	6	6	5	6	7	5	2.5	
9	4		6.250	100	89	6	6	5	5	6	6	4	7	5	6	2.5	
10	5		6.250	100	92	5	6	7	6	6	5	6	7	6	5	2.5	
11	1		12.500	100	96	6	6	5	8	5	5	7	4	5	7	2.5	
12	2		12.500	100	93	4	7	6	7	5	6	6	7	4	8	2.5	
13	3		12.500	100	92	6	5	6	8	4	5	4	7	4	6	2.5	
14	4		12.500	100	91	6	5	5	6	7	6	5	6	7	4	2.5	
15	5		12.500	100	93	6	7	5	5	6	4	7	6	7	5	2.5	
16	1		25.000	100	87	5	6	7	4	5	7	6	5	5	6	2.5	
17	2		25.000	100	88	5	4	6	8	6	5	8	6	4	5	2.5	
18	3		25.000	100	95	6	5	7	5	5	7	5	6	6	5	2.5	
19	4		25.000	100	96	5	6	6	6	7	6	5	7	4	6	2.5	
20	5		25.000	100	93	8	5	7	4	5	6	4	8	6	5	2.5	
21	1		50.000	100	96	6	4	6	8	7	5	5	6	7	6	2.5	
22	2		50.000	100	93	6	5	6	7	6	7	7	5	6	5	2.5	
23	3		50.000	100	92	7	4	6	5	5	5	5	6	7	5	2.5	
24	4		50.000	100	91	5	7	6	8	5	6	6	7	5	6	2.5	
25	5		50.000	100	92	7	6	6	7	4	8	5	7	4	5	2.5	
26	1		100.000	100	93	5	8	5	5	6	7	5	6	6	7	2.5	
27	2		100.000	100	95	7	5	6	6	4	6	7	5	7	6	2.5	
28	3		100.000	100	87	5	6	6	4	7	7	5	6	7	5	2.5	
29	4		100.000	100	91	6	7	5	7	6	6	5	6	6	5	2.5	
30	5		100.000	100	92	6	6	4	7	4	5	8	5	6	5	2.5	

Comments:

8/11/2009

CLIENT:	Dynegy South Bay LLC
PROJECT:	SBPP Toxicity Sample- June
CLIENT SAMPLE ID:	So. Bay Inlet
WESTON TEST ID:	C090610.0347
SPECIES:	Macrocyctis pyrifera

DATE RECEIVED:	6/10/09
DATE TEST STARTED:	6/10/09
DATE TEST ENDED:	6/12/09
STUDY DIRECTOR:	K. Skrivseth / A. Laell
ORGANISMS/CHAMBER:	300,000

	Concentration	Meter #	DO (mg/L)	Meter #	Temp (°C)	Meter #	Salinity (ppt)	Meter #	pH
<b>Day 0 (0 Hours)</b> Date: 6/10/09 Sample ID: C090610.03 Dilutions (tech): AL WQ Time: 1710 Technician: AL	CONTROL	7	7.6	7	15.6	5	33.6	2	8.0
	<sup>6.25</sup> BRINE CONTROL		7.6		15.3		33.7		8.0
	12.5		7.5		15.4		33.8		8.0
	25		7.6		15.3		34.1		8.0
	50		7.7		15.3		34.5		8.0
	100		7.6		15.2		35.3		8.0
	Filtered 100		7.8		15.1		35.2		8.0
<b>24 Hours</b> Date: 6/11/09 WQ Time: 1045 Technician: JH	CONTROL			7	14.7				
	<sup>6.25</sup> BRINE CONTROL				14.2				
	12.5				14.2				
	25				14.2				
	50				14.1				
	100				14.1				
	Filtered 100				14.2				
<b>48 Hours</b> Date: 6/12/09 WQ Time: 1202 Technician: AEL	CONTROL	11	8.1	11	14.1	6	32.5	3	33.5 8.0
	<sup>6.25</sup> BRINE CONTROL		7.8		14.0		33.7		33.7 8.0
	12.5		7.8		14.0		33.7		8.0
	25		7.9		14.1		34.0		8.0
	50		7.9		13.9		34.6		8.0
	100		7.8		14.0		36.0		8.0
	Filtered 100		7.8		14.1		35.1		8.0

START TIME:	1625 AL
END TIME:	1520 AEL
ORGANISM BATCH:	DG 061009
TEST ROOM:	Rm 2
TEST SHELF #:	1

DILUTION WATER BATCH:	S10052209
BRINE BATCH:	N/A
HOBO TEMP. NO.:	778891
TEST ACCEPTABILITY:	<input checked="" type="checkbox"/> 70% GERMINATION IN CONTROL <input checked="" type="checkbox"/> ≥10 µm GERM-TUBE LENGTH IN THE CONTROLS

OWC 6/12/09 AEL

CLIENT: Dynegy South Bay LLC  
 PROJECT: SBPP Toxicity Sample-June  
 CLIENT SAMPLE ID: So. Bay Inlet/So. Bay Property Line  
 WESTON TEST ID:  
 SPECIES: Macrocystis pyrifera

DATE RECEIVED: 6/10/09  
 DATE TEST STARTED: 6/10/09  
 DATE TEST ENDED: 6/12/09  
 STUDY DIRECTOR: K. Skirseth/A. Lowell  
 ORGANISMS/CHAMBER: 300,000

	Concentration	Meter #	DO (mg/L)	Meter #	Temp (°C)	Meter #	Salinity (ppt)	Meter #	pH
Day 0 (0 Hours)  Date: <u>6/10/09</u> Sample ID: Dilutions (tech): <u>AL</u> WQ Time: <u>1730</u> Technician: <u>AL</u>	Filtered CONTROL	7	7.6	7	14.7	5	33.7	2	8.0
	BRINE CONTROL								
24 Hours  Date: <u>6/11/09</u> WQ Time: <u>1048</u> Technician: <u>JH</u>	Filtered CONTROL			7	14.2				
	BRINE CONTROL								
48 Hours  Date: <u>6/12/09</u> WQ Time: <u>1200</u> Technician: <u>AEL</u>	Filtered CONTROL	1	7.8	1	14.0	6	33.5	3	8.0
	BRINE CONTROL								

START TIME: 1625 AL  
 END TIME: 1520 AEL  
 ORGANISM BATCH: DG 06 1009  
 TEST ROOM: Rm 2  
 TEST SHELF #: 1

DILUTION WATER BATCH: S10052209  
 BRINE BATCH: N/A  
 HOBO TEMP. NO.: 778891  
 TEST ACCEPTABILITY:  
 70% GERMINATION IN CONTROL  
 ≥10 μm GERM-TUBE LENGTH IN THE CONTROLS

WESTON TEST ID: C090610.0347	CLIENT: Dynergy South Bay LLC	CLIENT SAMPLE ID: So. Bay Inlet
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Test Container Number	Conc.	Rep	Number of Spores Germ.	Number of Spores Not Germ.	LENGTH MEASUREMENTS (in ocular micrometer units)										Scope #	Date	Tech
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10			
1	Control	1	91	9	5	6	7	7	5	6	7	5	6	5	2/12	6/13/09	TJF
2	Control	2	95	5	5	5	6	8	5	5	5	6	5	5			
3	Control	3	93	7	5	7	6	4	6	6	6	4	5	5			
4	Control	4	92	8	5	6	5	7	6	6	5	6	6	5			
5	Control	5	97	3	6	5	5	6	7	4	5	6	6	7			
6	6.25	1	96	4	5	6	5	6	6	5	7	6	5	5		6/18/09	
7		2	94	6	7	6	5	6	5	6	7	4	5	5			
8		3	91	9	5	9	5	5	6	6	5	6	7	5			
9		4	89	11	6	6	5	5	6	6	4	7	5	6			
10	↓	5	92	8	5	6	7	6	6	5	6	7	6	5			
11	12.5	1	96	4	6	6	5	8	5	5	7	4	5	7			
12		2	93	7	4	7	6	7	5	6	6	7	4	8			
13		3	92	8	6	5	6	8	4	5	4	7	4	6			
14		4	91	9	6	5	5	6	7	6	5	6	7	4			
15	↓	5	93	7	6	7	5	5	6	4	7	6	7	5			
16	25	1	87	13	5	6	7	4	5	7	6	5	5	6			
17		2	88	12	5	4	6	8	6	5	8	6	4	5			
18		3	95	5	6	5	7	5	5	7	5	6	6	5			
19		4	96	4	5	6	6	6	7	6	5	7	4	6			
20	↓	5	93	7	8	5	7	4	5	6	4	8	6	5			
21	50	1	96	4	6	4	6	8	7	5	5	6	7	6		6/19/09	
22		2	93	7	6	5	6	7	6	7	7	5	6	5			
23		3	92	8	7	4	6	5	5	5	5	6	7	5			
24		4	91	9	5	7	6	8	5	6	6	7	5	6			
25	↓	5	92	8	7	6	6	7	4	8	5	7	4	5			
26	100	1	88	12	5	6	5	8	6	7	6	5	6	7			
27		2	91	9	7	4	6	4	7	5	7	6	5	6			
28		3															
29		4															
30	↓	5															

2x  
↓

① chambers inoculated twice due to technician error. New chambers prepared and inoculated appropriately as soon as mistake was realized  
7/15/09 vs



WESTON TEST ID: <i>C090610.0347</i>	CLIENT: <i>Dynegy South Bay LLC</i>	CLIENT SAMPLE ID: <i>So. Bay Inlet</i>
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Test Container Number	Conc.	Rep	Number of Spores Germ.	Number of Spores Not Germ.	LENGTH MEASUREMENTS (in ocular micrometer units)										Scope #	Date	Tech	
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10				
	Control	1																
	Control	2																
	Control	3																
	Control	4																
	Control	5																
<i>26</i>	<i>100</i>	<i>1</i>	<i>93</i>	<i>7</i>	<i>5</i>	<i>8</i>	<i>5</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>5</i>	<i>6</i>	<i>6</i>	<i>7</i>	<i>BH2</i>	<i>6/19/05</i>	<i>TJG</i>	
<i>27</i>		<i>2</i>	<i>95</i>	<i>5</i>	<i>7</i>	<i>5</i>	<i>6</i>	<i>6</i>	<i>4</i>	<i>6</i>	<i>7</i>	<i>5</i>	<i>7</i>	<i>6</i>				
<i>28</i>		<i>3</i>	<i>87</i>	<i>13</i>	<i>5</i>	<i>6</i>	<i>6</i>	<i>4</i>	<i>7</i>	<i>7</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>5</i>		<i>6/20/05</i>		
<i>29</i>		<i>4</i>	<i>91</i>	<i>9</i>	<i>6</i>	<i>7</i>	<i>5</i>	<i>7</i>	<i>6</i>	<i>6</i>	<i>5</i>	<i>6</i>	<i>6</i>	<i>5</i>				
<i>30</i>	<i>✓</i>	<i>5</i>	<i>92</i>	<i>8</i>	<i>6</i>	<i>6</i>	<i>4</i>	<i>7</i>	<i>4</i>	<i>5</i>	<i>8</i>	<i>5</i>	<i>6</i>	<i>5</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	
		<i>1</i>																
		<i>2</i>																
		<i>3</i>																
		<i>4</i>																
		<i>5</i>																
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		<i>4</i>																
		<i>5</i>																
		<i>1</i>																
		<i>2</i>																
		<i>3</i>																
		<i>4</i>																
		<i>5</i>																

**Macrocystis Germination and Growth Test-Proportion Germinated**

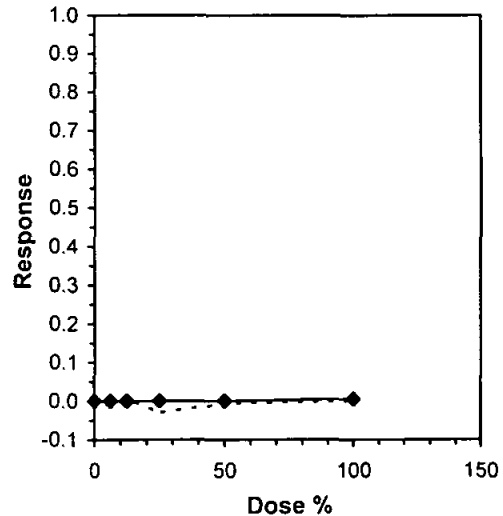
Start Date: 6/10/2009 16:25 Test ID: C090610.0447 Sample ID: So. Bay Property Line (S2)  
 End Date: 6/12/2009 15:20 Lab ID: CCA-Weston, Carlsbad Sample Type: EFF3-Power Plant  
 Sample Date: 6/10/2009 08:50 Protocol: EPAW 95-EPA West Coast Test Species: MP-Macrocystis pyrifera  
 Comments:

Conc-%	1	2	3	4	5
Control	0.9100	0.9500	0.9300	0.9200	0.9700
6.25	0.9100	0.9300	0.9500	0.9600	0.9100
12.5	0.9600	0.9200	0.9600	0.9300	0.8800
25	0.9500	0.9700	0.9600	0.9600	0.9800
50	0.9000	0.9400	0.9700	0.9600	0.9400
100	0.9600	0.9200	0.9600	0.9400	0.9000

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
Control	0.9360	1.0000	1.3190	1.2661	1.3967	3.977	5				0.9408	1.0000	
6.25	0.9320	0.9957	1.3100	1.2661	1.3694	3.556	5	0.277	2.360	0.0771	0.9408	1.0000	
12.5	0.9300	0.9936	1.3086	1.2171	1.3694	4.896	5	0.319	2.360	0.0771	0.9408	1.0000	
25	0.9640	1.0299	1.3820	1.3453	1.4289	2.311	5	-1.926	2.360	0.0771	0.9408	1.0000	
50	0.9420	1.0064	1.3324	1.2490	1.3967	4.216	5	-0.408	2.360	0.0771	0.9408	1.0000	
100	0.9360	1.0000	1.3191	1.2490	1.3694	4.016	5	-0.001	2.360	0.0771	0.9360	0.9949	

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.95449	0.9	-0.1052	-0.9164						
Bartlett's Test indicates equal variances (p = 0.88)	1.77942	15.0863								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	0.04225	0.04504	0.00379	0.00267	0.25268	5, 24

Linear Interpolation (200 Resamples)				
Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



**Macrocyctis Germination and Growth Test-Growth-Length**

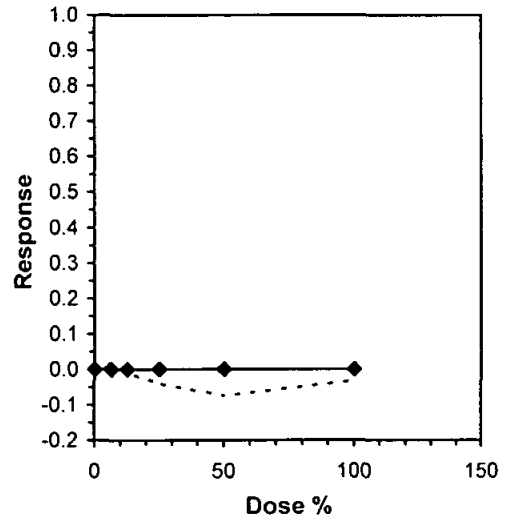
Start Date: 6/10/2009 16:25 · Test ID: C090610.0447 · Sample ID: So. Bay Property Line (S2) ·  
 End Date: 6/12/2009 15:20 · Lab ID: CCA-Weston, Carlsbad · Sample Type: EFF3-Power Plant ·  
 Sample Date: 6/10/2009 08:50 · Protocol: EPAW 95-EPA West Coast · Test Species: MP-Macrocyctis pyrifera ·  
 Comments:

Conc-%	1	2	3	4	5
Control	14.750	13.750	13.500	14.250	14.250
6.25	13.000	14.500	14.000	13.750	15.000
12.5	14.250	13.000	14.750	14.750	14.500
25	14.000	14.000	15.000	17.000	13.250
50	14.500	16.750	14.000	14.250	16.250
100	13.750	15.000	14.750	13.250	16.000

Conc-%	Transform: Untransformed							t-Stat	1-Tailed Critical	MSD	Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N				Mean	N-Mean
Control	14.100	1.0000	14.100	13.500	14.750	3.456	5				14.458	1.0000
6.25	14.050	0.9965	14.050	13.000	15.000	5.397	5	0.078	2.360	1.518	14.458	1.0000
12.5	14.250	1.0106	14.250	13.000	14.750	5.115	5	-0.233	2.360	1.518	14.458	1.0000
25	14.650	1.0390	14.650	13.250	17.000	9.921	5	-0.855	2.360	1.518	14.458	1.0000
50	15.150	1.0745	15.150	14.000	16.750	8.300	5	-1.632	2.360	1.518	14.458	1.0000
100	14.550	1.0319	14.550	13.250	16.000	7.430	5	-0.700	2.360	1.518	14.458	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96186	0.9	0.52094	0.02103						
Bartlett's Test indicates equal variances (p = 0.38)	5.33805	15.0863								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	CHV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	1.51803	0.10766	0.86208	1.03437	0.53882	5, 24

Linear Interpolation (200 Resamples)				
Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Test: MC-Macrocystis Germination and Growth Test

Test ID: C090610.0447

Species: MP-Macrocystis pyrifera

Protocol: EPAW 95-EPA West Coast

Sample ID: So. Bay Property Line (S2)

Sample Type: EFF3-Power Plant

Start Date: 6/10/2009 16:25

End Date: 6/12/2009 15:20

Lab ID: CCA-Weston, Carlsbad

Pos	ID	Rep	Group	Total Counted	Number Germ	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Cal Factor	Notes
1	1	1	Control	100	91	5	6	7	7	5	6	7	5	6	5	2.5	
2	2	2	Control	100	95	5	5	6	8	5	5	5	6	5	5	2.5	
3	3	3	Control	100	93	5	7	6	4	6	6	6	4	5	5	2.5	
4	4	4	Control	100	92	5	6	5	7	6	6	5	6	6	5	2.5	
5	5	5	Control	100	97	6	5	5	6	7	4	5	6	6	7	2.5	
6	1		6.250	100	91	4	6	5	5	5	7	5	5	4	6	2.5	
7	2		6.250	100	93	5	6	4	5	9	7	5	7	5	5	2.5	
8	3		6.250	100	95	4	4	6	5	6	6	7	5	6	7	2.5	
9	4		6.250	100	96	4	6	8	5	7	6	5	4	6	4	2.5	
10	5		6.250	100	91	6	5	7	6	5	8	6	6	6	5	2.5	
11	1		12.500	100	96	8	5	5	7	6	5	5	5	5	6	2.5	
12	2		12.500	100	92	5	4	5	6	6	6	5	4	5	6	2.5	
13	3		12.500	100	96	6	7	4	6	6	7	5	5	7	6	2.5	
14	4		12.500	100	93	5	4	6	7	5	7	5	6	6	8	2.5	
15	5		12.500	100	88	8	6	6	5	6	8	4	5	5	5	2.5	
16	1		25.000	100	95	4	6	6	5	5	7	7	6	5	5	2.5	
17	2		25.000	100	97	5	5	4	6	6	5	6	7	6	6	2.5	
18	3		25.000	100	96	7	5	5	6	5	5	7	6	7	7	2.5	
19	4		25.000	100	96	6	7	6	5	7	10	6	7	7	7	2.5	
20	5		25.000	100	98	5	6	6	5	4	5	5	6	6	5	2.5	
21	1		50.000	100	90	7	6	4	7	4	7	7	5	5	6	2.5	
22	2		50.000	100	94	7	6	7	7	7	7	6	7	7	6	2.5	
23	3		50.000	100	97	6	7	6	6	6	4	6	5	5	5	2.5	
24	4		50.000	100	96	5	6	6	7	4	5	5	7	5	7	2.5	
25	5		50.000	100	94	6	7	6	6	7	6	8	6	6	7	2.5	
26	1		100.000	100	96	6	8	6	5	5	4	6	5	4	6	2.5	
27	2		100.000	100	92	5	7	6	5	5	7	6	6	8	5	2.5	
28	3		100.000	100	96	5	4	5	5	8	7	5	7	7	6	2.5	
29	4		100.000	100	94	5	4	5	3	4	5	6	7	7	7	2.5	
30	5		100.000	100	90	6	6	6	5	6	8	5	9	6	7	2.5	

Comments:

0000000000000000

CLIENT: *Dynegy South Bay LLC*  
 PROJECT: *SBPP Toxicity Sample - June*  
 CLIENT SAMPLE ID: *So. Bay Property Line(SZ)*  
 WESTON TEST ID: *C090610.0447*  
 SPECIES: *Macrocystis pyrifera*

DATE RECEIVED: *6/10/09*  
 DATE TEST STARTED: *6/10/09*  
 DATE TEST ENDED: *6/12/09*  
 STUDY DIRECTOR: *K. Strinseth / A. Lovell*  
 ORGANISMS/CHAMBER: *300,000*

	Concentration	Meter #	DO (mg/L)	Meter #	Temp (°C)	Meter #	Salinity (ppt)	Meter #	pH
Day 0 (0 Hours) Date: <i>6/10/09</i> Sample ID: <i>C090610.04</i> Dilutions (tech): <i>AL</i> WQ Time: <i>1720</i> Technician: <i>AL</i>	CONTROL	7	7.6	7	<del>14.8</del> 15.6	5	33.8	2	8.0
	<del>6.25</del> BRINE CONTROL		7.6		14.9		33.8		8.0
	12.5		7.5		15.1		33.9		8.0
	25		7.7		15.0		34.1		8.0
	50		7.6		15.1		34.4		8.0
	100		7.6		15.0		35.2		8.0
	Filtered 100		7.8		15.0		35.2		8.0
24 Hours Date: <i>6/11/09</i> WQ Time: <i>1042</i> Technician: <i>JH</i>	CONTROL			7	14.7				
	<del>6.25</del> BRINE CONTROL				14.3				
	12.5				14.3				
	25				14.3				
	50				14.2				
	100				14.2				
	Filtered 100				14.2				
48 Hours Date: <i>6/12/09</i> WQ Time: <i>1220</i> Technician: <i>AEL</i>	CONTROL	1	8.1	1	14.1	6	33.5	3	8.0
	<del>6.25</del> BRINE CONTROL		7.8		13.9		33.7		8.0
	12.5		7.8		13.9		33.7		8.0
	25		8.0		14.0		33.9		8.0
	50		7.8		13.8		34.3		8.0
	100		7.8		13.9		35.1		8.0
	Filtered 100		7.8		14.0		35.1		8.0

START TIME: *1625 AL*  
 END TIME: *1520 AEL*  
 ORGANISM BATCH: *DG061009*  
 TEST ROOM: *Rm 2*  
 TEST SHELF #: *1*

DILUTION WATER BATCH: *510052209*  
 BRINE BATCH: *N/A*  
 HOBO TEMP. NO.: *778891*  
 TEST ACCEPTABILITY:  
 70% GERMINATION IN CONTROL  
 ≥10 µm GERM-TUBE LENGTH IN THE CONTROLS

*DIE 6/16/09 AL*

WESTON TEST ID: C090610.0447	CLIENT: Dynergy South Bay LLC	CLIENT SAMPLE ID: So. Bay Property Line (S2)
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Test Container Number	Conc.	Rep	Number of Spores Germ.	Number of Spores Not Germ.	LENGTH MEASUREMENTS (in ocular micrometer units)										Scope #	Date	Tech
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10			
1	Control	1	91	9	5	6	7	7	5	6	7	5	6	5	BH/2	6/2/05	TVT
2	Control	2	95	5	5	5	6	8	5	5	5	6	5	5			
3	Control	3	93	7	5	7	6	4	6	6	6	4	5	5			
4	Control	4	92	8	5	6	5	7	6	6	5	6	6	5			
5	Control	5	97	3	6	5	5	6	7	4	5	6	6	7		↓	↓
31	6.25	1	91	9	4	6	5	5	5	7	5	5	4	6		7/2/09	YS
32		2	93	7	5	6	4	5	9	7	5	7	5	5			
33		3	95	5	4	4	6	5	6	6	7	5	6	7			
34		4	96	4	4	6	8	5	7	6	5	4	6	4		↓	
35	✓	5	91	9	6	5	7	6	5	8	6	6	6	5		7/3/09	
36	12.5	1	96	4	8	5	5	7	6	5	5	5	5	6			
37		2	92	8	5	4	5	6	6	6	5	4	5	6			
38		3	96	4	6	7	4	6	6	7	5	5	7	6			
39		4	93	7	5	4	6	7	5	7	5	6	6	8			
40	✓	5	88	12	8	6	6	5	6	8	4	5	5	5			
41	25	1	95	5	4	6	6	5	5	7	7	6	5	5			
42		2	97	3	5	5	4	6	6	5	6	7	6	6			
43		3	96	4	7	5	5	6	5	5	7	6	7	7			
44		4	96	4	6	7	6	5	7	10	6	7	7	7			
45	✓	5	98	2	5	6	6	5	4	5	5	6	6	5			
46	50	1	90	10	7	6	4	7	4	7	7	5	5	6			
47		2	94	6	7	6	7	7	7	7	6	7	7	6			
48		3	97	3	6	7	6	6	6	4	6	5	5	5			
49		4	96	4	5	6	6	7	4	5	5	7	5	7			
50	✓	5	94	6	6	7	6	6	7	6	8	6	6	7			
51	100	1	96	4	6	8	6	5	5	4	6	5	4	6			
52		2	92	8	5	7	6	5	5	7	6	6	8	5			
53		3	96	4	5	4	5	5	8	7	5	7	7	6			
54		4	94	6	5	4	5	3	4	5	6	7	7	7			
55	✓	5	90	10	6	6	6	5	6	8	5	9	6	7	↓	↓	↓



KELP 48-HOUR CHRONIC TOXICITY TEST  
SPOROPHYLL RELEASE DATA SHEET

BIO047

WESTON TEST ID: C090610.0347.0447	CLIENT: Dynegy	CLIENT SAMPLE ID: So. Bay Inlet/So. Bay Property Line(s)
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Date: 6/10/09

Test: kelp

Investigator: A. Lowell

Condition of Majority of Blades Used: Poor Fair Good 3000  
 Number of Blades Used: 64 Weight of Blades: 359.0 Volume of Release Water: 1500ml  
OR

Time blades are placed in release beaker: 1255

Time blades are removed from release beaker: 1310

Temperature of spore solution: 15.2

Check for zoospore motility on microscope: X

Fix a 9-mL spore sample with 1 mL formalin.

Determine spore density on the hemacytometer.

Determine density with 5 counts.

- 321
- 345
- 332
- 322
- 292

Mean 322.4

Mean x 10,000 x 1.11 = <sup>OR 3578640</sup> ~~300,000~~ spores/mL. This is the density of spore release.

1.11 is the dilution factor for 1 mL formalin + 9 mL spore solution.

Volume of test container: 40 mL

The desired final density of zoospore solution is 7,500 spores/mL of test container.

To determine volume of spores to deliver to test containers:

7,500 spores/mL x 40 mL/test container = 300,000 spores/test container

300,000 spores/test container/density of spore release 3578640 spores/mL = 0.0838 mL/test container

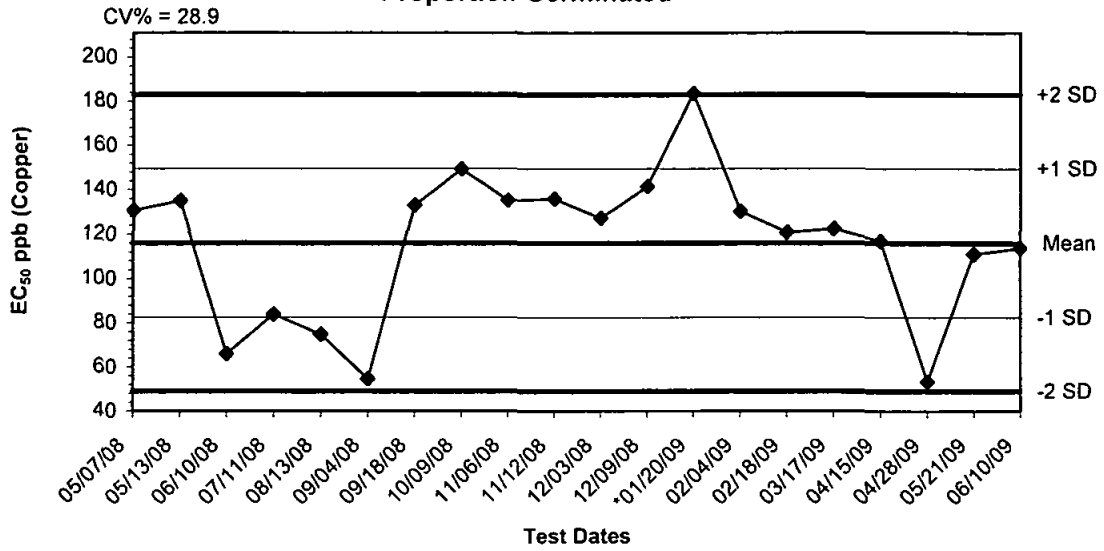
Temperature of control water (stock): 15.7°C

Light: 204-298 (need 200-300 foot-candles)

Time test containers are inoculated: 1625

DIE 6/10/09 AL

**Macrocyctis pyrifera Reference Toxicant Control Chart:  
Proportion Germinated**

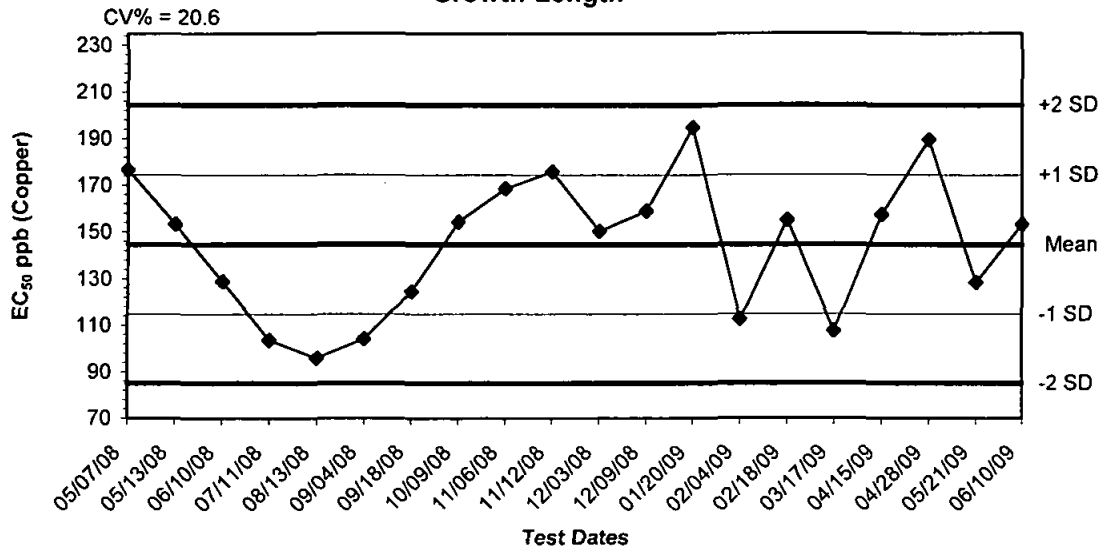


Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
05/07/08	130.7400	115.9926	82.4906	48.9886	149.4946	182.9966
05/13/08	135.1100	115.9926	82.4906	48.9886	149.4946	182.9966
06/10/08	65.9360	115.9926	82.4906	48.9886	149.4946	182.9966
07/11/08	83.8740	115.9926	82.4906	48.9886	149.4946	182.9966
08/13/08	74.8388	115.9926	82.4906	48.9886	149.4946	182.9966
09/04/08	54.5540	115.9926	82.4906	48.9886	149.4946	182.9966
09/18/08	133.0200	115.9926	82.4906	48.9886	149.4946	182.9966
10/09/08	149.3300	115.9926	82.4906	48.9886	149.4946	182.9966
11/06/08	135.2100	115.9926	82.4906	48.9886	149.4946	182.9966
11/12/08	136.0200	115.9926	82.4906	48.9886	149.4946	182.9966
12/03/08	127.3100	115.9926	82.4906	48.9886	149.4946	182.9966
12/09/08	141.4500	115.9926	82.4906	48.9886	149.4946	182.9966
*01/20/09	183.5950	115.9926	82.4906	48.9886	149.4946	182.9966
02/04/09	130.3000	115.9926	82.4906	48.9886	149.4946	182.9966
02/18/09	120.8130	115.9926	82.4906	48.9886	149.4946	182.9966
03/17/09	122.4880	115.9926	82.4906	48.9886	149.4946	182.9966
04/15/09	116.9500	115.9926	82.4906	48.9886	149.4946	182.9966
04/28/09	53.3940	115.9926	82.4906	48.9886	149.4946	182.9966
05/21/09	111.0190	115.9926	82.4906	48.9886	149.4946	182.9966
06/10/09	113.9000	115.9926	82.4906	48.9886	149.4946	182.9966

\* Value within 95% CI range at time of testing.  
Update 7/7/09 KS



**Macrocystis pyrifera Reference Toxicant Control Chart:  
Growth-Length**



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
05/07/08	176.5200	144.6565	114.8816	85.1066	174.4315	204.2065
05/13/08	153.3300	144.6565	114.8816	85.1066	174.4315	204.2065
06/10/08	128.8900	144.6565	114.8816	85.1066	174.4315	204.2065
07/11/08	103.6520	144.6565	114.8816	85.1066	174.4315	204.2065
08/13/08	95.8466	144.6565	114.8816	85.1066	174.4315	204.2065
09/04/08	104.0000	144.6565	114.8816	85.1066	174.4315	204.2065
09/18/08	124.5200	144.6565	114.8816	85.1066	174.4315	204.2065
10/09/08	154.2900	144.6565	114.8816	85.1066	174.4315	204.2065
11/06/08	168.5390	144.6565	114.8816	85.1066	174.4315	204.2065
11/12/08	175.7100	144.6565	114.8816	85.1066	174.4315	204.2065
12/03/08	150.2900	144.6565	114.8816	85.1066	174.4315	204.2065
12/09/08	159.0500	144.6565	114.8816	85.1066	174.4315	204.2065
01/20/09	194.7090	144.6565	114.8816	85.1066	174.4315	204.2065
02/04/09	112.6800	144.6565	114.8816	85.1066	174.4315	204.2065
02/18/09	155.0000	144.6565	114.8816	85.1066	174.4315	204.2065
03/17/09	107.5000	144.6565	114.8816	85.1066	174.4315	204.2065
04/15/09	157.3900	144.6565	114.8816	85.1066	174.4315	204.2065
04/28/09	189.4040	144.6565	114.8816	85.1066	174.4315	204.2065
05/21/09	128.4800	144.6565	114.8816	85.1066	174.4315	204.2065
06/10/09	153.3300	144.6565	114.8816	85.1066	174.4315	204.2065

Updated 7/7/09 KS

**Macrocystis Germination and Growth Test-Proportion Germinated**

Start Date: 6/10/2009 16:35 Test ID: C080922.09 Sample ID: REF-Ref Toxicant  
 End Date: 6/12/2009 15:20 Lab ID: CCA-Weston, Carlsbad Sample Type: CUCL-Copper chloride  
 Sample Date: Protocol: EPAW 95-EPA West Coast Test Species: MP-Macrocystis pyrifera

Comments:

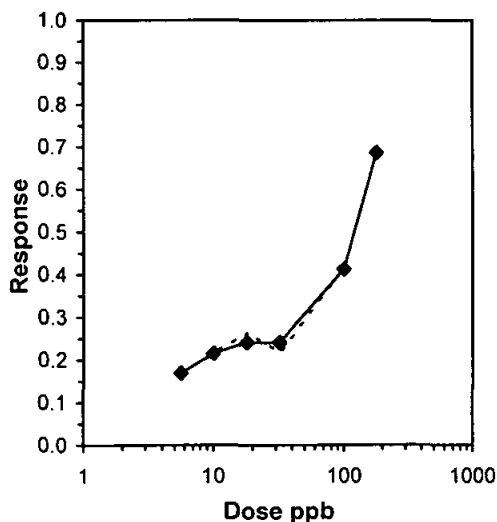
Conc-ppb	1	2	3	4	5
Control	0.9100	0.9500	0.9300	0.9200	0.9700
5.6	0.8500	0.7600	0.6700	0.7800	0.8300
10	0.6800	0.7500	0.7600	0.8000	0.6900
18	0.7000	0.7600	0.6700	0.6500	0.6700
32	0.7300	0.6600	0.8000	0.7200	0.7500
100	0.5300	0.5300	0.5500	0.5800	0.5600
180	0.3300	0.2700	0.3700	0.2500	0.2500

Conc-ppb	Transform: Arcsin Square Root							t-Stat	1-Tailed Critical	MSD	Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N					
Control	0.9360	1.0000	1.3190	1.2661	1.3967	3.977	5				32	500
*5.6	0.7780	0.8312	1.0838	0.9589	1.1731	7.727	5	6.562	2.409	0.0863	111	500
*10	0.7360	0.7863	1.0326	0.9695	1.1071	5.557	5	7.991	2.409	0.0863	132	500
*18	0.6900	0.7372	0.9811	0.9377	1.0588	4.838	5	9.429	2.409	0.0863	155	500
*32	0.7320	0.7821	1.0280	0.9483	1.1071	5.593	5	8.119	2.409	0.0863	134	500
*100	0.5500	0.5876	0.8355	0.8154	0.8657	2.555	5	13.490	2.409	0.0863	225	500
*180	0.2940	0.3141	0.5719	0.5236	0.6539	10.211	5	20.845	2.409	0.0863	353	500

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96102	0.91	0.01359	-0.253						
Bartlett's Test indicates equal variances (p = 0.45)	5.72519	16.8119								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	<5.6	5.6			0.04796	0.05113	0.26519	0.00321	1.7E-16	6, 28

**Trimmed Spearman-Kärber**

Trim Level	EC50	95% CL	
0.0%			
5.0%			
10.0%			
20.0%			
Auto-31.4%	113.90	100.94	128.52



**Macrocyctis Germination and Growth Test-Growth-Length**

Start Date: 6/10/2009 16:35 Test ID: C080922.09 Sample ID: REF-Ref Toxicant  
 End Date: 6/12/2009 15:20 Lab ID: CCA-Weston, Carlsbad Sample Type: CUCL-Copper chloride  
 Sample Date: Protocol: EPAW 95-EPA West Coast Test Species: MP-Macrocyctis pyrifera  
 Comments:

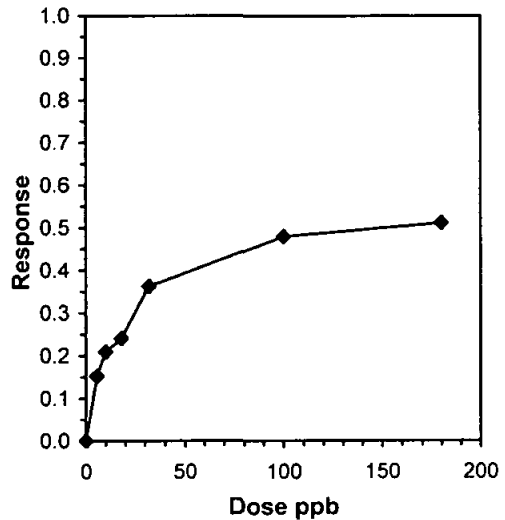
Conc-ppb	1	2	3	4	5
Control	14.750	13.750	13.500	14.250	14.250
5.6	12.250	11.250	11.250	12.750	12.250
10	11.500	10.500	11.500	11.250	11.000
18	11.500	11.000	10.500	10.250	10.250
32	9.750	9.000	9.250	9.000	8.000
100	7.750	6.250	7.500	8.750	6.500
180	6.750	7.000	7.250	7.000	6.500

Conc-ppb	Transform: Untransformed						N	1-Tailed			Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%		t-Stat	Critical	MSD	Mean	N-Mean
Control	14.100	1.0000	14.100	13.500	14.750	3.456	5				14.100	1.0000
*5.6	11.950	0.8475	11.950	11.250	12.750	5.614	5	5.512	2.409	0.939	11.950	0.8475
*10	11.150	0.7908	11.150	10.500	11.500	3.752	5	7.563	2.409	0.939	11.150	0.7908
*18	10.700	0.7589	10.700	10.250	11.500	5.065	5	8.717	2.409	0.939	10.700	0.7589
*32	9.000	0.6383	9.000	8.000	9.750	7.082	5	13.075	2.409	0.939	9.000	0.6383
*100	7.350	0.5213	7.350	6.250	8.750	13.732	5	17.305	2.409	0.939	7.350	0.5213
*180	6.900	0.4894	6.900	6.500	7.250	4.131	5	18.459	2.409	0.939	6.900	0.4894

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.97647	0.91	0.06072	-0.0092						
Bartlett's Test indicates equal variances (p = 0.35)	6.68353	16.8119								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	<5.6	5.6			0.93948	0.06663	33.2238	0.38036	8.1E-17	6, 28

Linear Interpolation (200 Resamples)					
Point	ppb	SD	95% CL(Exp)		Skew
IC05*	1.84	0.33	1.25	3.30	1.2695
IC10*	3.67	0.65	2.50	6.59	1.1608
IC15*	5.51	1.04	3.75	9.31	0.7054
IC20	9.28	2.20	4.84	19.62	1.2970
IC25	19.03	2.15	11.21	24.38	-0.8614
IC40	54.25	11.23	20.48	90.43	0.2382
IC50	153.33				

\* indicates IC estimate less than the lowest concentration



Test: MC-Macrocytist Germination and Growth Test  
 Species: MP-Macrocytist pyrifera  
 Sample ID: REF-Ref Toxicant  
 Start Date: 6/10/2009 16:35

Test ID: C080922.09  
 Protocol: EPAW 95-EPA West Coast  
 Sample Type: CUCL-Copper chloride  
 Lab ID: CCA-Weston, Carlsbad

End Date: 6/12/2009 15:20

Pos	ID	Rep	Group	Total Counted	Number Germ	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Cal Factor	Notes
	1	1	Control	100	91	5	6	7	7	5	6	7	5	6	5	2.5	
	2	2	Control	100	95	5	5	6	8	5	5	5	6	5	5	2.5	
	3	3	Control	100	93	5	7	6	4	6	6	6	4	5	5	2.5	
	4	4	Control	100	92	5	6	5	7	6	6	5	6	6	5	2.5	
	5	5	Control	100	97	6	5	5	6	7	4	5	6	6	7	2.5	
	6	1	5.600	100	85	5	4	5	8	5	4	5	4	5	4	2.5	
	7	2	5.600	100	76	5	4	5	5	2	5	6	4	5	4	2.5	
	8	3	5.600	100	67	4	6	4	5	5	4	3	5	5	4	2.5	
	9	4	5.600	100	78	5	4	6	6	5	4	5	6	5	5	2.5	
	10	5	5.600	100	83	4	5	5	5	5	5	6	5	5	4	2.5	
	11	1	10.000	100	68	4	6	4	4	5	5	6	5	4	3	2.5	
	12	2	10.000	100	75	4	4	5	4	5	4	3	4	4	5	2.5	
	13	3	10.000	100	76	6	5	6	5	4	3	3	6	4	4	2.5	
	14	4	10.000	100	80	4	6	5	4	4	4	4	5	5	4	2.5	
	15	5	10.000	100	69	5	4	3	4	4	5	4	4	5	6	2.5	
	16	1	18.000	100	70	4	6	4	4	6	4	4	5	5	4	2.5	
	17	2	18.000	100	76	4	4	4	4	5	5	3	4	5	6	2.5	
	18	3	18.000	100	67	5	4	4	4	5	6	4	4	3	3	2.5	
	19	4	18.000	100	65	5	4	4	3	4	6	4	4	3	4	2.5	
	20	5	18.000	100	67	5	3	4	5	4	4	3	4	5	4	2.5	
	21	1	32.000	100	73	4	2	6	3	4	5	3	4	3	5	2.5	
	22	2	32.000	100	66	4	4	4	4	4	2	4	3	5	2	2.5	
	23	3	32.000	100	80	5	3	4	3	4	4	3	4	3	4	2.5	
	24	4	32.000	100	72	4	4	3	4	5	3	4	2	3	4	2.5	
	25	5	32.000	100	75	3	2	3	3	3	3	3	3	5	4	2.5	
	26	1	100.000	100	53	2	2	3	2	5	4	4	3	3	3	2.5	
	27	2	100.000	100	53	2	2	2	2	3	2	2	4	3	3	2.5	
	28	3	100.000	100	55	2	3	3	3	3	2	4	3	4	3	2.5	
	29	4	100.000	100	58	3	3	3	2	4	4	4	4	3	5	2.5	
	30	5	100.000	100	56	3	2	2	5	3	2	3	2	2	2	2.5	
	31	1	180.000	100	33	3	3	3	2	3	3	3	2	2	3	2.5	
	32	2	180.000	100	27	2	3	2	3	3	3	3	3	2	4	2.5	
	33	3	180.000	100	37	4	3	3	4	3	3	2	3	2	2	2.5	
	34	4	180.000	100	25	4	3	2	3	3	2	2	4	3	2	2.5	
	35	5	180.000	100	25	4	2	2	2	3	3	3	2	3	2	2.5	

Comments:

000000000000



**48 Hour *Macrocystis pyrifera*  
Reference Toxicant Test**

REF TOX ID: C080922.09  
 LOT NUMBER: 06404BS  
 ASSOCIATED TEST: Dynegey

MICROSCOPE: BH2  
 MICROMETER CONVERSION FACTOR: 2.5  
 STUDY DIRECTOR: A. Lovell / V. Hayes

Test Container Number	Concentration	Number of Spores Germ.	Number of Spores Not Germ.	LENGTH MEASUREMENTS (in ocular micrometer units)										Tech	Date
				L1	L2	L3	L4	L5	L6	L7	L8	L9	L10		
1	Control	91	9	5	6	7	7	5	6	7	5	6	5	TS	7/7/09
2		95	5	5	5	6	8	5	5	5	6	5	5		
3		93	7	5	7	6	4	6	6	6	4	5	5		
4		92	8	5	6	5	7	6	6	5	6	6	5		
5		97	3	6	5	5	6	7	4	5	6	6	7		
56	5.6	85	15	5	4	5	8	5	4	5	4	5	4	YS	7/6/09
57		76	24	5	4	5	5	2	5	6	4	5	4		
58		67	33	4	6	4	5	5	4	3	5	5	4		
59		78	22	5	4	6	6	5	4	5	6	5	5		
60		83	17	4	5	5	5	5	5	6	5	5	4		
61	10	68	32	4	6	4	4	5	5	6	5	4	3		
62		75	25	4	4	5	4	5	4	3	4	4	5		
63		76	24	6	5	6	5	4	3	3	6	4	4		
64		80	20	4	6	5	4	4	4	4	5	5	4		
65		69	31	5	4	3	4	4	5	4	4	5	6		
66	18	70	30	4	6	4	4	6	4	4	5	5	4		
67		76	24	4	4	4	4	5	5	3	4	5	6		
68		67	33	5	4	4	4	5	6	4	4	3	3		
69		65	35	5	4	4	3	4	6	4	4	3	4		
70		67	33	5	3	4	5	4	4	3	4	5	4		
71	32	73	27	4	2	6	3	4	5	3	4	3	5		
72		66	34	4	4	4	4	4	2	4	3	5	2	YS	7/7/09
73		80	20	5	3	4	3	4	4	3	4	3	4		
74		72	28	4	4	3	4	5	3	4	2	3	4		
75		75	25	3	2	3	3	3	3	3	3	5	4		
76	100	53	47	2	2	3	2	5	4	4	3	3	3		
77		53	47	2	2	2	2	3	2	2	4	3	3		
78		55	45	2	3	3	3	3	2	4	3	4	3		
79		58	42	3	3	3	2	4	4	4	4	3	5		
80		56	44	3	2	2	5	3	2	3	2	2	2		
81	180	33	67	3	3	3	2	3	3	3	2	2	3		
82		27	73	2	3	2	3	3	3	3	3	2	4		
83		37	63	4	3	3	4	3	3	2	3	2	2		
84		25	75	4	3	2	3	3	2	2	4	3	2		
85		25	75	4	2	2	2	3	3	3	2	3	2		



## 48 Hour *Macrocyctis pyrifera* Reference Toxicant Test

Test ID: <i>C08092209</i>		Replicates: 5		Study Director: <i>A. Lovell / V. Hayes</i>		Location: <i>Room 2</i>	
Dilution Water Batch: <i>S10 052209</i>		Organism Batch: <i>D6 061009</i>		Associated Test(s): <i>Domegy</i>		Organism: <i>kelp</i>	
Toxicant: Copper Chloride (10,000 µg/L Cu) CuCl <sub>2</sub> ·2H <sub>2</sub> O		Lot #: <i>66404BJ</i>	Date Prepared: <i>12/8/08</i>		Initials: <i>DS</i>		
Target Concentrations:		Quantity of Stock Target:	Actual:	Quantity of Diluent Target:	Actual:		
5.6 ppb		0.280 mL	<i>0.2803</i>	500 mL	<i>500.01</i>		
10 ppb		0.500 mL	<i>6.5002</i>	500 mL	<i>500.00</i>		
18 ppb		0.900 mL	<i>0.9000</i>	500 mL	<i>500.01</i>		
32 ppb		1.60 mL	<i>1.6002</i>	500 mL	<i>500.02</i>		
100 ppb		5.00 mL	<i>4.9999</i>	500 mL	<i>500.00</i>		
180 ppb		9.00 mL	<i>9.0001</i>	500 mL	<i>500.01</i>		
<b>0 Hours</b> Date: <i>6/10/09</i> WQ Time: <i>1735</i> Start Time: <i>1635</i> Initials: <i>AL</i>							
STOCK							
	Control	5.6	10	18	32	100	180
D.O. (mg/L)	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.5</i>
Temperature	<i>15.6</i>	<i>14.7</i>	<i>14.7</i>	<i>14.8</i>	<i>14.7</i>	<i>14.8</i>	<i>14.9</i>
Salinity	<i>33.6</i>	<i>33.6</i>	<i>33.6</i>	<i>33.6</i>	<i>33.6</i>	<i>33.3</i>	<i>33.1</i>
pH	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.1</i>	<i>8.1</i>	<i>8.1</i>	<i>8.0</i>
<b>48 Hours</b> Date: <i>6/12/09</i> WQ Time: <i>1225</i> End Time: <i>1520</i> Initials: <i>AE</i>							
STOCK							
	Control	5.6	10	18	32	100	180
D.O. (mg/L)	<i>8.1</i>	<i>7.9</i>	<i>7.9</i>	<i>7.9</i>	<i>8.0</i>	<i>8.0</i>	<i>7.9</i>
Temperature	<i>14.1</i>	<i>13.9</i>	<i>14.0</i>	<i>14.0</i>	<i>13.9</i>	<i>14.0</i>	<i>14.0</i>
Salinity	<i>33.5</i>	<i>33.3</i>	<i>33.4</i>	<i>33.4</i>	<i>33.4</i>	<i>33.0</i>	<i>32.9</i>
pH	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>

Pass

Fail

WESTON Solutions, Inc.

Analytical Report

Client: Dynegy South Bay LLC Date Received: 10 Jun 09  
Project: SBPP Toxicity Sample - June Date Test Started: 10 Jun 09  
Client Sample ID: So. Bay Inlet Date Test Ended: 14 Jun 09  
Weston Test ID: C090610.0361 Matrix: Liquid

96 Hour Acute Effluent Toxicity Bioassay

Weston Testing Protocol No. BIO061F  
EPA-821-R-02-012

Test Organism: *Mysidopsis bahia*  
Age: 5 day(s) old

Percent Test Solution	Number of Test Organisms at Start of Test	Number of Test Organisms at End of Test	Percent Survival	Percent Survival Relative to Control
Control	40	40	100	N/A
100	40	40	100	100

Acute Toxicity Statement for Sample So. Bay Inlet

**Toxicity Statement:** The test substance So. Bay Inlet did not express a toxic effect on juvenile *Mysidopsis bahia* exposed to a concentration of 100 percent test substance for 96 hours. Survival at 96 hours in the 100 percent test substance was 100 percent relative to the Control.

**Protocol Deviations:** The salinity of the sample So. Bay Inlet was slightly higher than the protocol range of 5-30ppt ± 10%. Due to technician error, chlorine was not measured in the Control at 48 and 96 hours. Since test substance So. Bay Inlet did not have an effect on survival, these deviations should not affect the usefulness of the test results.

A. G. M. Belloni  
QA Officer

7/15/09  
Date

Ames  
Approved

7/17/09  
Date

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	10 Jun 09
Project:	SBPP Toxicity Sample - June	Date Test Started:	10 Jun 09
Client Sample ID:	So. Bay Inlet	Date Test Ended:	14 Jun 09
Weston Test ID:	C090610.0361	Matrix:	Liquid

96 Hour Acute Effluent Toxicity Bioassay

Weston Testing Protocol No.: BIO061F

EPA-821-R-02-012

Test Organism: *Mysidopsis bahia*

Test Solution Physical and Chemical Data

Total Chlorine mg/L			
Concentration (%)	Initial	Renewal	Final
Control	0.04	**	**
100	0.01	*	*

\* Chlorine not detected at test initiation.

\*\* Chlorine reading not taken due to technician error.

Concentration (%)	Statistic	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	pH
Control	Mean	6.1	20.8	33.6	7.9
	Minimum	4.3	20.3	33.2	7.4
	Maximum	6.8	21.3	33.8	8.0
100	Mean	6.3	20.3	35.3	7.9
	Minimum	4.1	19.0	34.8	7.4
	Maximum	8.2	20.9	35.5	8.1



WESTON Solutions, Inc.

Analytical Report

Client:	Dynegey South Bay LLC	Date Received:	10 Jun 09
Project:	SBPP Toxicity Sample - June	Date Test Started:	10 Jun 09
Client Sample ID:	So. Bay Inlet	Date Test Ended:	14 Jun 09
Weston Test ID:	C090610.0361	Matrix:	Liquid

APPENDIX

Pertinent Test Data

TEST: Effluent Toxicity Bioassay, Weston Protocol No. BIO061F, EPA-821-R-02-012

LAB CONTROL WATER: Filtered seawater collected from Scripps Institution of Oceanography

Salinity	33.2 ppt
Dissolved Oxygen	6.8 mg/L
Temperature	21.3 °C
pH	8.0

TEST ORGANISM: *Mysidopsis bahia* Age: 5 day(s) old  
Supplier: Aquatic Bio Systems  
Organisms were acclimated to test salinity and fed *ad libitum* newly hatched *Artemia* daily, prior to test initiation.

TEST CHAMBER: Half liter containers, 4 replicate samples, and 4 replicate controls, brought to a 250mL final volume.

EXPERIMENTAL DESIGN:

1. A 24-hour composite sample was collected by Dynegey South Bay personnel ending on June 10, 2009, at 0840 hours. Weston Solutions personnel received 10 liters of the sample in one container on the same day at 1017 hours. Temperature upon arrival at the Weston Solutions laboratory was 15.6°C.
2. The temperature of the effluent was adjusted to 20 ± 1°C.
3. Ten test organisms were placed in each test container.
4. Test chambers were held at 20 ± 1°C for 96 hours with a photoperiod of 16 hours light: 8 hours darkness.
5. Samples were renewed at 48 hours.
6. Animals were fed 500 freshly hatched *Artemia* nauplii twice daily.

MORTALITY CRITERIA: Lack of respiratory movement and lack of reaction to gentle prodding

ACCEPTIBILITY CRITERIA: ≥ 90% survival in controls. Evaluation of the concentration-response relationship indicated that the data presented in this report are reliable.

REFERENCE TOXICITY: Toxicant: CuSO<sub>4</sub>, Lot No.: 1804614, Received: 5/23/08, Opened: 5/29/08,  
(Control Chart Included) Expires: 3/31/10.  
96 Hour LC<sub>50</sub>: 576.38 ppb  
Laboratory Mean: 382.21 ppb  
Test Date: 6/10/2009 Within 95 % Confidence Limits

STUDY DIRECTOR: J. Hansen  
INVESTIGATORS: A. Langford, J. Hansen, A. Lovell, V. Hayes, E. Batliner



Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

Client	Danroy Smith Bay LLC
Project	SEPP Toxicity Sample - June
Client Sample ID:	So. Bay Inlet
Weston Test ID:	C090610.0361
Species:	Mysidopsis bahia

Date Received:	6/10/09
Date Test Started:	6/10/09
Date Test Ended:	6/14/09
Study Director:	J. Hansen
# Organisms/Chamber:	10

	Conc.	D.O. (mg/L)	Temp (°C)	Salinity (ppt)	pH	Total Chlorine (mg/L)
Day 0 (0 Hours) Date: 6/10/09 Sample ID: C090610.03 Dilutions (Tech): JH WQ Time: 1300 (on stock) Technician: JH	Control	6.8	21.3	33.2	8.0	0.04
	100	7.9	19.0	34.8	8.1	0.01
24 Hours Date: 6/11/09 WQ Time: 1037 Replicate: 1 Technician: JH	Control	5.9	20.8	33.7	8.0	
	100	6.2	20.7	35.4	8.0	
48 Hours (OLD) Date: 6/12/09 WQ Time: 1040 Replicate: 2 Technician: AEL	Control	6.1	20.8	33.4	7.9	
	100	5.3	20.6	35.1	7.8	
48 Hours (Renewal Water) Date: 6/12/09 Sample ID: C090610.03 Dilutions (Tech): JH, AEL WQ Time: 1117 Technician: JH	Control	6.7	21.0	33.5	8.0	ⓐ JH
	100	8.2	20.1	35.3	8.0	ⓐ JH
72 Hours Date: 6/13/09 WQ Time: 1110 Replicate: 3 Technician: Vlt	Control	6.6	20.6	33.7	7.8	
	100	6.0	20.9	35.5	7.8	
96 Hours Date: 6/14/09 WQ Time: 1235 Replicate: 4 Technician: Vlt	Control	4.3	20.3	33.8	7.4	ⓐ JH
	100	4.1	20.7	35.5	7.4	ⓐ JH

Start Time:	1510	Initials: JH
End Time:	1835	Initials: Vlt
Supplier:	Aquatic Bio Systems	
Organism Batch:	ABS 9055	Age: 5 days

Dilution Water Batch:	810 052209
Hobo Temp. No.:	119279
Test Location:	Room 3
Test Acceptability:	X ≥ 90% Survival in Control

ⓐ WC 6/12/09 JH  
 ⓑ No chlorine detected at test initiation 6/15/09 JH  
 Ⓒ Due to tech error, chlorine not rechecked 6/25/09 JH



Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

Weston Test ID: C090610.0361	Client: Dyneegy South Bay LLC	Client Sample ID: SoBay Inlet
---------------------------------	----------------------------------	----------------------------------

Conc.	Rep	24 Hours		48 Hours		72 Hours		96 Hours	
		Date: 6/11/09	Time: 1048	Date: 6/12/09	Renewal Time: 1125	Date: 6/13/09	Time: 1120	Date: 6/14/09	End Time: 1335
		Technician: AL		Technician: JH		Technician: VH		Technician: VH	
		# Alive	# Dead	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead
Control	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
	4	10	0	10	0	10	0	10	0
100	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
	4	10	0	10	0	10	0	10	0
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

Feeding Information	Day 0	24 Hours	48 Hours	72 Hours	96 Hours
AM Feed (Tech):		AL	JH	VH	VH
PM Feed (Tech):	AL	AL	JH	VH	

WESTON Solutions, Inc.

Analytical Report

Client: Dynege South Bay LLC Date Received: 10 Jun 09  
Project: SBPP Toxicity Sample - June Date Test Started: 10 Jun 09  
Client Sample ID: So. Bay Property Line (S2) Date Test Ended: 14 Jun 09  
Weston Test ID: C090610.0461 Matrix: Liquid

96 Hour Acute Effluent Toxicity Bioassay

Weston Testing Protocol No. BIO061F  
EPA-821-R-02-012

Test Organism: *Mysidopsis bahia*  
Age: 5 day(s) old

Percent Test Solution	Number of Test Organisms at Start of Test	Number of Test Organisms at End of Test	Percent Survival	Percent Survival Relative to Control
Control	40	40	100	N/A
100	40	40	100	100

Acute Toxicity Statement for Sample So. Bay Property Line (S2)

**Toxicity Statement:** The test substance So. Bay Property Line (S2) did not express a toxic effect on juvenile *Mysidopsis bahia* exposed to a concentration of 100 percent test substance for 96 hours. Survival at 96 hours in the 100 percent test substance was 100 percent relative to the Control.

**Protocol Deviations:** The salinity of the sample So. Bay Property Line (S2) was slightly higher than the protocol range of 5-30ppt  $\pm$  10%. Due to technician error, chlorine was not measured in the Control at 48 and 96 hours. Since test substance So. Bay Property Line (S2) did not have an effect on survival, these deviations should not affect the usefulness of the test results.

Belahite M. Battin  
QA Officer

7/15/09  
Date

August  
Approved

7/17/09  
Date

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	10 Jun 09
Project:	SBPP Toxicity Sample - June	Date Test Started:	10 Jun 09
Client Sample ID:	So. Bay Property Line (S2)	Date Test Ended:	14 Jun 09
Weston Test ID:	C090610.0461	Matrix:	Liquid

96 Hour Acute Effluent Toxicity Bioassay  
 Weston Testing Protocol No.: BIO061F  
 EPA-821-R-02-012

Test Organism: *Mysidopsis bahia*

Test Solution Physical and Chemical Data

Total Chlorine mg/L			
Concentration (%)	Initial	Renewal	Final
Control	0.04	**	**
100	0.00	*	*

\* Chlorine not detected at test initiation.

\*\* Chlorine reading not taken due to technician error.

Concentration (%)	Statistic	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	pH
Control	Mean	6.1	20.8	33.6	7.9
	Minimum	4.3	20.3	33.2	7.4
	Maximum	6.8	21.3	33.8	8.0
100	Mean	6.3	20.2	35.2	7.9
	Minimum	4.2	19.1	34.8	7.3
	Maximum	8.2	20.8	35.4	8.0

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	10 Jun 09
Project:	SBPP Toxicity Sample - June	Date Test Started:	10 Jun 09
Client Sample ID:	So. Bay Property Line (S2)	Date Test Ended:	14 Jun 09
Weston Test ID:	C090610.0461	Matrix:	Liquid

APPENDIX

Pertinent Test Data

TEST: Effluent Toxicity Bioassay, Weston Protocol No. BIO061F, EPA-821-R-02-012

LAB CONTROL WATER: Filtered seawater collected from Scripps Institution of Oceanography

Salinity	33.2 ppt
Dissolved Oxygen	6.8 mg/L
Temperature	21.3 °C
pH	8.0

TEST ORGANISM: *Mysidopsis bahia* Age: 5 day(s) old  
Supplier: Aquatic Bio Systems  
Organisms were acclimated to test salinity and fed *ad libitum* newly hatched *Artemia* daily, prior to test initiation.

TEST CHAMBER: Half liter containers, 4 replicate samples, and 4 replicate controls, brought to a 250mL final volume.

EXPERIMENTAL DESIGN:

1. A 24-hour composite sample was collected by Dynegy South Bay personnel ending on June 10, 2009, at 0850 hours. Weston Solutions personnel received 10 liters of the sample in one container on the same day at 1017 hours. Temperature upon arrival at the Weston Solutions laboratory was 14.9°C.
2. The temperature of the effluent was adjusted to 20 ± 1°C.
3. Ten test organisms were placed in each test container.
4. Test chambers were held at 20 ± 1°C for 96 hours with a photoperiod of 16 hours light: 8 hours darkness.
5. Samples were renewed at 48 hours.
6. Animals were fed 500 freshly hatched *Artemia* nauplii twice daily.

MORTALITY CRITERIA: Lack of respiratory movement and lack of reaction to gentle prodding

ACCEPTIBILITY CRITERIA: ≥ 90% survival in controls. Evaluation of the concentration-response relationship indicated that the data presented in this report are reliable.

REFERENCE TOXICITY: Toxicant: CuSO<sub>4</sub>, Lot No.: 1804614, Received: 5/23/08, Opened: 5/29/08,  
(Control Chart Included) Expires: 3/31/10.  
96 Hour LC<sub>50</sub>: 576.38 ppb  
Laboratory Mean: 382.21 ppb  
Test Date: 6/10/2009 Within 95 % Confidence Limits

STUDY DIRECTOR: J. Hansen  
INVESTIGATORS: A. Langford, J. Hansen, A. Lovell, V. Hayes, E. Batliner



Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

Client	Dynegy South Bay LLC
Project	SEPP Toxicity Sample - June
Client Sample ID	So. Bay Property Line (S2)
Weston Test ID	C090610.0461
Species	Mysidopsis bahia

Date Received:	6/10/09
Date Test Started:	6/10/09
Date Test Ended:	6/14/09
Study Director:	J. Hansen
# Organisms/Chamber:	10

	Conc.	D.O. (mg/L)	Temp (°C)	Salinity (ppt)	pH	Total Chlorine (mg/L)
Day 0 (0 Hours) Date: 6/10/09 Sample ID: C090610.04 Dilutions (Tech): JH WQ Time: 1303 (on stock) Technician: JH	Control	6.8	21.3	33.2	8.0	0.04
	100	7.6	19.1	34.8	8.0	0.00
24 Hours Date: 6/11/09 WQ Time: 1037 Replicate: 1 Technician: JH	Control	5.9	20.8	33.7	8.0	
	100	5.7	20.4	35.2	8.0	
48 Hours (OLD) Date: 6/12/09 WQ Time: 1040 Replicate: 2 Technician: AEC	Control	6.1	20.5	33.4	7.9	
	100	5.8	20.8	35.0	7.9	
48 Hours (Renewal Water) Date: 6/12/09 Sample ID: C090610.04 Dilutions (Tech): AEL WQ Time: 1117 Technician: JH	Control	6.7	21.0	33.5	8.0	QJH
	100	8.2	19.7	35.2	8.0	QJH
72 Hours Date: 6/13/09 WQ Time: 1120 Replicate: 3 Technician: VHT	Control	6.6	20.6	33.7	7.8	
	100	6.2	20.8	35.4	7.9	
96 Hours Date: 6/14/09 WQ Time: 1235 Replicate: 4 Technician: VHT	Control	4.3	20.3	33.8	7.4	QJH
	100	4.2	20.5	35.3	7.3	QJH

Start Time:	1510	Initials:	JH
End Time:	1335	Initials:	VHT
Supplier:	Aquatic Bio Systems		
Organism Batch:	ABS 9065	Age:	6 days

Dilution Water Batch:	S10052209
Hobo Temp. No.:	119279
Test Location:	Room 3
Test Acceptability:	<input checked="" type="checkbox"/> ≥ 90% Survival in Control

- ① No chlorine detected at test initiation 6/15/09 JH
- ② Due to tech error, chlorine not rechecked 4/25/09 JH



Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

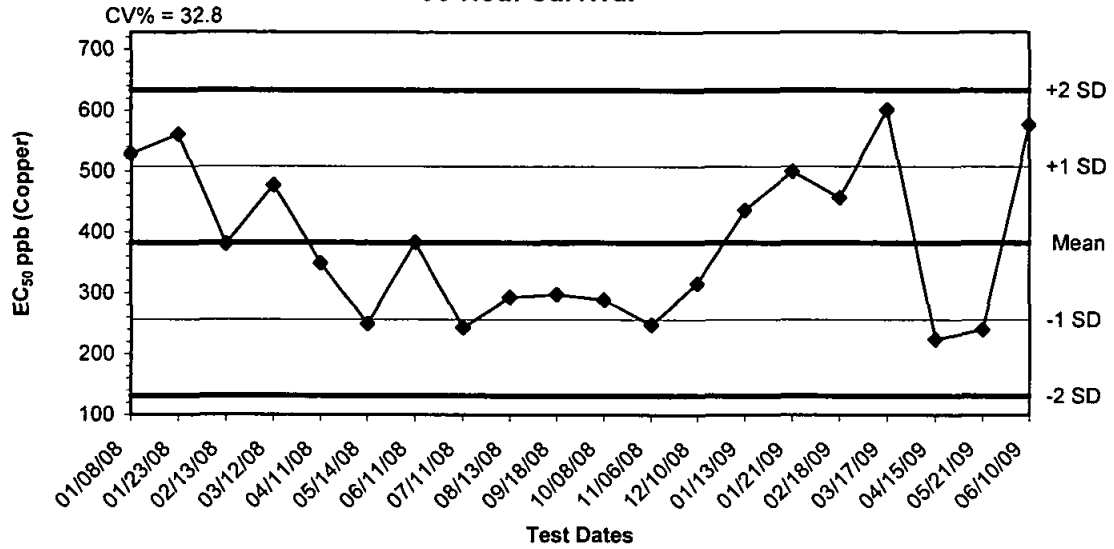
Weston Test ID: C090610.0461	Client: Dynegy South Bay LLC	Client Sample ID: So. Bay Property Line (S2)
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Conc.	Rep	24 Hours		48 Hours		72 Hours		96 Hours	
		Date: 6/11/09		Date: 6/12/09		Date: 6/13/09		Date: 6/14/09	
		Time: 1048		Renewal Time: 1125		Time: 1120		End Time: 1335	
		Technician: AL		Technician: JH		Technician: VH		Technician: VH	
		# Alive	# Dead	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead
Control	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
	4	10	0	10	0	10	0	10	0
100	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
	4	10	0	10	0	10	0	10	0
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

Feeding Information	Day 0	24 Hours	48 Hours	72 Hours	96 Hours
AM Feed (Tech):		AL	JH	VH	VH
PM Feed (Tech):	AB	AL	JH	VH	



**Mysidopsis bahia Reference Toxicant Control Chart:  
96-Hour Survival**



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
01/08/08	528.1260	382.2111	256.6796	131.1482	507.7426	633.2740
01/23/08	560.4350	382.2111	256.6796	131.1482	507.7426	633.2740
02/13/08	380.1460	382.2111	256.6796	131.1482	507.7426	633.2740
03/12/08	476.4770	382.2111	256.6796	131.1482	507.7426	633.2740
04/11/08	348.6020	382.2111	256.6796	131.1482	507.7426	633.2740
05/14/08	249.0090	382.2111	256.6796	131.1482	507.7426	633.2740
06/11/08	382.6760	382.2111	256.6796	131.1482	507.7426	633.2740
07/11/08	243.1980	382.2111	256.6796	131.1482	507.7426	633.2740
08/13/08	292.6560	382.2111	256.6796	131.1482	507.7426	633.2740
09/18/08	297.3800	382.2111	256.6796	131.1482	507.7426	633.2740
10/08/08	288.4480	382.2111	256.6796	131.1482	507.7426	633.2740
11/06/08	247.8800	382.2111	256.6796	131.1482	507.7426	633.2740
12/10/08	315.5210	382.2111	256.6796	131.1482	507.7426	633.2740
01/13/09	435.7070	382.2111	256.6796	131.1482	507.7426	633.2740
01/21/09	499.5560	382.2111	256.6796	131.1482	507.7426	633.2740
02/18/09	456.2280	382.2111	256.6796	131.1482	507.7426	633.2740
03/17/09	601.0970	382.2111	256.6796	131.1482	507.7426	633.2740
04/15/09	224.5880	382.2111	256.6796	131.1482	507.7426	633.2740
05/21/09	240.1090	382.2111	256.6796	131.1482	507.7426	633.2740
06/10/09	576.3830	382.2111	256.6796	131.1482	507.7426	633.2740

Updated 6/18/09 AL

**Mysidopsis Acute-96 Hr Survival**

Start Date: 6/10/2009 15:15 Test ID: C080523.129 Sample ID: REF-Ref Toxicant  
 End Date: 6/14/2009 13:45 Lab ID: CCA-Weston, Carlsbad Sample Type: CUSO-Copper sulfate  
 Sample Date: Protocol: EPAA 02-EPA Acute Test Species: MY-Mysidopsis bahia  
 Comments:

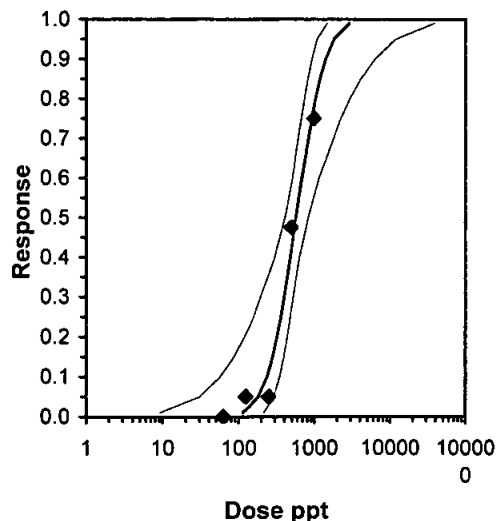
Conc-ppt	1	2	3	4
Control	1.0000	1.0000	1.0000	1.0000
62.5	1.0000	1.0000	1.0000	1.0000
125	1.0000	0.9000	1.0000	0.9000
250	0.9000	1.0000	0.9000	1.0000
500	0.6000	0.5000	0.5000	0.5000
1000	0.4000	0.2000	0.2000	0.2000

Conc-ppt	Transform: Untransformed							Mean	N-Mean
	Mean	N-Mean	Mean	Min	Max	CV%	N		
Control	1.0000	1.0000	1.0000	1.0000	1.0000	0.000	4	1.0000	0.0000
62.5	1.0000	1.0000	1.0000	1.0000	1.0000	0.000	4	1.0000	0.0000
125	0.9500	0.9500	0.9500	0.9000	1.0000	6.077	4	0.9500	0.0500
250	0.9500	0.9500	0.9500	0.9000	1.0000	6.077	4	0.9500	0.0500
500	0.5250	0.5250	0.5250	0.5000	0.6000	9.524	4	0.5250	0.4750
1000	0.2500	0.2500	0.2500	0.2000	0.4000	40.000	4	0.2500	0.7500

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.84741	0.884	1.28063	2.05618
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	3.29829	1.02442	1.29043	5.30615	0	0.85861	7.81473	0.84	2.76071	0.30319	4
Intercept	-4.1056	2.82196	-9.6367	1.42541							
TSCR											

Point	Probits	ppt	95% Fiducial Limits	
EC01	2.674	113.604	9.14735	216.032
EC05	3.355	182.815	30.3657	295.107
EC10	3.718	235.592	57.1873	350.806
EC15	3.964	279.562	87.1824	396.354
EC20	4.158	320.289	121.222	439.151
EC25	4.326	359.927	159.813	482.609
EC40	4.747	482.947	303.16	647.536
EC50	5.000	576.383	412.168	835.477
EC60	5.253	687.896	518.3	1165.47
EC75	5.674	923.013	681.03	2257.58
EC80	5.842	1037.24	745.822	2986.68
EC85	6.036	1188.35	824.244	4163.42
EC90	6.282	1410.14	929.454	6359.51
EC95	6.645	1817.23	1103.12	11995.9
EC99	7.326	2924.36	1504.9	39874.7



Test: MA-Mysidopsis Acute      Test ID: C080523.129 -  
 Species: MY-Mysidopsis bahia      Protocol: EPAA 02-EPA Acute  
 Sample ID: REF-Ref Toxicant      Sample Type: CUSO-Copper sulfate  
 Start Date: 6/10/2009 15:15      End Date: 6/14/2009 13:45      Lab ID: CCA-Weston, Carlsbad

Pos	ID	Rep	Group	Start	24 Hr	48 Hr	72 Hr	96 Hr	Notes
	1	1	Control	10				10	
	2	2	Control	10				10	
	3	3	Control	10				10	
	4	4	Control	10				10	
	5	1	62.500	10				10	
	6	2	62.500	10				10	
	7	3	62.500	10				10	
	8	4	62.500	10				10	
	9	1	125.000	10				10	
	10	2	125.000	10				9	
	11	3	125.000	10				10	
	12	4	125.000	10				9	
	13	1	250.000	10				9	
	14	2	250.000	10				10	
	15	3	250.000	10				9	
	16	4	250.000	10				10	
	17	1	500.000	10				6	
	18	2	500.000	10				5	
	19	3	500.000	10				5	
	20	4	500.000	10				5	
	21	1	1000.000	10				4	
	22	2	1000.000	10				2	
	23	3	1000.000	10				2	
	24	4	1000.000	10				2	

Comments:



**96-Hour Mysid  
Reference Toxicant Test**

BIO061

Test ID: <i>COB0523.129</i>	Associated Test(s): <i>Dynegy</i>		Study Director: <i>V. Hayes / A. Lovell</i>
Organism Batch: <i>APS 9055</i>	Location: <i>Room 3</i>	Replicates: 4	No. of Organisms: 10
Start Time: <i>1515</i>	Initials: <i>JH</i>	End Time: <i>1345</i>	Initials: <i>VH</i>

Toxicant: Copper Sulfate (0.509gCu/LCuSO <sub>4</sub> )		Toxicant Lot Number: <i>1804614</i>	Stock Preparation Date: <i>5/21/09</i>					
Serial Dilute by 1/2 to obtain concentrations of 1000, 500, 250, 125, and 62.5 ppb.								
Date Prepared	Day	Target Conc.	Toxicant (target)	Toxicant (actual)	Diluent (target)	Diluent (actual)	Dilution Water Batch	Tech.
<i>6/10/09</i>	<i>0</i>	<i>1000 ppb</i>	<i>3.932 mL</i>	<i>3.9324 mL</i>	<i>2000 mL</i>	<i>2000.0 mL</i>	<i>S10052209</i>	<i>JH</i>
<i>6/12/09</i>	<i>2</i>	<i>1000 ppb</i>	<i>1.966 mL</i>	<i>1.9661 mL</i>	<i>1000 mL</i>	<i>1000.0 mL</i>	<i>S10052209</i>	<i>AEL</i>

Day 0 Water Quality Data							
Stock							
Date: <i>6/10/09</i>	Time: <i>1335</i>			Initials: <i>JH</i>			
	Control	62.5	125	250	500	1000	
D.O. (mg/L)	<i>6.9</i>	<i>6.9</i>	<i>6.9</i>	<i>6.9</i>	<i>6.9</i>	<i>6.9</i>	<i>6.9</i>
Temperature	<i>21.4</i>	<i>21.3</i>	<i>21.4</i>	<i>21.3</i>	<i>21.3</i>	<i>21.2</i>	<i>21.2</i>
Salinity	<i>33.3</i>	<i>33.2</i>	<i>33.2</i>	<i>33.2</i>	<i>33.2</i>	<i>33.2</i>	<i>33.2</i>
pH	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>

Day 4 (96-Hour) Water Quality Data							
Date: <i>6/14/09</i>	Time: <i>1250</i>			Replicate: <i>4</i>		Initials: <i>VH</i>	
	Control	62.5	125	250	500	1000	
D.O. (mg/L)	<i>4.5</i>	<i>3.9</i>	<i>4.6</i>	<i>5.0</i>	<i>5.3</i>	<i>5.5</i>	
Temperature	<i>20.5</i>	<i>20.4</i>	<i>20.8</i>	<i>20.4</i>	<i>20.3</i>	<i>20.1</i>	
Salinity	<i>33.9</i>	<i>33.8</i>	<i>33.8</i>	<i>33.8</i>	<i>33.8</i>	<i>33.8</i>	
pH	<i>7.4</i>	<i>7.3</i>	<i>7.4</i>	<i>7.5</i>	<i>7.5</i>	<i>7.5</i>	

Pass       Fail

Notes:



96-Hour Mysid Reference Toxicant Test

BIO061

SURVIVAL DATA

Test ID: C080523.129									
		Day 1		Day 2		Day 3		Day 4	
Conc. (ppb)	Rep	Date: <del>6/10/09</del> 6/11/09	Date: 6/12/09	Date: 6/13/09	Date: 6/14/09				
		Time: 1055	Renewal Time: 1445	Time: 1400	End Time: 1315				
		Technician: AL	Technician: AEL	Technician: VHT	Technician: VHT				
		# Alive	# Dead	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead
Control	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
	4	10	0	10	0	10	0	10	0
62.5	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
	4	10	0	10	0	10	0	10	0
125	1	10	0	4 10	0 (INB)	10	0	10	0
	2	10	0	10 9	0 (INB)	9	0	9	0
	3	10	0	4 10	0 (INB)	10	0	10	0
	4	10	0	10 9	0 (INB)	9	0	9	0
250	1	10	0	9	0 (INB)	9	0	9	0
	2	10	0	10	0	10	0	10	0
	3	10	0	9	1	9	0	9	0
	4	10	0	10	0	10	0	10	0
500	1	10	0	9	0 (INB)	6	3	6	0
	2	9 (AL)	1 (AL)	8	0 (AL) 1	5	3	5	0
	3	9 (AL)	1	7	2	6	1	5	1
	4	10	0	10	0	6	3 (INB)	5	1
1000	1	10	0	8	2	8	0	4	4
	2	10	0	8	2	5	3	2	3
	3	10	0	7	3	6	1	2	4
	4	10	0	7	3	3	4	2	1

Feeding Information	Day 0	Day 1	Day 2	Day 3	Day 4
AM Feed (Tech):		AL	JH	VH	VHT
PM Feed (Tech):	EB	AL JH	JH	VHT	

- ① IE 6/11/09 AL
- ② LC 6/12/09 AEL
- ③ IE 6/12/09 AEL
- ④ IE 6/14/09 AL



BIOASSAY SAMPLE RECEIPT

Client: <i>Dynegy South Bay LLC</i>		Project: <i>SBPP Toxicity Sample - June</i>	
Weston Sample ID:	<i>CO90610.03</i>	<i>CO90610.04</i>	
Client Sample ID:	<i>So. Bay Inlet</i>	<i>So. Bay Property Line(s2)</i>	
Renewal Sample (Y/N):	<i>N</i>	<i>N</i>	
Date/Time Received:	<i>6/10/09 1017</i>	<i>6/10/09 1017</i>	
Airbill #:	<i>N/A</i>	<i>N/A</i>	
Sample Tracking Information Kept for Records: (Y/N)	<i>N/A</i>	<i>N/A</i>	
Collection Date/Time:	<i>6/9-10/09 0840-0840</i>	<i>6/9-10/09 0850-0850</i>	
Condition of Shipping Container:	<i>N/A</i>	<i>N/A</i>	
Type and Capacity of Sample Container:	<i>10 L cubic</i>	<i>10 L cubic</i>	
Total Sample Volume (L):	<i>10 L</i>	<i>10 L</i>	
Condition of Sampling Container:	<i>good</i>	<i>good</i>	
Sample Container Appropriate: (Y/N)	<i>Y</i>	<i>Y</i>	
Custody Seals Intact: (Y/N)	<i>N/A</i>	<i>N/A</i>	
Ice or Frozen Blue Ice Present During Shipment/Transport: (Y/N)	<i>Y</i>	<i>Y</i>	
Sampler's Name Present on COC Form: (Y/N)	<i>Y</i>	<i>Y</i>	

TAKE THE FOLLOWING MEASUREMENTS UPON ARRIVAL									
WESTON ID	Temp. (°C) (0-6°C) *	Dissolved Oxygen (mg/L)	pH	Conductivity (mS/cm) or Salinity (ppt)	Hardness (mg CaCO <sub>3</sub> /L)	Alkalinity (mg CaCO <sub>3</sub> /L)	Total Chlorine (mg/L)	Total Ammonia (mg NH <sub>3</sub> /L)	Tech
<i>CO90610.03</i>	<i>15.6</i>	<i>7.8</i>	<i>8.1</i>	<i>34.8</i>	<i>---</i>	<i>---</i>	<i>0.01</i>	<i>0.5</i>	<i>JH/AEL</i>
<i>CO90610.04</i>	<i>14.9</i>	<i>8.1</i>	<i>8.0</i>	<i>34.8</i>	<i>---</i>	<i>---</i>	<i>0.00</i>	<i>0.5</i>	<i>↓ ↓</i>

\*Notify project manager or study director of temperatures above 6°C. Client must be notified ASAP.

If there are sample receipt problems, complete the following:	
Reason for unacceptability:	
Name of Client Contact:	Contacted by:
Client Response and/or Action to be Taken:	Date Action Taken:

*① samples okay to use due to Dynegy personnel delivering them the same day as the test 6/25/09 JH*

**Dynegy South Bay LLC**  
SOUTH BAY POWER PLANT

Lab No.

**Work ID: SBPP TOXICITY SAMPLE**

Client Code: Dynegy South Bay, LLC

Client Name: Tom Liebst  
Client Address: 990 Bay Blvd., Chula Vista, CA 91911  
Client Phone: (619) 498-5223

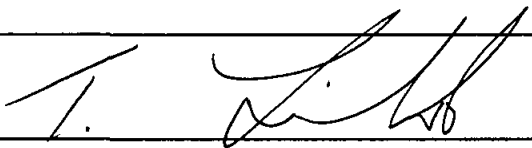
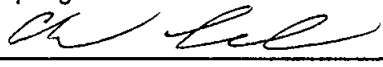
Number of Containers: 2

Sampled by (Print): Tom Liebst

Sampled by (Signature): 

Sample ID	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
So. Bay Inlet	01A	6/09/09 - 6/10/09	0840 - 0840	Water	10- Liter Cubitainer	4°C	Acute Vertabrate Test
So. Bay Inlet	01A	6/09/09 - 6/10/09	0840 - 0840	Water	10- Liter Cubitainer	4°C	Chronic Plant Test
So. Bay Property Line (S2)	02A	6/09/09 - 6/10/09	0850 - 0850	Water	10- Liter Cubitainer	4°C	Acute Vertabrate Test
So. Bay Property Line (S2)	02A	6/09/09 - 6/10/09	0850 - 0850	Water	10- Liter Cubitainer	4°C	Chronic Plant Test

Total Residual Chlorine - Property Line (S2) =      mg/l @      hrs.

Releasing		Date	Time	Accepting	Date Time
		6/10/09	1017		6/10/09 1017
Releasing		Date	Time	Accepting	Date Time

8

## Daily Chlorine Usage

Date: 6/1/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015	20 min.	0.150	540	3.510	
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105	20 min.	0.100	225	2.340	3N CW Pump remains off.
4	0130			0	0.000	4N & S CW Pumps remain off.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.075	270	1.755	
3	0505	20 min.	0.100	225	2.340	
4	0530			0	0.000	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0815	20 min.	0.075	270	1.755	1N CW Pump off @ 0800 hrs.
2	0840	20 min.	0.075	270	1.755	
3	0905	20 min.	0.100	225	2.340	
4	0930			0	0.000	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.075	270	1.755	
3	1305	20 min.	0.100	225	2.340	
4	1330			0	0.000	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.075	270	1.755	2N CW Pump on @ 1924 hrs.
3	1705	20 min.	0.100	225	2.340	
4	1730			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
1	2015	20 min.	0.075	270	1.755	14.04	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	12.29	39,000 (gpm)
3	2105	20 min.	0.100	225	2.340	14.04	62,300 (gpm)
4	2130				0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit



## Daily Chlorine Usage

Date: 6/2/2009

24 HOUR TOTALS

			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump off @ 0005 hrs.
3	0105	20 min.	0.100	225	2.340	3N CW Pump remains off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	2N CW Pump on @ 0232 hrs.
3	0505			0	0.000	3S CW Pump off @ 0215 hrs.
4	0530			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	0815	20 min.	0.075	270	1.755	
2	0840	20 min.	0.150	540	3.510	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.150	540	3.510	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
Unit	Time	DURATION					
1	2015	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	19.31	39,000 (gpm)
3	2105			0	0.000	2.34	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/3/2009

24 HOUR TOTALS

			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump off @ 0025 hrs.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	0815	20 min.	0.075	270	1.755	1N CW Pump on @ 0922 hrs.
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	1215	20 min.	0.150	540	3.510	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	1615			0	0.000	1N & S CW Pumps off @ 1446 hrs.
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
Unit	Time	DURATION					
1	2015			0	0.000	8.78	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/4/2009

24 HOUR TOTALS

			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
Unit	Time	DURATION				
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
Unit	Time	DURATION				
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
Unit	Time	DURATION					
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/5/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/6/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/7/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015			0	0.000	
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130	20 min.	0.135	277	3.159	4S CW Pump remains off. 4N CW Pump on @ 0012 hrs.
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530	20 min.	0.135	277	3.159	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930	20 min.	0.135	277	3.159	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330	20 min.	0.135	277	3.159	4N CW Pump off @ 1344 hrs.
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	Daily Total lbs of Chlorine	Condenser half - flow rate.
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	12.64	68,400 (gpm)

**Pump Feed Rate (GPM)** is calculated by timing out a known volumes at the Chlorine injection pump.

**Feed (ug/l)** = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

**Chlorine Lbs. per Cycle** = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

**Daily Total Lbs. of Chlorine** = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/8/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440			0	0.000	2S CW Pump off @ 0210 hrs.
3	0505			0	0.000	2S CW Pump on @ 0528 hrs.
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	8.78	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/9/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit



## Daily Chlorine Usage

Date: 6/10/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/11/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/12/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/13/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl2 \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/14/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	1S CW Pump on @ 1134 hrs.
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615	20 min.	0.075	270	1.755	1N CW Pump on @ 2020 hrs.
2	1640	20 min.	0.075	270	1.755	1S CW Pump off @ 2230 hrs.
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015	20 min.	0.075	270	1.755	5.27	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/15/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015	20 min.	0.075	270	1.755	1S CW Pump remains off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	1N CW Pump off @ 0220 hrs.
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	2N CW Pump on @ 0907 hrs.
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.150	540	3.510	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.150	540	3.510	
3	1705			0	0.000	3N & S CW Pumps on @ 2027 hrs.
4	1730			0	0.000	3N & S CW Pumps off @ 2135 hrs.

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	1.76	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	15.80	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	4.68	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/16/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015				0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.150	540	3.510	
3	0105				0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415				0.000	
2	0440	20 min.	0.150	540	3.510	2N CW Pump off @ 0648 hrs.
3	0505				0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	14.04	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/17/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	2N CW Pump on @ 0219 hrs.
3	0505			0	0.000	2S CW Pump off @ 0233 hrs.
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330	20 min.	0.270	554	6.318	4N & S CW Pumps on @ 1203 hrs.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730	20 min.	0.270	554	6.318	4N & S CW Pumps off @ 2240 hrs.

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130	20 min.	0.270	554	6.318	18.95	68,400 (gpm)

**Pump Feed Rate (GPM)** is calculated by timing out a known volumes at the Chlorine injection pump.

**Feed (ug/l)** = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

**Chlorine Lbs. per Cycle** = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

**Daily Total Lbs. of Chlorine** = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit



## Daily Chlorine Usage

Date: 6/18/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2S CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/19/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2S CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

**Pump Feed Rate (GPM)** is calculated by timing out a known volumes at the Chlorine injection pump.

**Feed (ug/l)** = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

**Chlorine Lbs. per Cycle** = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

**Daily Total Lbs. of Chlorine** = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/20/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2S CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/21/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2S CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	2N CW Pump off @ 2315 hrs.
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/22/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040			0	0.000	2N & S CW Pumps remain off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	2N CW Pump on @ 0310 hrs.
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.150	540	3.510	2S CW Pump on @ 0804 hrs.
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.150	540	3.510	2N CW Pump off @ 1405 hrs.
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	12.29	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/23/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	1N & S CW Pumps on @ 0505 hrs.
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815	20 min.	0.150	540	3.510	1S CW Pump off @ 0935 hrs.
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	1N CW Pump off @ 1310 hrs.
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	3S CW Pump on @ 2145 hrs.
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	5.27	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/24/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105	20 min.	0.100	225	2.340	3N CW Pump remains off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505	20 min.	0.200	450	4.680	3N CW Pump on @ 0248 hrs.
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905	20 min.	0.200	450	4.680	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	3N & S CW Pumps off @ 1450 hrs.
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	4S CW Pump on @ 2115 hrs.
4	1730			0	0.000	4N CW Pump on @ 2255 hrs.

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	11.70	62,300 (gpm)
4	2130	20 min.	0.135	277	3.159	3.16	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/25/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705			0	0.000	
4	1730			0	0.000	4N & S CW Pumps off @ 1730 hrs.

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105			0	0.000	0.00	62,300 (gpm)
4	2130			0	0.000	25.27	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit



## Daily Chlorine Usage

Date: 6/26/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105			0	0.000	3N & S CW Pumps remain off.
4	0130			0	0.000	4N & S CW Pumps remain off.
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505			0	0.000	
4	0530			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905			0	0.000	
4	0930			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.075	270	1.755	
3	1305			0	0.000	
4	1330			0	0.000	
			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.075	270	1.755	
3	1705	20 min.	0.100	225	2.340	3S CW Pump on @ 1523 hrs.
4	1730			0	0.000	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	10.53	39,000 (gpm)
3	2105	20 min.	0.100	225	2.340	4.68	62,300 (gpm)
4	2130			0	0.000	0.00	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/27/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2N CW Pump remains off.
3	0105	20 min.	0.100	225	2.340	3N CW Pump remains off.
4	0130			0	0.000	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.075	270	1.755	
3	0505	20 min.	0.100	225	2.340	
4	0530			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.075	270	1.755	
3	0905	20 min.	0.100	225	2.340	
4	0930			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.150	540	3.510	2N CW Pump on @ 1030 hrs.
3	1305	20 min.	0.200	450	4.680	3N CW Pump on @ 1100 hrs.
4	1330			0	0.000	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	
2	1640	20 min.	0.150	540	3.510	2S CW Pump off @ 2255 hrs.
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.135	277	3.159	4S CW Pump on @ 1555 hrs.

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	15.80	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	21.06	62,300 (gpm)
4	2130	20 min.	0.135	277	3.159	6.32	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/28/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015			0	0.000	1N & S CW Pumps remain off.
2	0040	20 min.	0.075	270	1.755	2S CW Pump remains off.
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.135	277	3.159	4N & S CW Pumps remain off.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415			0	0.000	
2	0440	20 min.	0.150	540	3.510	2S CW Pump on @ 0215 hrs.
3	0505	20 min.	0.100	225	2.340	3N CW Pump off @ 0220 hrs.
4	0530	20 min.	0.270	554	6.318	4N CW Pump on @ 0525 hrs.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815			0	0.000	
2	0840	20 min.	0.150	540	3.510	3N CW Pump on @ 0540 hrs.
3	0905	20 min.	0.200	450	4.680	4S CW Pump off @ 0548 hrs.
4	0930	20 min.	0.270	554	6.318	4S CW Pump on @ 0915 hrs.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215			0	0.000	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615			0	0.000	1S CW Pump on @ 2115 hrs.
2	1640	20 min.	0.150	540	3.510	2S CW Pump off @ 2320 hrs.
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015			0	0.000	0.00	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	19.31	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	25.74	62,300 (gpm)
4	2130	20 min.	0.270	554	6.318	34.75	68,400 (gpm)

**Pump Feed Rate (GPM)** is calculated by timing out a known volumes at the Chlorine injection pump.

**Feed (ug/l)** = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

**Chlorine Lbs. per Cycle** = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

**Daily Total Lbs. of Chlorine** = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/29/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.075	270	1.755	2S CW Pump remains off.
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.075	270	1.755	2S CW Pump on @ 0535 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	4N CW Pump off @ 0555 hrs.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815	20 min.	0.075	270	1.755	
2	0840	20 min.	0.150	540	3.510	
3	0905	20 min.	0.200	450	4.680	
4	0930	20 min.	0.135	277	3.159	4N CW Pump on @ 1024 hrs.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215	20 min.	0.150	540	3.510	1N CW Pump on @ 1215 hrs.
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	3S CW Pump off @ 2310 hrs.
4	1730	20 min.	0.270	554	6.318	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015	20 min.	0.150	540	3.510	15.80	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	17.55	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	28.08	62,300 (gpm)
4	2130	20 min.	0.270	554	6.318	34.75	68,400 (gpm)

**Pump Feed Rate (GPM)** is calculated by timing out a known volumes at the Chlorine injection pump.

**Feed (ug/l)** = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

**Chlorine Lbs. per Cycle** = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

**Daily Total Lbs. of Chlorine** = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

## Daily Chlorine Usage

Date: 6/30/2009

24 HOUR TOTALS

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0015	20 min.	0.150	540	3.510	
2	0040	20 min.	0.150	540	3.510	2S CW Pump off @ 0150 hrs.
3	0105	20 min.	0.100	225	2.340	3S CW Pump on @ 0230 hrs.
4	0130	20 min.	0.135	277	3.159	4N CW Pump off @ 0050 hrs.

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.075	270	1.755	2S CW Pump on @ 0550 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.135	277	3.159	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	0815	20 min.	0.150	540	3.510	
2	0840	20 min.	0.150	540	3.510	
3	0905	20 min.	0.200	450	4.680	
4	0930	20 min.	0.135	277	3.159	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1215	20 min.	0.150	540	3.510	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330	20 min.	0.135	277	0.790	

			Pump Feed	Feed	Chlorine	REMARKS
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	2S CW Pump off @ 2010 hrs.
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.135	277	3.159	

			Pump Feed	Feed	Chlorine	Daily Total	Condenser half - flow rate.
Unit	Time	DURATION	Rate (GPM)	ug/l	(lbs/cycle)	lbs of Chlorine	
1	2015	20 min.	0.150	540	3.510	21.06	39,000 (gpm)
2	2040	20 min.	0.075	270	1.755	17.55	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	25.74	62,300 (gpm)
4	2130	20 min.	0.135	277	3.159	16.58	68,400 (gpm)

Pump Feed Rate (GPM) is calculated by timing out a known volumes at the Chlorine injection pump.

Feed (ug/l) = Pump Feed Rate (gpm) \* 1.17# per gallon Cl<sub>2</sub> \* 1,000,000,000 / the C.W. flow rate \* 8.34#

Chlorine Lbs. per Cycle = Pump Feed Rate (gpm) \* 1.17#/gal. \* 20 minutes.

Daily Total Lbs. of Chlorine = Chlorine Lbs. per cycle \* the number of cycles in a 24 hour period for that unit

California, San Diego, Imperial Beach

June 2009

N 32° 34.7' / W 117° 8.1'

Tide Tables, Charts and Scripts available at [FreeTideTables.com](http://FreeTideTables.com)

Date	Day	High Tide	High Tide	Low Tide	Low Tide	Sunrise	Sunset	Moonrise	Moonset	Phase
1	Mo	503am 3.6	555pm 5.1	1105am 0.8		541am	751pm	226pm	141am	
2	Tu	624am 3.4	635pm 5.5	1236am 0.9	1153am 1.1	541am	752pm	327pm	211am	
3	We	735am 3.4	712pm 5.8	131am 0.3	1237pm 1.5	541am	752pm	428pm	241am	
4	Th	833am 3.4	746pm 5.9	216am -0.2	117pm 1.8	540am	753pm	528pm	314am	
5	Fr	921am 3.4	820pm 6.0	256am -0.6	155pm 2.0	540am	753pm	628pm	351am	
6	Sa	1003am 3.5	853pm 6.0	332am -0.8	231pm 2.1	540am	754pm	726pm	432am	
7	Su	1041am 3.5	926pm 5.9	407am -0.8	305pm 2.2	540am	754pm	819pm	519am	
8	Mo	1117am 3.4	959pm 5.8	441am -0.8	339pm 2.3	540am	755pm	908pm	610am	
9	Tu	1154am 3.4	1032pm 5.6	516am -0.6	414pm 2.4	540am	755pm	950pm	705am	
10	We	1232pm 3.4	1106pm 5.3	552am -0.5	450pm 2.5	540am	756pm	1028pm	802am	
11	Th	114pm 3.4	1142pm 5.0	628am -0.2	532pm 2.6	540am	756pm	1101pm	859am	
12	Fr	158pm 3.5		706am 0.0	625pm 2.7	540am	756pm	1130pm	955am	
13	Sa	1221am 4.6	244pm 3.7	744am 0.4	735pm 2.8	540am	757pm	1158pm	1051am	
14	Su	109am 4.1	329pm 3.9	824am 0.7	903pm 2.6	540am	757pm		1147am	
15	Mo	217am 3.6	412pm 4.3	906am 1.1	1031pm 2.2	540am	757pm	1225am	1244pm	
16	Tu	348am 3.2	454pm 4.7	952am 1.3	1145pm 1.5	540am	758pm	1252am	142pm	
17	We	524am 3.0	536pm 5.1	1042am 1.6		540am	758pm	121am	244pm	
18	Th	647am 3.1	618pm 5.6	1244am 0.8	1134am 1.9	540am	758pm	154am	349pm	
19	Fr	754am 3.3	702pm 6.1	134am 0.0	1227pm 2.0	540am	759pm	232am	458pm	
20	Sa	850am 3.4	748pm 6.5	220am -0.8	118pm 2.0	541am	759pm	318am	609pm	
21	Su	939am 3.6	834pm 6.9	306am -1.2	209pm 2.0	541am	759pm	413am	718pm	
22	Mo	1025am 3.8	922pm 7.1	351am -1.6	259pm 1.9	541am	759pm	518am	821pm	
23	Tu	1111am 4.0	1010pm 7.0	436am -1.8	351pm 1.9	541am	759pm	630am	915pm	
24	We	1157am 4.1	1100pm 6.6	522am -1.7	445pm 1.9	541am	800pm	745am	1000pm	
25	Th	1245pm 4.3	1152pm 6.0	607am -1.4	544pm 1.9	542am	800pm	858am	1038pm	
26	Fr	134pm 4.4		653am -1.0	651pm 1.9	542am	800pm	1008am	1112pm	
27	Sa	1248am 5.3	226pm 4.6	739am -0.3	807pm 1.9	542am	800pm	1115am	1143pm	
28	Su	152am 4.5	320pm 4.8	825am 0.4	935pm 1.7	543am	800pm	1218pm		
29	Mo	309am 3.6	414pm 5.0	914am 1.1	1106pm 1.3	543am	800pm	120pm	1213am	
30	Tu	446am 3.2	508pm 5.2	1008am 1.6		544am	800pm	222pm	1243am	

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