DYNEGY

South Bay Power Plant
990 Bay Blvd
Chula Vista, CA 91911-1651
619.498.5200 *Office*
619.498.5287 *Fax*

September 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 August 2009. There were no exceedances for the month of August 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,

Leonard J. Cigainero
Plant Manager

LJC:tel
403.40.01
EHS 09-084

Dynegy South Bay LLC

I hereby submit the August 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: September 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

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name:	South Bay Power Plant		
Order No:	R9-2004-0154	Signed	
Report Freq:	Monthly	Extract Sample Point:	CW Inlet and Discharge
Report For:	August, 2009	Collected By:	Operations Personnel
Report Due:	September, 2009	Analyzed By:	Operations Personnel
Wastestream:	Once-through Cooling Water (Intake and Combined Discharge)		

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

DATE	DAILY AVERAGE DIFFERENCE	DAILY MAXIMUM DIFFERENCE
01	6.7	9.6
02	5.7	6.6
03	8.7	14.2
04	10.4	17.2
05	8.9	15.1
06	7.2	8.7
07	6.6	7.4
08	3.0	5.2
09	8.1	15.3
10	12.0	17.5
11	11.4	16.2
12	10.2	13.7
13	10.3	12.5
14	9.9	15.1
15	3.1	5.3
16	2.7	3.9
17	9.2	11.7
18	9.4	17.3
19	6.9	9.7
20	9.2	14.7
21	11.0	18.2
22	9.2	14.5
23	5.7	8.0
24	9.3	15.4
25	9.6	15.3
26	11.1	16.6
27	12.5	18.9
28	12.5	17.0
29	11.0	18.0
30	11.0	17.3
31	12.3	18.6
DISCHARGE DAYS AVERAGE	8.9	13.4
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: August, 2009
Report Due: September, 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	78.2	84.9
02	78.5	84.2
03	78.3	87.0
04	78.5	88.9
05	79.4	88.3
06	79.3	86.5
07	78.8	85.3
08	78.7	81.7
09	78.4	86.5
10	77.8	89.8
11	77.6	89.0
12	77.6	87.8
13	77.4	87.7
14	77.2	87.1
15	77.4	80.5
16	77.5	80.2
17	77.2	86.3
18	77.2	86.6
19	76.9	83.8
20	76.4	85.6
21	75.2	86.2
22	75.0	84.2
23	76.2	81.9
24	76.8	86.1
25	77.8	87.4
26	78.0	89.2
27	78.6	91.1
28	79.4	91.9
29	80.9	91.9
30	81.1	92.0
31	81.1	93.4
DISCHARGE DAYS AVERAGE	78.0	86.9

DYNEGY SOUTH BAY LLC - MONTHLY REPORT

Facility Name: South Bay Power Plant
Order No: R9-2004-0154
Report Freq: Monthly
Report For: August, 2009
Report Due: September, 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	288.2
02	240.5
03	214.7
04	241.9
05	227.5
06	215.3
07	180.0
08	133.0
09	170.4
10	223.4
11	222.6
12	231.5
13	288.0
14	258.7
15	133.0
16	133.0
17	214.1
18	215.0
19	240.8
20	337.0
21	333.6
22	331.5
23	329.1
24	281.5
25	250.7
26	320.3
27	374.1
28	374.5
29	379.7
30	379.7
31	366.2
DISCHARGE DAYS	
AVERAGE	262.2
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: August, 2009
Report Due: September, 2009

Signed

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

WASTESTREAM NAME: Combined Discharge - Property Line, S2 8/6/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	95 *	<40	3 TRC samples were analyzed on 08/06/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	43 *	<18	

*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 60 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 8/13/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	<40	4 TRC samples were analyzed on 08/13/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	68 **	<32	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 8/20/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	40	4 TRC samples were analyzed on 08/20/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	80 **	37	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 minutes

WASTESTREAM NAME: Combined Discharge - Property Line, S2 8/27/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	40	4 TRC samples were analyzed on 08/27/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	88 **	42	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 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: August, 2009
Report Due: September, 2009

Signed

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

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 8/6/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	95 *	<40	3 TRC samples were analyzed on 08/06/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	43 *	<18	

*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 60 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 8/13/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	<40	4 TRC samples were analyzed on 08/13/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	68 **	<32	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 8/20/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	40	4 TRC samples were analyzed on 08/20/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	80 **	37	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 minutes

WASTESTREAM NAME: Cooling Water Effluent, Weather Station, S1 8/27/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	40	4 TRC samples were analyzed on 08/27/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	88 **	42	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 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: August, 2009
Report Due: September, 2009

Signed

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

WASTESTREAM NAME: Cooling Water Inlet 8/6/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	95 *	<40	3 TRC samples were analyzed on 08/06/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	43 *	<18	

*Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 60 minutes

WASTESTREAM NAME: Cooling Water Inlet 8/13/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	<40	4 TRC samples were analyzed on 08/13/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	68 **	<32	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 minutes

WASTESTREAM NAME: Cooling Water Inlet 8/20/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	<40	4 TRC samples were analyzed on 08/20/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	80 **	<37	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 minutes

WASTESTREAM NAME: Cooling Water Inlet 8/27/09
PARAMETER NAME: CHLORINE, TOTAL RESIDUAL

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	GRAB	Instant Maximum	85 **	<40	4 TRC samples were analyzed on 08/27/09; see addendum 1.
LB/DAY	GRAB	Instant Maximum	88 **	<42	

**Intermittent discharge limit is based on continuous uninterrupted chlorination cycle of 80 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: August, 2009
Report Due: September, 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	--	--	1.6	
LB/DAY	GRAB	--	--	4992	

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	--	--	7.5	
LB/DAY	GRAB	--	--	23400	

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	--	--	8.3	
LB/DAY	GRAB	--	--	25896	

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	7.86 - 8.12	

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	7.88 - 8.15	

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	7.86 - 8.18	

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: August, 2009
Report Due: September, 2009

Signed

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

WASTESTREAM NAME: Cooling Water Inlet
PARAMETER NAME: COPPER, TOTAL RECOVERABLE

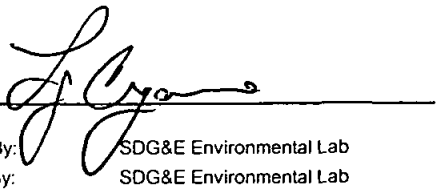
UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	COMP 24	--	--	2.40	
LB/DAY	COMP 24	--	--	5.18	

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

UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT	COMMENTS
UG/L	COMP 24	--	--	2.52	
LB/DAY	COMP 24	--	--	5.44	

DYNEGY SOUTH BAY LLC - MONTHLY REPORT **ADDENDUM 1**

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

Signed 

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

TOTAL RESIDUAL CHLORINE RESULTS

Date: 8/6/09 Station: Combined Discharge (S2, Property Line)

Sample Time	Result (ug/l)
12:25	<40
12:50	<40
13:15	<40
0:00	0

Date: 8/13/09 Station: Combined Discharge (S2, Property Line)

Sample Time	Result (ug/l)
12:25	<40
12:50	<40
13:15	<40
13:40	<40

Date: 8/20/09 Station: Combined Discharge (S2, Property Line)

Sample Time	Result (ug/l)
12:25	40
12:50	<40
13:15	<40
13:40	<40

Date: 8/27/09 Station: Combined Discharge (S2, Property Line)

Sample Time	Result (ug/l)
12:25	40
12:50	<40
13:15	<40
13:40	<40

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

Sample Time	Result (ug/l)
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: August, 2009
Report Due: September, 2009

Signed

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

TOTAL RESIDUAL CHLORINE RESULTS

Date: 8/6/09 Station: Cooling Water Effluent (S1, Weather Station)

Sample Time	Result (ug/l)
12:30	<40
12:55	<40
13:20	<40
0:00	0

Date: 8/13/09 Station: Cooling Water Effluent (S1, Weather Station)

Sample Time	Result (ug/l)
12:30	<40
12:55	<40
13:20	<40
13:45	<40

Date: 8/20/09 Station: Cooling Water Effluent (S1, Weather Station)

Sample Time	Result (ug/l)
12:30	40
12:55	<40
13:20	<40
13:45	<40

Date: 8/27/09 Station: Cooling Water Effluent (S1, Weather Station)

Sample Time	Result (ug/l)
12:30	40
12:55	<40
13:20	40
13:45	<40

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

Sample Time	Result (ug/l)
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: August, 2009
Report Due: September, 2009

Signed

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

TOTAL RESIDUAL CHLORINE RESULTS

Date: 8/6/09 Station: Cooling Water Intake

Sample Time	Result (ug/l)
12:15	<40
12:40	<40
13:05	<40
0:00	0

Date: 8/13/09 Station: Cooling Water Intake

Sample Time	Result (ug/l)
12:15	<40
12:40	<40
13:05	<40
13:30	<40

Date: 8/20/09 Station: Cooling Water Intake

Sample Time	Result (ug/l)
12:15	<40
12:40	<40
13:05	<40
13:30	<40

Date: 8/27/09 Station: Cooling Water Intake

Sample Time	Result (ug/l)
12:15	<40
12:40	<40
13:05	<40
13:30	<40

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

Sample Time	Result (ug/l)
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: August, 2009
Report Due: September, 2009

Signed

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

Receiving Water Metals

	Reporting Limit	Sample Stations											
	ug/L	A3	C3	D4	E3	E4	E5	E7	F2	F3	F4	N2	S1
Silver	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	1.0	5.6	1.8	2.6	2.5	4.2	3.0	2.4	3.7	6.1	5.4	7.4	8.3
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	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.20	ND	0.46	ND	0.38	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	4.03	4.04	3.51	5.07	3.71	4.82	4.85	4.77	4.90	3.99	3.69	3.35

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)*

NAME: ~~DUKE ENERGY~~ DYNEGY 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	001A
PERMIT NUMBER	**DISCHARGE NUMBER**

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	09	08	01	TO	09	08	31

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

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	******	******		******	8.9	18.9				
00011 IN 0 Allowed Increase	PERMIT REQUIREMENT	******	******		******	15 DAILY AV	25 DAILY MX	deg F		Continuous	MEASRD
Oxygen, dissolved (DO)	SAMPLE MEASUREMENT	******	******		5.9	******	******				
00300 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******		Req. Mon. MINIMUM	******	******	mg/L		Monthly	MEASRD
Oxygen, dissolved percent saturation	SAMPLE MEASUREMENT	******	******		100	******	******				
00301 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******		Req. Mon. MINIMUM	******	******	%		Monthly	MEASRD
pH	SAMPLE MEASUREMENT	******	******		7.86	******	8.12				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******		7 MINIMUM	******	9 MAXIMUM	SU		Monthly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	23400		******	******	7.5				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	mg/L		Monthly	GRAB
Arsenic, total recoverable	SAMPLE MEASUREMENT	******	5.3		******	******	2.2				
00978 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Silver total recoverable	SAMPLE MEASUREMENT	******	<2.4		******	******	<1.0				
01079 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	Certification	Signature	TELEPHONE		DATE		
LEONARD J. CIGAINERO PLANT MANAGER	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.	[signature]	619	498-5384	09	09	30
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	YEAR	MO	DAY

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

6/02/2009

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~~ DYNEGY 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	001A
PERMIT NUMBER	DISCHARGE NUMBER

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	09	08	01	TO	09	08	31

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

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	******	<48.0		******	******	<20				
01094 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Cadmium, total recoverable	SAMPLE MEASUREMENT	******	<0.6		******	******	<0.25				
01113 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Lead, total recoverable	SAMPLE MEASUREMENT	******	<12.0		******	******	<5.0				
01114 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Chromium, total recoverable	SAMPLE MEASUREMENT	******	<1.2		******	******	<0.5				
01118 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Copper, total recoverable	SAMPLE MEASUREMENT	******	5.44		******	2.52	2.52				
01119 1 0 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	******	4992		******	******	1.6				
03582 1 0 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	262.2	379.7		******	******	******				
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	Mgal/d	******	******	******			Continuous	MEASRD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LEONARD J. CIGNARELLI PLANT MANAGER	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.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	619- 498-5389		09	09	30
TYPED OR PRINTED			AREA Code	NUMBER	YEAR	MO	DAY

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

6 / MO / DMR

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~~ DYNEGY 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	001A
PERMIT NUMBER	DISCHARGE NUMBER

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	09	08	01	TO	09	08	31

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

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	SAMPLE MEASUREMENT	72.0	108.1		******	******	0.04				
50060 1 0 Effluent Gross	PERMIT REQUIREMENT	Req. Mon. MO AVG	Req. Mon. DAILY MX	lb/d	******	******	.2 MAXIMUM	mg/L		Weekly	GRAB
Mercury, total recoverable	SAMPLE MEASUREMENT	******	< 0.5		******	******	< 0.20				
71901 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	COMP24
Chromium, hexavalent tot recoverable	SAMPLE MEASUREMENT	******	< 120.1		******	******	< 50				
78247 1 0 Effluent Gross	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	lb/d	******	******	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
%Surv Static 96Hr Acute Atherinops Affinis	SAMPLE MEASUREMENT	******	******		100	100	******				
TRB6L 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******		70 MINIMUM	90 MO AV MN	******	% survival		Monthly	COMP24
Static 48Hr Chronic Macrocystis Pyrifera	SAMPLE MEASUREMENT	******	******		******	******	1				
TTK1D 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******		******	******	Req. Mon. DAILY MX	tox chronic		Monthly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LEONARD J. CIGAINERO PLANT MANAGER	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.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	619-498-5389		09	09	30
TYPED OR PRINTED			AREA Code	NUMBER	YEAR	MO	DAY

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

6 00C/DN/6

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~~ DYNEGY 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	INFA
PERMIT NUMBER	**DISCHARGE NUMBER**

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	09	08	01	TO	09	08	31

DMR Mailing ZIP CODE: 91911
MAJOR
(SUBR09)
COOLING WATER INTAKE
Influent Structure

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	******	******		******	78.0	83.5				
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	******	78.7		******	******	******				
00077 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	Req. Mon. DAILY MX	in	******	******	******			Monthly	MEASRD
Oxygen, dissolved (DO)	SAMPLE MEASUREMENT	******	******		5.9	******	******				
00300 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******		Req. Mon. MINIMUM	******	******	mg/L		Monthly	MEASRD
Oxygen, dissolved percent saturation	SAMPLE MEASUREMENT	******	******		90	******	******				
00301 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******		Req. Mon. MINIMUM	******	******	%		Monthly	MEASRD
pH	SAMPLE MEASUREMENT	******	******		7.88	******	8.15				
00400 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******		Req. Mon. MINIMUM	******	Req. Mon. MAXIMUM	SU		Monthly	GRAB
Salinity	SAMPLE MEASUREMENT	******	******		******	******	36.3				
00480 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******		******	******	Req. Mon. DAILY MX	ppt		Monthly	MEASRD
Solids, total suspended	SAMPLE MEASUREMENT	******	25896		******	******	8.3				
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			TELEPHONE		DATE		
LEONARD J. CICCAINORO / PLANT MANAGER	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.	[signature]	619	498-5389	09	09	30
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	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: DYNEGY ~~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	INFA
PERMIT NUMBER	DISCHARGE NUMBER

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	09	08	01	TO	09	08	31

DMR Mailing ZIP CODE: 91911
MAJOR
(SUBR09)
COOLING WATER INTAKE
Influent Structure

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	******	5.18		******	******	2.40				
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	< 32.25	< 42		******	< 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	******	******		92.5	******	******				
TRB6L G 0 Raw Sewage Influent	PERMIT REQUIREMENT	******	******		Req. Mon. MINIMUM	******	******	% survival		Monthly	COMP24
Static 48Hr Chronic Macrocystis 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			TELEPHONE		DATE		
LEONARD J. CIGAINERO PLANT MANAGER	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.		619-498-5389		09	09	30
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	YEAR	MO	DAY

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

60052/0N/6

SDGE

A Sempra Energy utility®

08 September 2009

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

RE: Dynegy South Bay Monthly - Aug 2009

Enclosed are the results of analyses for samples received by the laboratory on 08/28/09 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Authorized Signature 9/8/09

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.

6555 Nancy Ridge Drive
Suite 300
San Diego, CA 92121-3221
Tel: 619.260.5747 / Fax: 858.514.0154

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Monthly - Aug 2009	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/08/09 12:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SBOD071509 - PL	0908134-01	Water	08/27/09 13:28	08/28/09 09:10
SBOD071509 - I	0908134-02	Water	08/27/09 13:20	08/28/09 09:10

REPORT COMMENTS

1. SAMPLE ANALYSIS - ANALYST'S INITIALS

EPA 1664A, Hexane Extractable Materials - HJG
SM 2540 D, Total Suspended Solids - JWW

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Monthly - Aug 2009	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/08/09 12:26

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SBOD071509 - PL (0908134-01) Water	**Sampled: 08/27/09 13:28 Received: 08/28/09 09:10**									
HEM	**1.6**	1.4	5.0	mg/l	1	9H31009	08/31/09	09/01/09	EPA 1664A	J
Total Suspended Solids	**7.5**	0.40	0.40	"	"	9I02008	09/02/09	09/04/09	SM 2540 D	
SBOD071509 - I (0908134-02) Water	**Sampled: 08/27/09 13:20 Received: 08/28/09 09:10**									
Total Suspended Solids	**8.3**	0.40	0.40	mg/l	1	9I02008	09/02/09	09/04/09	SM 2540 D	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Monthly - Aug 2009	**Reported:**
Chula Vista CA, 91911	*Project Manager: Tom Liebst*	*09/08/09 12:26*

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 9H31009 - No Prep. - TO											
Blank (9H31009-BLK1)					Prepared: 08/31/09 Analyzed: 09/01/09						
HEM	ND	1.4	5.0	mg/l							
LCS (9H31009-BS1)					Prepared: 08/31/09 Analyzed: 09/01/09						
HEM	36.8	1.4	5.0	mg/l	40.0		92.0	80-120			
Matrix Spike (9H31009-MS1)		**Source: 0908112-11**			Prepared: 08/31/09 Analyzed: 09/01/09						
HEM	42.3	1.4	5.0	mg/l	40.0	4.10	95.5	78-118			
Matrix Spike (9H31009-MS2)		**Source: 0908134-01**			Prepared: 08/31/09 Analyzed: 09/01/09						
HEM	37.0	1.4	5.0	mg/l	40.0	1.60	88.5	78-118			
Matrix Spike (9H31009-MS3)		**Source: 0908153-01**			Prepared: 08/31/09 Analyzed: 09/01/09						
HEM	89.3	1.4	5.0	mg/l	40.0	60.9	71.0	78-118			A-01
Matrix Spike Dup (9H31009-MSD3)		**Source: 0908153-01**			Prepared: 08/31/09 Analyzed: 09/01/09						
HEM	45.8	1.4	5.0	mg/l	40.0	60.9	NR	78-118	64.4	200	A-01
Reference (9H31009-SRM1)					Prepared: 08/07/09 Analyzed: 09/01/09						
HEM	66.1	1.4	5.0	mg/l	67.5		97.9	71-109			
Batch 9I02008 - No Prep. -TG											
Blank (9I02008-BLK1)					Prepared: 09/02/09 Analyzed: 09/04/09						
Total Suspended Solids	ND	0.40	0.40	mg/l							
Duplicate (9I02008-DUP1)		**Source: 0908134-01**			Prepared: 09/02/09 Analyzed: 09/04/09						
Total Suspended Solids	8.20	0.40	0.40	mg/l		7.50			8.92	20	
Reference (9I02008-SRM1)					Prepared: 09/02/09 Analyzed: 09/04/09						
Total Suspended Solids	49.8	0.40	0.40	mg/l	49.9		99.8	84.8-105			

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Monthly - Aug 2009	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/08/09 12:26

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 9I02008 - No Prep. -TG											
Reference (9I02008-SRM1)					Prepared: 09/02/09 Analyzed: 09/04/09						

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
A-01	Value outside QC limis due to matrix effects, sample QC was re-extracted yielding similar results.
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

Lab No. 09.08.134

Work ID: Dynegy South Bay Monthly - August 2009

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) 498-5295

Number of Containers: 4
Due Date: 2 weeks

Sampled by (Print): Tom Liebst

Sampled by (Signature): T. Liebst

Sample ID	Bottle	Sample Point	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
SB0D082709 - PL	01A	S2	8/27/09	13:05	Water	2 x 1-lL Amber Glass *	4°C,pH<2w/H_2SO_4	1664-HEM
SB0D082709 - PL	01B	S2	8/27/09	13:28	Water	1-Gallon Cubitainer	4°C	Solids, TSS SM 2540D
SB0D082709 - I	02A	Inlet	8/27/09	13:20	Water	1-Gallon Cubitainer	4°C	Solids, TSS SM 2540D

'Comments:

* 1664-HEM sampled in duplicate.

Releasing	Date	Time	Accepting	Date	Time
T. Liebst	8/28/09	0910	[signature]	8/28/09	0910

6 0 0 0 2 / 0 2 / 6

SDGE

A Sempra Energy utility®

19 August 2009

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

RE: Dynegy South Bay Copper Aug 2009 (1)

Enclosed are the results of analyses for samples received by the laboratory on 08/14/09 09:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Authorized Signature 8/19/09

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.

6555 Nancy Ridge Drive
Suite 300
San Diego, CA 92121-3221
Tel: 619.260.5747 / Fax: 858.514.0154

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Copper Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/19/09 12:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Inlet (24-hr composite)	0908061-01	Water	08/14/09 08:20	08/14/09 09:35
S2 (24-hr composite)	0908061-02	Water	08/14/09 08:30	08/14/09 09:35
Field Blank (Grab)	0908061-03	Water	08/14/09 08:10	08/14/09 09:35

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 Aug 2009 (1) Project Manager: Tom Liebst	**Reported:** 08/19/09 12:46

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inlet (24-hr composite) (0908061-01) Water Sampled: 08/14/09 08:20 Received: 08/14/09 09:35										
Copper	**2.40**	0.0690	0.500	ug/l	1	9H17002	08/17/09	08/19/09	EPA 1638-Total	
S2 (24-hr composite) (0908061-02) Water Sampled: 08/14/09 08:30 Received: 08/14/09 09:35										
Copper	**2.52**	0.0690	0.500	ug/l	1	9H17002	08/17/09	08/19/09	EPA 1638-Total	
Field Blank (Grab) (0908061-03) Water Sampled: 08/14/09 08:10 Received: 08/14/09 09:35										
Copper	**0.299**	0.0690	0.500	ug/l	1	9H17002	08/17/09	08/19/09	EPA 1638-Total	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Copper Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/19/09 12:46

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 9H17002 - EPA 3005A											
Blank (9H17002-BLK1)					Prepared: 08/17/09 Analyzed: 08/19/09						
Copper	0.455	0.0690	0.500	ug/l							
LCS (9H17002-BS1)					Prepared: 08/17/09 Analyzed: 08/19/09						
Copper	204	0.0690	0.500	ug/l	200		102	80-120			
Duplicate (9H17002-DUP1)		**Source: 0908061-02**			Prepared: 08/17/09 Analyzed: 08/19/09						
Copper	2.61	0.0690	0.500	ug/l		2.52			3.63	20	
Matrix Spike (9H17002-MS1)		**Source: 0908061-02**			Prepared: 08/17/09 Analyzed: 08/19/09						
Copper	163	0.0690	0.500	ug/l	200	2.52	80.3	75-125			

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

1 of 1

Lab ID No. 09.08.061

9/30/2009

WORK ID: Dynegy South Bay Monthly Copper - August 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): T. Liebst

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
Inlet	24-hr Composite	1A	8/13/09 - 8/14/09	0820-0820	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
S2	24-hr Composite	2A	8/13-8/14/09	0835-0835	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
Field Blank	Grab	15A	8/14/09	0810	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	Time	Accepting
T. Liebst	8/14/09	0933	8.14.09 0933
Releasing	Date	Time	Accepting

SDGE

A Sempra Energy utility®

02 September 2009

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

RE: Dynegy South Bay Copper - Aug 2009 (2)

Enclosed are the results of analyses for samples received by the laboratory on 08/28/09 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Authorized Signature 9/2/09

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.

6555 Nancy Ridge Drive
Suite 300
San Diego, CA 92121-3221
Tel: 619.260.5747 / Fax: 858.514.0154

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Copper - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/02/09 14:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A3 (grab)	0908132-01	Water	08/27/09 12:10	08/28/09 09:10
C3 (grab)	0908132-02	Water	08/27/09 12:25	08/28/09 09:10
D4 (grab)	0908132-03	Water	08/27/09 13:00	08/28/09 09:10
E3 (grab)	0908132-04	Water	08/27/09 12:43	08/28/09 09:10
E4 (grab)	0908132-05	Water	08/27/09 13:50	08/28/09 09:10
E5 (grab)	0908132-06	Water	08/27/09 13:20	08/28/09 09:10
E7 (grab)	0908132-07	Water	08/27/09 13:05	08/28/09 09:10
F2 (grab)	0908132-08	Water	08/27/09 12:50	08/28/09 09:10
F3 (grab)	0908132-09	Water	08/27/09 13:40	08/28/09 09:10
F4 (grab)	0908132-10	Water	08/27/09 13:30	08/28/09 09:10
N2 (grab)	0908132-11	Water	08/27/09 12:00	08/28/09 09:10
S1 (grab)	0908132-12	Water	08/27/09 13:15	08/28/09 09:10
Field Blank	0908132-13	Water	08/27/09 10:55	08/28/09 09:10

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 - Aug 2009 (2) Project Manager: Tom Liebst	**Reported:** 09/02/09 14:15

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A3 (grab) (0908132-01) Water	**Sampled: 08/27/09 12:10**		**Received: 08/28/09 09:10**							
Copper	**4.03**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
C3 (grab) (0908132-02) Water	**Sampled: 08/27/09 12:25**		**Received: 08/28/09 09:10**							
Copper	**4.04**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
D4 (grab) (0908132-03) Water	**Sampled: 08/27/09 13:00**		**Received: 08/28/09 09:10**							
Copper	**3.51**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
E3 (grab) (0908132-04) Water	**Sampled: 08/27/09 12:43**		**Received: 08/28/09 09:10**							
Copper	**5.07**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
E4 (grab) (0908132-05) Water	**Sampled: 08/27/09 13:50**		**Received: 08/28/09 09:10**							
Copper	**3.71**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
E5 (grab) (0908132-06) Water	**Sampled: 08/27/09 13:20**		**Received: 08/28/09 09:10**							
Copper	**4.82**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
E7 (grab) (0908132-07) Water	**Sampled: 08/27/09 13:05**		**Received: 08/28/09 09:10**							
Copper	**4.85**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
F2 (grab) (0908132-08) Water	**Sampled: 08/27/09 12:50**		**Received: 08/28/09 09:10**							
Copper	**4.77**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
F3 (grab) (0908132-09) Water	**Sampled: 08/27/09 13:40**		**Received: 08/28/09 09:10**							
Copper	**4.90**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Copper - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/02/09 14:15

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
F4 (grab) (0908132-10) Water	**Sampled: 08/27/09 13:30**		**Received: 08/28/09 09:10**							
Copper	**3.99**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
N2 (grab) (0908132-11) Water	**Sampled: 08/27/09 12:00**		**Received: 08/28/09 09:10**							
Copper	**3.69**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
S1 (grab) (0908132-12) Water	**Sampled: 08/27/09 13:15**		**Received: 08/28/09 09:10**							
Copper	**3.35**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	
Field Blank (0908132-13) Water	**Sampled: 08/27/09 10:55**		**Received: 08/28/09 09:10**							
Copper	**0.394**	0.0690	0.500	ug/l	1	9I01007	09/01/09	09/02/09	EPA 1638-Total	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Copper - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/02/09 14:15

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 9I01007 - EPA 3005A											
Blank (9I01007-BLK1)					Prepared: 09/01/09 Analyzed: 09/02/09						
Copper	0.246	0.0690	0.500	ug/l							
LCS (9I01007-BS1)					Prepared: 09/01/09 Analyzed: 09/02/09						
Copper	203	0.0690	0.500	ug/l	200		101	80-120			
Duplicate (9I01007-DUP1)		**Source: 0908132-03**			Prepared: 09/01/09 Analyzed: 09/02/09						
Copper	3.74	0.0690	0.500	ug/l		3.51			6.48	20	
Duplicate (9I01007-DUP2)		**Source: 0908132-09**			Prepared: 09/01/09 Analyzed: 09/02/09						
Copper	4.93	0.0690	0.500	ug/l		4.90			0.753	20	
Matrix Spike (9I01007-MS1)		**Source: 0908132-03**			Prepared: 09/01/09 Analyzed: 09/02/09						
Copper	145	0.0690	0.500	ug/l	200	3.51	70.5	75-125			QM-12
Matrix Spike (9I01007-MS2)		**Source: 0908132-09**			Prepared: 09/01/09 Analyzed: 09/02/09						
Copper	142	0.0690	0.500	ug/l	200	4.90	68.7	75-125			QM-12

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

DYNEGY SOUTH BAY, LLC

1 of 1

Lab ID No. 09-08-132

WORK ID: Dynegy South Bay Monthly Copper - August 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	8/27/09	1210	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
C3	Grab	2A		1225	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
D4	Grab	3A		1300	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E3	Grab	4A		1243	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E4	Grab	5A		1350	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E5	Grab	6A		1320	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
E7	Grab	7A		1305	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
F2	Grab	8A		1250	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
F3	Grab	9A		1340	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
F4	Grab	10A		1330	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		1315	Seawater	250 mL HDPE	4C, pH<2 w/HNO3	Total Copper by EPA 1638
Field Blank	Grab	13A	↓	1055	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.

		Date	Time			
Releasing	Kasey Schmidt	8/27/09	1434	Accepting	T. Liebst	8/27/09 1434
Releasing	T. Liebst	8/28/09	0910	Accepting		8/28/09 0910

S:\LAB\REPORTS\RWQCB\SOUTHBAY\COCs for Dynegy South Bay.xls;SDG&E COC 1638-RWs Only

SDGE
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25 August 2009

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

RE: Dynegy South Bay Metals Aug 2009 (1)

Enclosed are the results of analyses for samples received by the laboratory on 08/14/09 09:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Authorized Signature 8/20/09

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.

6555 Nancy Ridge Drive
Suite 300
San Diego, CA 92121-3221
Tel: 619.260.5747 / Fax: 858.514.0154

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/25/09 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S2 (24-hr composite)	0908060-01	Water	08/14/09 08:30	08/14/09 09:35
S2 (grab)	0908060-02	Water	08/14/09 08:25	08/14/09 09:35
Field Blank (grab)	0908060-03	Water	08/14/09 08:10	08/14/09 09:35

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 - SGC
SM 3500-Cr B, Hexavalent Chromium - JLC

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/25/09 10:18

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S2 (24-hr composite) (0908060-01) Water Sampled: 08/14/09 08:30 Received: 08/14/09 09:35										
Silver	ND	0.017	1.0	ug/l	1	9H17004	08/17/09	08/19/09	EPA 200.8	
Arsenic	**2.2**	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Mercury	ND	0.20	0.20	"	"	9H24002	08/24/09	08/24/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9H19007	08/19/09	08/21/09	SM 3113 B	
Zinc	ND	20	20	"	"	9H17004	08/17/09	08/18/09	EPA 200.7	
S2 (grab) (0908060-02) Water Sampled: 08/14/09 08:25 Received: 08/14/09 09:35										
Chromium	ND	0.43	0.50	ug/l	1	9H17004	08/17/09	08/19/09	EPA 200.8	
Hexavalent Chromium	ND	50	50	"	"	9H14005	08/14/09	08/14/09	SM 3500-Cr B	
Field Blank (grab) (0908060-03) Water Sampled: 08/14/09 08:10 Received: 08/14/09 09:35										
Silver	ND	0.017	1.0	ug/l	1	9H17004	08/17/09	08/19/09	EPA 200.8	
Arsenic	ND	0.51	1.0	"	"	"	"	"	"	
Cadmium	ND	0.14	0.25	"	"	"	"	"	"	
Chromium	ND	0.43	0.50	"	"	"	"	"	"	
Hexavalent Chromium	ND	50	50	"	"	9H14005	08/14/09	08/14/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9H24002	08/24/09	08/24/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9H19007	08/19/09	08/21/09	SM 3113 B	
Zinc	ND	20	20	"	"	9H17004	08/17/09	08/18/09	EPA 200.7	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/25/09 10:18

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 9H14005 - General Preparation											
Blank (9H14005-BLK1)					Prepared & Analyzed: 08/14/09						
Hexavalent Chromium	ND	50	50	ug/l							
LCS (9H14005-BS1)					Prepared & Analyzed: 08/14/09						
Hexavalent Chromium	1050	50	50	ug/l	1000		105	90-110			
Duplicate (9H14005-DUP1)		**Source: 0908060-02**			Prepared & Analyzed: 08/14/09						
Hexavalent Chromium	ND	50	50	ug/l		ND				200	
Matrix Spike (9H14005-MS1)		**Source: 0908060-02**			Prepared & Analyzed: 08/14/09						
Hexavalent Chromium	1040	50	50	ug/l	1000	ND	104	75-125			
Batch 9H17004 - EPA 3005A											
Blank (9H17004-BLK1)					Prepared: 08/17/09 Analyzed: 08/19/09						
Silver	ND	0.017	1.0	ug/l							
Zinc	ND	10	20	"							
Chromium	ND	0.43	0.50	"							
Arsenic	ND	0.51	1.0	"							
Cadmium	ND	0.14	0.25	"							
LCS (9H17004-BS1)					Prepared: 08/17/09 Analyzed: 08/19/09						
Silver	491	0.017	1.0	ug/l	500		98.2	85-115			
Arsenic	1100	0.51	1.0	"	1000		113	85-115			
Cadmium	1000	0.14	0.25	"	1000		102	85-115			
Chromium	988	0.43	0.50	"	1000		98.8	85-115			
Zinc	965	10	60	"	1000		96.5	80-120			
Duplicate (9H17004-DUP1)		**Source: 0908060-01**			Prepared: 08/17/09 Analyzed: 08/19/09						
Silver	ND	0.017	1.0	ug/l		ND				200	
Arsenic	1.9	0.51	1.0	"		2.2			15.2	200	
Cadmium	ND	0.14	0.25	"		ND				200	
Zinc	ND	10	60	"		ND				200	
Chromium	ND	0.43	0.50	"		ND				200	

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	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/25/09 10:18

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 9H17004 - EPA 3005A											
Duplicate (9H17004-DUP1)		**Source: 0908060-01**			Prepared: 08/17/09 Analyzed: 08/19/09						
Matrix Spike (9H17004-MS1)		**Source: 0908060-01**			Prepared: 08/17/09 Analyzed: 08/19/09						
Chromium	910	0.43	0.50	ug/l	1000	ND	91.0	70-130			
Arsenic	990	0.51	1.0	"	1000	2.2	98.8	70-130			
Cadmium	790	0.14	0.25	"	1000	ND	79.0	70-130			
Silver	356	0.017	1.0	"	500	ND	71.3	70-130			
Zinc	793	10	60	"	1000	ND	79.3	75-125			
Batch 9H19007 - EPA 3005A											
Blank (9H19007-BLK1)					Prepared: 08/19/09 Analyzed: 08/21/09						
Lead	ND	5.0	5.0	ug/l							
LCS (9H19007-BS1)					Prepared: 08/19/09 Analyzed: 08/21/09						
Lead	1130	5.0	5.0	ug/l	1000		113	80-120			
Duplicate (9H19007-DUP1)		**Source: 0908060-01**			Prepared: 08/19/09 Analyzed: 08/21/09						
Lead	ND	5.0	5.0	ug/l		ND				200	
Matrix Spike (9H19007-MS1)		**Source: 0908060-01**			Prepared: 08/19/09 Analyzed: 08/21/09						
Lead	1470	5.0	5.0	ug/l	1000	ND	147	75-125			QM-12
Batch 9H24002 - EPA 245.1											
Blank (9H24002-BLK1)					Prepared & Analyzed: 08/24/09						
Mercury	ND	0.20	0.20	ug/l							
LCS (9H24002-BS1)					Prepared & Analyzed: 08/24/09						
Mercury	5.45	0.20	0.20	ug/l	5.00		109	80-120			

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals Aug 2009 (1)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	08/25/09 10:18

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 9H24002 - EPA 245.1											
Duplicate (9H24002-DUP1)		**Source: 0908060-01**			Prepared & Analyzed: 08/24/09						
Mercury	ND	0.20	0.20	ug/l		ND				200	
Matrix Spike (9H24002-MS1)		**Source: 0908060-01**			Prepared & Analyzed: 08/24/09						
Mercury	4.20	0.20	0.20	ug/l	5.00	ND	84.0	75-125			

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

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
	Ag Total ICP-MS 200.8	(Water)	J-Flags used
			VERSION 5.8.5:2727
	Ag Total GFAA 3113 B	(Water)	Result calculations based on MDL
	Ag Total ICP-MS 200.8	(Water)	Result calculations based on MDL
	As Total ICP-MS 200.8	(Water)	Result calculations based on MDL
	Cd Total ICP-MS 200.8	(Water)	Result calculations based on MDL
	Cr Total ICP-MS 200.8	(Water)	Result calculations based on MDL
	Cr6 3500-Cr B	(Water)	Result calculations based on MDL
	Hg Total CVAA 245.1	(Water)	Result calculations based on MDL
			Default Report (not modified)
	Zn Total ICP 200.7	(Water)	Result calculations based on MDL
9H19007-MS1	Pb Total GFAA 3113 B	Lead	QM-12: The MS and/or MSD percent recoveries indicate bias due to the sample matrix. Method criteria were satisfied.
	As Total ICP-MS 200.8	(Water)	J-Flags used
	Cd Total ICP-MS 200.8	(Water)	J-Flags used
	Cr Total ICP-MS 200.8	(Water)	J-Flags used
	Ag Total GFAA 3113 B	(Water)	Special Units Used
	Cr6 3500-Cr B	(Water)	Special Units Used
	Hg Total CVAA 245.1	(Water)	Special Units Used
	Pb Total GFAA 3113 B	(Water)	Special Units Used
	Zn Total ICP 200.7	(Water)	Special Units Used
9H19007-MS1	Pb Total GFAA 3113 B	Lead	Exceeds upper control limit
	Pb Total GFAA 3113 B	(Water)	Result calculations based on MDL

PROMIUM
essential information management

SUMMARY REPORT

22522 29th Dr SE, Suite 205
Bothell, WA 98021
425.286.9200 Phone
425.286.9201 Fax

Dynegy South Bay, LLC	Project: NPDES Monthly
990 Bay Boulevard	Project Number: Dynegy South Bay Metals A
Chula Vista CA, 91911	Project Manager: Tom Liebst
SAMPLED: 08/14/09	**REPORTED:** 08/25/09 10:20
RECEIVED: 08/14/09	

LAB #		0908060-01	0908060-02	0908060-03	-	-	-
MATRIX	Minimum	Water	Water	Water	-	-	-
SAMPLE ID	Reporting Limit	S2 (24-hr composite)	S2 (grab)	Field Blank (grab)	-	-	-
California ELAP Certified Methods (Water)							
Silver	1.0 ug/l	<0.017	-	<0.017	-	-	-
Arsenic	1.0 ug/l	2.2	-	<0.51	-	-	-
Cadmium	0.25 ug/l	<0.14	-	<0.14	-	-	-
Chromium	0.50 ug/l	-	<0.43	<0.43	-	-	-
Hexavalent Chromium	10 ug/l	-	<50	<50	-	-	-
Mercury	0.20 ug/l	<0.20	-	<0.20	-	-	-
Lead	5.0 ug/l	<5.0	-	<5.0	-	-	-
Zinc	20 ug/l	<20	-	<20	-	-	-

Special Notes

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

San Diego Gas & Electric

Albert Menegus For Randy Calentine
Manager

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

1 of 1

Lab ID No. 09.08.060

WORK ID: Dynegy South Bay Monthly Metals - August 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: 5
Due Date: 10-day TAT

Sampled by (Print): T. Liebst

Sampled by (Signature): T. Liebst

Sample ID	Sample Type	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
S2	24-hr Composite	1A	8/13-8/14/09	0830-0830	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	8/14/09	0825	Seawater	125 mL HDPE	4C, pH<2 w/HNO3	Cr Total GFAA 3113 B
S2	Grab	2B	8/14/09	0825	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
Field Blank	Grab	3A	8/14/09	0810	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	8/14/09	0810	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	Date	Time	Accepting	
T. Liebst	8/14/09	0933		8.14.09 0935
Releasing	Date	Time	Accepting	

S:\LAB\REPORTS\RWQCB\SOUTHBAY\COCs for Dynegy South Bay.xls;SDG&E COC - S2 Only

6 of 6

SDGE

A Sempra Energy utility®

11 September 2009

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

RE: Dynegy South Bay Metals - Aug 2009 (2)

Enclosed are the results of analyses for samples received by the laboratory on 08/28/09 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Authorized Signature 9/11/09

Christopher Q. Dong
Senior Chemist

Name / Title

San Diego Gas & Electric

ELAP Certificate No. 1289

6555 Nancy Ridge Drive
Suite 300
San Diego, CA 92121-3221
Tel: 619.260.5747 / Fax: 858.514.0154

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A3 (grab)	0908133-01	Water	08/27/09 12:10	08/28/09 09:10
C3 (grab)	0908133-02	Water	08/27/09 12:25	08/28/09 09:10
D4 (grab)	0908133-03	Water	08/27/09 13:00	08/28/09 09:10
E3 (grab)	0908133-04	Water	08/27/09 12:43	08/28/09 09:10
E4 (grab)	0908133-05	Water	08/27/09 13:50	08/28/09 09:10
E5 (grab)	0908133-06	Water	08/27/09 13:20	08/28/09 09:10
E7 (grab)	0908133-07	Water	08/27/09 13:05	08/28/09 09:10
F2 (grab)	0908133-08	Water	08/27/09 12:50	08/28/09 09:10
F3 (grab)	0908133-09	Water	08/27/09 13:40	08/28/09 09:10
F4 (grab)	0908133-10	Water	08/27/09 13:30	08/28/09 09:10
N2 (grab)	0908133-11	Water	08/27/09 12:00	08/28/09 09:10
S1 (grab)	0908133-12	Water	08/27/09 13:15	08/28/09 09:10
Field Blank	0908133-13	Water	08/27/09 10:55	08/28/09 09:10

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 - SGC
SM 3500-Cr B, Hexavalent Chromium - JLC

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A3 (grab) (0908133-01) Water	**Sampled: 08/27/09 12:10**		**Received: 08/28/09 09:10**							
Silver	ND	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	
Arsenic	**5.6**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
C3 (grab) (0908133-02) Water	**Sampled: 08/27/09 12:25**		**Received: 08/28/09 09:10**							
Silver	**0.022**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**1.8**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	**0.46**	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
D4 (grab) (0908133-03) Water	**Sampled: 08/27/09 13:00**		**Received: 08/28/09 09:10**							
Silver	**0.021**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**2.6**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E3 (grab) (0908133-04) Water	**Sampled: 08/27/09 12:43**		**Received: 08/28/09 09:10**							
Silver	ND	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	
Arsenic	**2.5**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	**0.38**	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
E4 (grab) (0908133-05) Water	**Sampled: 08/27/09 13:50**		**Received: 08/28/09 09:10**							
Silver	**0.020**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**4.2**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
E5 (grab) (0908133-06) Water	**Sampled: 08/27/09 13:20**		**Received: 08/28/09 09:10**							
Silver	**0.021**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**3.0**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/11/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E7 (grab) (0908133-07) Water	**Sampled: 08/27/09 13:05**		**Received: 08/28/09 09:10**							
Silver	**0.024**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**2.4**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
F2 (grab) (0908133-08) Water	**Sampled: 08/27/09 12:50**		**Received: 08/28/09 09:10**							
Silver	**0.074**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**3.7**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
F3 (grab) (0908133-09) Water	**Sampled: 08/27/09 13:40**		**Received: 08/28/09 09:10**							
Silver	**0.018**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**6.1**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
F4 (grab) (0908133-10) Water Sampled: 08/27/09 13:30 Received: 08/28/09 09:10										
Silver	ND	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	
Arsenic	**5.4**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
N2 (grab) (0908133-11) Water Sampled: 08/27/09 12:00 Received: 08/28/09 09:10										
Silver	**0.019**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**7.4**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	
S1 (grab) (0908133-12) Water Sampled: 08/27/09 13:15 Received: 08/28/09 09:10										
Silver	**0.024**	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	J
Arsenic	**8.3**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/10/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

California ELAP Certified Methods
San Diego Gas & Electric

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Field Blank (0908133-13) Water	**Sampled: 08/27/09 10:55**		**Received: 08/28/09 09:10**							
Silver	ND	0.017	0.25	ug/l	1	9I03002	09/03/09	09/09/09	EPA 200.8	
Arsenic	**1.4**	0.51	1.0	"	"	"	"	09/10/09	"	
Cadmium	ND	0.14	0.25	"	"	"	"	09/09/09	"	
Chromium	ND	0.43	0.50	"	"	"	"	09/11/09	"	
Hexavalent Chromium	ND	50	50	"	"	9H28004	08/28/09	08/28/09	SM 3500-Cr B	
Mercury	ND	0.20	0.20	"	"	9I08002	09/08/09	09/09/09	EPA 245.1	
Lead	ND	5.0	5.0	"	"	9I04003	09/04/09	09/11/09	SM 3113 B	
Zinc	ND	20	20	"	"	9I03002	09/03/09	09/04/09	EPA 200.7	

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

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 9H28004 - General Preparation											
Blank (9H28004-BLK1)					Prepared & Analyzed: 08/28/09						
Hexavalent Chromium	ND	50	50	ug/l							
LCS (9H28004-BS1)					Prepared & Analyzed: 08/28/09						
Hexavalent Chromium	1080	50	50	ug/l	1000		108	90-110			
Duplicate (9H28004-DUP1)		**Source: 0908133-01**			Prepared & Analyzed: 08/28/09						
Hexavalent Chromium	ND	50	50	ug/l		ND				200	
Duplicate (9H28004-DUP2)		**Source: 0908133-10**			Prepared & Analyzed: 08/28/09						
Hexavalent Chromium	ND	50	50	ug/l		ND				200	
Matrix Spike (9H28004-MS1)		**Source: 0908133-01**			Prepared & Analyzed: 08/28/09						
Hexavalent Chromium	1040	50	50	ug/l	1000	ND	104	75-125			
Matrix Spike (9H28004-MS2)		**Source: 0908133-10**			Prepared & Analyzed: 08/28/09						
Hexavalent Chromium	1070	50	50	ug/l	1000	ND	107	75-125			
Batch 9I03002 - EPA 3010A											
Blank (9I03002-BLK1)					Prepared: 09/03/09 Analyzed: 09/10/09						
Arsenic	0.79	0.51	1.0	ug/l							J
Silver	ND	0.017	0.25	"							
Cadmium	ND	0.14	0.25	"							
Chromium	ND	0.43	0.50	"							
Zinc	ND	10	20	"							
LCS (9I03002-BS1)					Prepared: 09/03/09 Analyzed: 09/09/09						
Cadmium	1100	0.14	0.25	ug/l	1000		114	85-115			
Arsenic	1100	0.51	1.0	"	1000		109	85-115			
Chromium	1060	0.43	0.50	"	1000		106	85-115			
Zinc	1010	10	60	"	1000		101	80-120			
Silver	539	0.017	0.25	"	500		108	85-115			

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

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 9I03002 - EPA 3010A											
LCS (9I03002-BS1)					Prepared: 09/03/09 Analyzed: 09/09/09						
Duplicate (9I03002-DUP1)		**Source: 0908133-05**			Prepared: 09/03/09 Analyzed: 09/09/09						
Cadmium	ND	0.14	0.25	ug/l		ND				200	
Chromium	ND	0.43	0.50	"		ND				200	
Zinc	ND	10	60	"		ND				200	
Arsenic	3.3	0.51	1.0	"		4.2			24.8	200	
Silver	0.0240	0.017	0.25	"		0.0200			18.2	200	J
Duplicate (9I03002-DUP2)		**Source: 0908133-11**			Prepared: 09/03/09 Analyzed: 09/11/09						
Chromium	ND	0.43	0.50	ug/l		ND				200	
Silver	ND	0.017	0.25	"		0.0190				200	
Arsenic	6.4	0.51	1.0	"		7.4			15.2	200	
Cadmium	ND	0.14	0.25	"		ND				200	
Zinc	ND	10	60	"		ND				200	
Matrix Spike (9I03002-MS1)		**Source: 0908133-05**			Prepared: 09/03/09 Analyzed: 09/04/09						
Zinc	900	10	60	ug/l	1000	ND	90.0	75-125			
Arsenic	1100	0.51	1.0	"	1000	4.2	113	70-130			
Chromium	1000	0.43	0.50	"	1000	ND	100	70-130			
Cadmium	890	0.14	0.25	"	1000	ND	88.6	70-130			
Silver	418	0.017	0.25	"	500	0.0200	83.5	75-130			
Matrix Spike (9I03002-MS2)		**Source: 0908133-11**			Prepared: 09/03/09 Analyzed: 09/10/09						
Arsenic	1200	0.51	1.0	ug/l	1000	7.4	122	70-130			
Chromium	1070	0.43	0.50	"	1000	ND	107	70-130			
Silver	433	0.017	0.25	"	500	0.0190	86.6	75-130			
Zinc	853	10	60	"	1000	ND	85.3	75-125			
Cadmium	900	0.14	0.25	"	1000	ND	90.1	70-130			
Batch 9I04003 - EPA 3005A											
Blank (9I04003-BLK1)					Prepared: 09/04/09 Analyzed: 09/11/09						
Lead	ND	2.5	2.5	ug/l							

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

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 9I04003 - EPA 3005A											
LCS (9I04003-BS1)					Prepared: 09/04/09 Analyzed: 09/11/09						
Lead	1130	2.5	2.5	ug/l	1000		113	80-120			
Duplicate (9I04003-DUP1)		**Source: 0908133-05**			Prepared: 09/04/09 Analyzed: 09/11/09						
Lead	ND	2.5	2.5	ug/l		ND				200	
Duplicate (9I04003-DUP2)		**Source: 0908133-11**			Prepared: 09/04/09 Analyzed: 09/11/09						
Lead	ND	2.5	2.5	ug/l		ND				200	
Matrix Spike (9I04003-MS1)		**Source: 0908133-05**			Prepared: 09/04/09 Analyzed: 09/11/09						
Lead	1630	2.5	2.5	ug/l	1000	ND	163	75-125			QM-12
Matrix Spike (9I04003-MS2)		**Source: 0908133-11**			Prepared: 09/04/09 Analyzed: 09/11/09						
Lead	1420	2.5	2.5	ug/l	1000	ND	142	75-125			QM-12
Batch 9I08002 - EPA 245.1											
Blank (9I08002-BLK1)					Prepared: 09/08/09 Analyzed: 09/09/09						
Mercury	ND	0.20	0.20	ug/l							
LCS (9I08002-BS1)					Prepared: 09/08/09 Analyzed: 09/09/09						
Mercury	4.96	0.20	0.20	ug/l	5.00		99.2	85-115			
Duplicate (9I08002-DUP1)		**Source: 0908133-05**			Prepared: 09/08/09 Analyzed: 09/09/09						
Mercury	ND	0.20	0.20	ug/l		ND				200	
Duplicate (9I08002-DUP2)		**Source: 0908133-11**			Prepared: 09/08/09 Analyzed: 09/09/09						
Mercury	ND	0.20	0.20	ug/l		ND				200	
Matrix Spike (9I08002-MS1)		**Source: 0908133-05**			Prepared: 09/08/09 Analyzed: 09/09/09						
Mercury	4.30	0.20	0.20	ug/l	5.00	ND	86.0	70-130			

Dynegy South Bay, LLC	Project: NPDES Monthly	
990 Bay Boulevard	Project Number: Dynegy South Bay Metals - Aug 2009 (2)	**Reported:**
Chula Vista CA, 91911	Project Manager: Tom Liebst	09/11/09 14:33

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 9I08002 - EPA 245.1											
Matrix Spike (9I08002-MS1)		**Source: 0908133-05**			Prepared: 09/08/09 Analyzed: 09/09/09						
Matrix Spike (9I08002-MS2)		**Source: 0908133-11**			Prepared: 09/08/09 Analyzed: 09/09/09						
Mercury	4.33	0.20	0.20	ug/l	5.00	ND	86.7	70-130			

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

DYNEGY SOUTH BAY, LLC

Lab ID No. 09.08.133

WORK ID: Dynegy South Bay Monthly Metals - August 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	8/27/09	1210	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		1210	Seawater	125 mL HDPE	4°c	Cr6 3500-Cr B
C3	Grab	2A		1225	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		1225	Seawater	125 mL HDPE	4°c	Cr6 3500-Cr B
D4	Grab	3A		1300	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
D4	Grab	3B		1300	Seawater	125 mL HDPE	4°c	Cr6 3500-Cr B
E3	Grab	4A		1243	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		1243	Seawater	125 mL HDPE	4°c	Cr6 3500-Cr B
E4	Grab	5A		1350	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
E4	Grab	5B		1350	Seawater	125 mL HDPE	4°c	Cr6 3500-Cr B
E5	Grab	6A		1320	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		1320	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	Date	Time	Accepting	Date	Time
[signature]	8/27/09	1434	T. Liebst	8/27/09	1434
T. Liebst	8/28/09	0910	[signature]	8/28/09	0910

DYNEGY SOUTH BAY, LLC

Lab ID No. 09·08·133

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

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

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	8/27/09	1305	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		1305	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
F2	Grab	8A		1250	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		1250	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
F3	Grab	9A		1340	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
F3	Grab	9B		1340	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
F4	Grab	10A		1330	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		1330	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
N2	Grab	11A		1200	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
N2	Grab	11B		1200	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
S1	Grab	12A		1315	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		1315	Seawater	125 mL HDPE	4°C	Cr6 3500-Cr B
Field Blank	Grab	13A		1055	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	↓	1055	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	Date	Time	Accepting	Date	Time
[signature]	8/27/09	1434	[signature]	8/27/09	1434
[signature]	8/28/09	0910	[signature]	8/28/09	0910

Daily Chlorine Usage

Date: 8/1/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.135	277	3.159	4S CW Pump remains off.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.135	277	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine 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	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1215	20 min.	0.075	270	1.755	
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	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.135	277	3.159	

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	10.53	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.200	450	4.680	28.08	**62,300 (gpm)**
4	2130	20 min.	0.135	277	3.159	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 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: 8/2/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.135	277	3.159	4S CW Pump remains off.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	2N CW Pump off @ 0512 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.135	277	3.159	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0815	20 min.	0.075	270	1.755	
2	0840	20 min.	0.075	270	1.755	
3	0905	20 min.	0.200	450	4.680	
4	0930	20 min.	0.135	277	3.159	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.075	270	1.755	
3	1305	20 min.	0.200	450	4.680	
4	1330	20 min.	0.135	277	3.159	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.075	270	1.755	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.135	277	3.159	4N CW Pump off @ 2000 hrs.

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	10.53	**39,000 (gpm)**
2	2040	20 min.	0.075	270	1.755	14.04	**39,000 (gpm)**
3	2105	20 min.	0.200	450	4.680	28.08	**62,300 (gpm)**
4	2130			0	0.000	15.80	**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: 8/3/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
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 on @ 0140 hrs.
3	0105	20 min.	0.200	450	4.680	2S CW Pump off @ 0200 hrs.
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	20 min.	0.075	270	1.755	
2	0440	20 min.	0.075	270	1.755	2S CW Pump on @ 0525 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine 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			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	3N CW Pump off @ 2220 hrs.
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	10.53	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			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: 8/4/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	3N CW Pump on @ 0245 hrs.
3	0105	20 min.	0.100	225	2.340	3S CW Pump off @ 0300 hrs.
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	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.100	225	2.340	3S CW Pump on @ 0610 hrs.
4	0530			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	0815	20 min.	0.075	270	1.755	1N CW Pump on @ 1119 hrs.
2	0840	20 min.	0.150	540	3.510	
3	0905	20 min.	0.200	450	4.680	
4	0930			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine 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			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine 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	
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.	0.150	540	3.510	15.80	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.200	450	4.680	23.40	**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: 8/5/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump off @ 0000 hrs.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
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	20 min.	0.075	270	1.755
2	0440	20 min.	0.150	540	3.510
3	0505	20 min.	0.200	450	4.680
4	0530			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine 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			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle
1	1215	20 min.	0.075	270	1.755
2	1240	20 min.	0.150	540	3.510
3	1305	20 min.	0.200	450	4.680
4	1330			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle
1	1615	20 min.	0.075	270	1.755
2	1640	20 min.	0.150	540	3.510
3	1705	20 min.	0.200	450	4.680
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	10.53	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	28.08	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: 8/6/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
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 off @ 0030 hrs.
3	0105	20 min.	0.200	450	4.680	
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	20 min.	0.075	270	1.755	
2	0440	20 min.	0.075	270	1.755	2S CW Pump on @ 0605 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine 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			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	2N CW Pump off @ 2215 hrs.
3	1705	20 min.	0.200	450	4.680	
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	10.53	**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			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: 8/7/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle	REMARKS
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 remains off.
3	0105	20 min.	0.200	450	4.680	
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	20 min.	0.075	270	1.755
2	0440	20 min.	0.075	270	1.755
3	0505	20 min.	0.200	450	4.680
4	0530			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle
1	0815	20 min.	0.075	270	1.755
2	0840	20 min.	0.075	270	1.755
3	0905	20 min.	0.200	450	4.680
4	0930			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle
1	1215	20 min.	0.075	270	1.755
2	1240	20 min.	0.075	270	1.755
3	1305	20 min.	0.200	450	4.680
4	1330			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine lbs/cycle
1	1615	20 min.	0.075	270	1.755
2	1640	20 min.	0.075	270	1.755
3	1705	20 min.	0.200	450	4.680
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	10.53	**39,000 (gpm)**
2	2040	20 min.	0.075	270	1.755	10.53	**39,000 (gpm)**
3	2105	20 min.	0.200	450	4.680	28.08	**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: 8/8/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
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 remains off.
3	0105	20 min.	0.100	225	2.340	3N CW Pump off @ 0017 hrs.
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	20 min.	0.075	270	1.755
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)
1	0815	20 min.	0.075	270	1.755
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)
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)
1	1615	20 min.	0.075	270	1.755
2	1640	20 min.	0.075	270	1.755
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	10.53	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	14.04	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: 8/9/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
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 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)	
1	0415	20 min.	0.075	270	1.755	
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)	
1	0815	20 min.	0.075	270	1.755	
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)	
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.075	270	1.755	2N CW Pump on @ 1324 hrs.
3	1305	20 min.	0.100	225	2.340	3N CW Pump on @ 1505 hrs.
4	1330			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	2S CW Pump off @ 2259 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.	0.150	540	3.510	14.04	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	14.04	**39,000 (gpm)**
3	2105	20 min.	0.100	225	2.340	14.04	**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: 8/10/2009

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	2S CW Pump on @ 0220 hrs.
2	0040	20 min.	0.075	270	1.755	2N CW Pump off @ 0240 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.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.075	270	1.755	2N CW Pump on @ 0531 hrs.
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)	
1	0815	20 min.	0.150	540	3.510	
2	0840	20 min.	0.150	540	3.510	
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)	
1	1215	20 min.	0.150	540	3.510	
2	1240	20 min.	0.150	540	3.510	
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)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.100	225	2.340	3N CW Pump on @ 2050 hrs.
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.	0.150	540	3.510	21.06	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	16.38	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: 8/11/2009

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.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	3S CW Pump off @ 0240 hrs.
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	20 min.	0.150	540	3.510
2	0440	20 min.	0.150	540	3.510
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)
1	0815	20 min.	0.150	540	3.510
2	0840	20 min.	0.150	540	3.510
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)
1	1215	20 min.	0.150	540	3.510
2	1240	20 min.	0.150	540	3.510
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)
1	1615	20 min.	0.150	540	3.510
2	1640	20 min.	0.150	540	3.510
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.	0.150	540	3.510	21.06	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.100	225	2.340	16.38	**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: 8/12/2009

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.	0.150	540	3.510	
3	0105	20 min.	0.100	225	2.340	3S 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)
1	0415	20 min.	0.150	540	3.510
2	0440	20 min.	0.150	540	3.510
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)
1	0815	20 min.	0.150	540	3.510
2	0840	20 min.	0.150	540	3.510
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)
1	1215	20 min.	0.150	540	3.510
2	1240	20 min.	0.150	540	3.510
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)
1	1615	20 min.	0.150	540	3.510
2	1640	20 min.	0.150	540	3.510
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.	0.150	540	3.510	21.06	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.100	225	2.340	14.04	**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 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: 8/13/2009

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	1N CW Pump off @ 0230 hrs.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.100	225	2.340	3S CW Pump remains off.
4	0130	20 min.	0.135	277	3.159	4N CW Pump remains off.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	1N CW Pump on @ 0509 hrs.
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.100	225	2.340	3S CW Pump on @ 0745 hrs.
4	0530	20 min.	0.135	277	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	3N CW Pump off @ 1843 hrs.
4	1730	20 min.	0.135	277	3.159	

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.	0.150	540	3.510	19.31	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.100	225	2.340	21.06	**62,300 (gpm)**
4	2130	20 min.	0.135	277	3.159	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 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: 8/14/2009

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.	0.150	540	3.510	
3	0105	20 min.	0.100	225	2.340	3N CW Pump remains off.
4	0130	20 min.	0.135	277	3.159	4N CW Pump remains off.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.100	225	2.340	
4	0530	20 min.	0.135	277	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0815	20 min.	0.150	540	3.510	
2	0840	20 min.	0.150	540	3.510	
3	0905	20 min.	0.100	225	2.340	
4	0930	20 min.	0.135	277	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.150	540	3.510	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.100	225	2.340	
4	1330	20 min.	0.135	277	3.159	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.100	225	2.340	
4	1730			0	0.000	4S CW Pumpoff @ 1720 hrs.

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.	0.150	540	3.510	21.06	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	39,000 (gpm)
3	2105	20 min.	0.100	225	2.340	14.04	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 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: 8/15/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump off @ 0026 hrs.
2	0040	20 min.	0.075	270	1.755	2N CW Pump off @ 0029 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.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
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)	
1	0815	20 min.	0.075	270	1.755	
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)	
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)	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.075	270	1.755	
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	10.53	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	14.04	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: 8/16/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
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 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)
1	0415	20 min.	0.075	270	1.755
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)
1	0815	20 min.	0.075	270	1.755
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)
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)
1	1615	20 min.	0.075	270	1.755
2	1640	20 min.	0.075	270	1.755
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	10.53	**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	14.04	**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: 8/17/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
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 on @ 0201 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.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.075	270	1.755	2S CW Pump off @ 0241 hrs.
3	0505	20 min.	0.100	225	2.340	2S CW Pump on @ 0545 hrs.
4	0530			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0815	20 min.	0.075	270	1.755	1N CW Pump on @ 1131 hrs.
2	0840	20 min.	0.150	540	3.510	
3	0905	20 min.	0.100	225	2.340	3N CW Pump on @ 1121 hrs.
4	0930			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	1N CW Pump off @ 2250 hrs.
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	3N CW Pump off @ 2230 hrs.
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.	0.150	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	21.06	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: 8/18/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	3N CW Pump on @ 0215 hrs.
3	0105	20 min.	0.100	225	2.340	3S CW Pump off @ 0225 hrs.
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	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.100	225	2.340	3S CW Pump on @ 0535 hrs.
4	0530			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
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	10.53	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.200	450	4.680	23.40	**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: 8/19/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
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	20 min.	0.075	270	1.755
2	0440	20 min.	0.150	540	3.510
3	0505	20 min.	0.200	450	4.680
4	0530			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)
1	1215	20 min.	0.075	270	1.755
2	1240	20 min.	0.150	540	3.510
3	1305	20 min.	0.200	450	4.680
4	1330			0	0.000

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)
1	1615	20 min.	0.075	270	1.755
2	1640	20 min.	0.150	540	3.510
3	1705	20 min.	0.200	450	4.680
4	1730	20 min.	0.135	277	3.159

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	10.53	**39,000 (gpm)**
2	2040	20 min.	0.150	540	3.510	21.06	**39,000 (gpm)**
3	2105	20 min.	0.200	450	4.680	28.08	**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 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: 8/20/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.135	277	3.159	4N CW Pump remains off.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.135	277	3.159	4N CW Pump on @ 0632 hrs.
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.150	540	3.510	1N CW Pump on @ 1212 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	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	1N CW Pump off @ 2245 hrs.
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.270	554	6.318	

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.	0.150	540	3.510	15.80	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	31.59	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: 8/21/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	
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	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.270	554	6.318	

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	10.53	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	37.91	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: 8/22/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	3S CW Pump off @ 0513 hrs.
4	0530	20 min.	0.270	554	6.318	3S CW Pump on @ 0628 hrs.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)
1	1215	20 min.	0.075	270	1.755
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

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)
1	1615	20 min.	0.075	270	1.755
2	1640	20 min.	0.150	540	3.510
3	1705	20 min.	0.200	450	4.680
4	1730	20 min.	0.270	554	6.318

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	10.53	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	37.91	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: 8/23/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.141	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	
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	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	3N CW Pump off @ 2242 hrs.
4	1730	20 min.	0.270	554	6.318	4N CW Pump off @ 2252 hrs.

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	9.92	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	37.91	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: 8/24/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.100	225	2.340	3N CW Pump on @ 0215 hrs.
4	0130	20 min.	0.135	277	3.159	4N CW Pump remains off.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.100	225	2.340	3S CW Pump off @ 0240 hrs.
4	0530	20 min.	0.135	277	3.159	3S CW Pump on @ 0531 hrs.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.150	540	3.510	1N CW Pump on @ 1211 hrs.
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	3.159	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	2N CW Pump off @ 2312 hrs.
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.135	277	3.159	

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.	0.150	540	3.510	15.80	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	39,000 (gpm)
3	2105	20 min.	0.200	450	4.680	23.40	62,300 (gpm)
4	2130	20 min.	0.135	277	3.159	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 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: 8/25/2009

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 on @ 0212 hrs.
3	0105	20 min.	0.200	450	4.680	2S CW Pump off @ 0237 hrs.
4	0130	20 min.	0.135	277	3.159	4N CW Pump remains off.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	1N CW Pump off @ 0303 hrs.
2	0440	20 min.	0.075	270	1.755	2S CW Pump on @ 0530 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530			0	0.000	4S CW Pump off @ 0505 hrs.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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			0	0.000	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	
2	1240	20 min.	0.150	540	3.510	
3	1305	20 min.	0.200	450	4.680	
4	1330			0	0.000	4S CW Pump on @ 1407 hrs.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.135	277	3.159	

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	12.29	**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.	0.135	277	3.159	9.48	**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: 8/26/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump remains off.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	4N CW Pump on @ 0235 hrs.
4	0130	20 min.	0.135	277	3.159	4S CW Pump off @ 0245 hrs.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.075	270	1.755	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	4S CW Pump on @ 0530 hrs.

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1215	20 min.	0.075	270	1.755	
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	

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.075	270	1.755	
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.270	554	6.318	

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	10.53	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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 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: 8/27/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1N CW Pump on @ 0130 hrs.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	1S CW Pump off @ 2320 hrs.
2	1640	20 min.	0.150	540	3.510	
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.270	554	6.318	

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.	0.150	540	3.510	19.31	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	37.91	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: 8/28/2009

24 HOUR TOTALS

Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	REMARKS
1	0015	20 min.	0.075	270	1.755	1S CW Pump 0n @ 0232 hrs.
2	0040	20 min.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	
4	1730	20 min.	0.270	554	6.318	

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.	0.150	540	3.510	19.31	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	37.91	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: 8/29/2009

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.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	
4	1730	20 min.	0.270	554	6.318	

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.	0.150	540	3.510	21.06	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	37.91	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: 8/30/2009

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.	0.150	540	3.510	
3	0105	20 min.	0.200	450	4.680	
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.150	540	3.510	
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	1.580	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	1615	20 min.	0.150	540	3.510	
2	1640	20 min.	0.150	540	3.510	2S CW Pump off @ 2330 hrs.
3	1705	20 min.	0.200	450	4.680	
4	1730	20 min.	0.270	554	6.318	

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.	0.150	540	3.510	21.06	39,000 (gpm)
2	2040	20 min.	0.150	540	3.510	21.06	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	33.17	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: 8/31/2009

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	2S CW Pump on @ 0215 hrs.
3	0105	20 min.	0.200	450	4.680	2N CW Pump off @ 0235 hrs.
4	0130	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (lbs/cycle)	
1	0415	20 min.	0.150	540	3.510	
2	0440	20 min.	0.075	270	1.755	2N CW Pump on @ 0535 hrs.
3	0505	20 min.	0.200	450	4.680	
4	0530	20 min.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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.	0.270	554	6.318	
Unit	Time	DURATION	Pump Feed Rate (GPM)	Feed ug/l	Chlorine (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	
4	1730	20 min.	0.270	554	6.318	4N CW Pump off @ 2304 hrs.

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.	0.150	540	3.510	21.06	**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	37.91	**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

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

September 21, 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 August 18, 2009 and were processed between August 18th and 22nd. The results for these tests are listed in the tables below.

Chronic Toxicity Tests

Test	Sample ID	NOEC (%)	LOEC (%)	EC_{50} (%)	TUc
Macrocystis pyrifera (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

Acute Toxicity Tests

Test	Sample ID	% Control Survival	% Sample Survival (Relative to Control)
Mysidopsis bahia	So. Bay Inlet	100	92.5
	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:	Dynegy South Bay LLC	**Date Received:**	18 August 09
Project:	SBPP Toxicity Samples – August	**Date Test Started:**	18 August 09
Sample Matrix:	Liquid	**Date Test Ended:**	20 August 09
Sample Name/ID:	So. Bay Inlet	**Test ID No.:**	C090818.0247
	So. Bay Property Line (S2)		C090818.0347

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_{50}	TU_c
Inlet	100%	>100%	>100%	1
Property Line (S2)	100%	>100%	>100%	1
Ref Tox	5.6 ppb	10 ppb	90.7 ppb	N/A

Summary of Results – Growth

	NOEC	LOEC	EC_{50}	TU_c
Inlet	100%	>100%	>100%	1
Property Line (S2)	100%	>100%	>100%	1
Ref Tox	<5.6 ppb	5.6 ppb	157.3 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_{50} was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TUc), 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_{50} was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TUc), 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_{50} was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TUc), 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_{50} was greater than 100 percent test substance. Toxicity, expressed as Toxic Units Chronic (TUc), was calculated to be 1.

Elizabeth M. Bottlin	9/21/09	[signature]	9/21/09
QA Unit	Date	Approved	Date

Weston Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	**Date Received:**	18 August 09
Project:	SBPP Toxicity Samples – August	**Date Test Started:**	18 August 09
Sample Matrix:	Liquid	**Date Test Ended:**	20 August 09
Sample Name/ID:	So. Bay Inlet	**Test ID No.:**	C090818.0247
	So. Bay Property Line (S2)		C090818.0347

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)	6.9	7.9	15.9	16.0	15.1	33.4	33.5	8.0	7.9
6.25	7.2	7.7	15.5	15.4	15.0	33.7	34.2	8.0	7.9
12.5	7.4	7.6	15.3	15.3	15.2	33.9	34.1	7.9	7.9
25	6.9	7.6	15.3	15.3	15.1	34.2	34.3	7.9	7.9
50	7.4	7.7	15.3	15.2	15.3	34.7	34.8	7.9	7.9
100	7.5	7.6	15.0	15.2	15.3	35.9	36.1	7.8	7.9

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)	6.9	7.9	15.9	16.0	15.1	33.4	33.5	8.0	7.9
6.25	7.2	7.7	14.6	15.7	15.2	33.7	33.9	8.0	7.9
12.5	7.2	7.7	14.5	15.5	15.2	33.9	34.2	8.0	7.9
25	7.3	7.8	14.6	15.4	15.3	34.2	34.3	8.0	7.9
50	7.2	7.8	14.7	15.3	15.3	34.8	34.9	8.0	7.9
100	7.6	7.7	14.5	15.3	15.3	35.9	36.4	7.9	7.9

*Water quality measured on surrogate chambers.

Protocol Deviations: Spore inoculation volume exceeded 1 percent of the test solution volume. This deviation should not impact the significance of the test results.

Weston Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	**Date Received:**	18 August 09
Project:	SBPP Toxicity Samples – August	**Date Test Started:**	18 August 09
Sample Matrix:	Liquid	**Date Test Ended:**	20 August 09
Sample Name/ID:	So. Bay Inlet	**Test ID No.:**	C090818.0247
	So. Bay Property Line (S2)		C090818.0347

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	33.4 ppt
pH	8.0
Dissolved Oxygen	6.9 mg/L
Temperature	15.9 °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 0825 and 0835 hours, respectively, on August 18, 2009. South Bay Power Plant personnel delivered samples to Weston Solutions at 1000 hours the same day with temperatures upon arrival of 7.3 and 7.5°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: $CuCl_2 \cdot 2$ Hydrate, Lot #06404BJ, received 9/22/08, opened 9/26/08, expires 2/28/11.
Species: *M. pyrifera* spores
Test Date: 8/18/09

48 hour EC_{50} Germination:	90.72 ppb
Germination NOEC:	5.6 ppb
48 hour EC_{50} Tube Length:	157.30 ppb
Germination tube growth NOEC:	<5.6 ppb
Length mean square:	0.73
Mean Control Germination:	79.4 %
Mean Control Germination Tube Length:	16.1 µm
Laboratory Mean EC_{50} for Germination:	112.67 ppb
Laboratory Mean EC_{50} for Growth:	146.58 ppb

Control charts attached

STUDY DIRECTOR: K. Skrivseth
INVESTIGATORS: K. Skrivseth, E. Batliner, V. Hayes, K. Curry, A. Margolis

Macrocystis Germination and Growth Test-Proportion Germinated

Start Date:	8/18/2009 18:05	Test ID:	C090818.0247	Sample ID:	So. Bay Inlet
End Date:	8/20/2009 17:10	Lab ID:	CCA-Weston, Carlsbad	Sample Type:	EFF3-Power Plant
Sample Date:	8/18/2009 08:25	Protocol:	EPAW 95-EPA West Coast	Test Species:	MP-Macrocystis pyrifera

Comments:

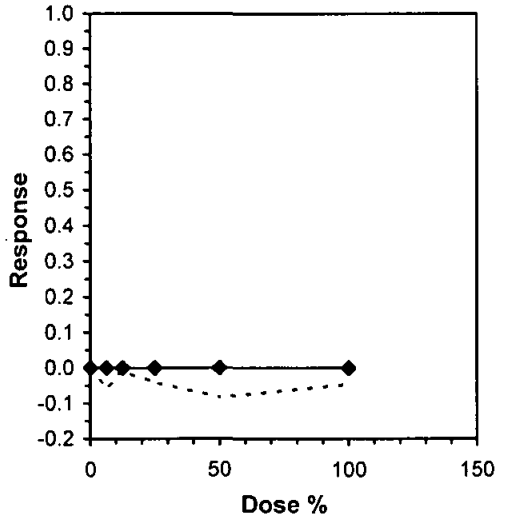
Conc-%	1	2	3	4	5
Control	0.7700	0.8000	0.7100	0.8600	0.8300
6.25	0.8300	0.8400	0.8400	0.8500	0.8300
12.5	0.9100	0.8000	0.7500	0.7500	0.8000
25	0.8600	0.8600	0.7500	0.8200	0.8400
50	0.9300	0.8600	0.9100	0.8200	0.7800
100	0.8600	0.8200	0.8500	0.8200	0.8000

			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7940	1.0000	1.1026	1.0021	1.1873	6.442	5				0.8250	1.0000
6.25	0.8380	1.0554	1.1567	1.1458	1.1731	0.985	5	-1.299	2.360	0.0982	0.8250	1.0000
12.5	0.8020	1.0101	1.1150	1.0472	1.2661	8.041	5	-0.297	2.360	0.0982	0.8250	1.0000
25	0.8260	1.0403	1.1427	1.0472	1.1873	5.079	5	-0.965	2.360	0.0982	0.8250	1.0000
50	0.8600	1.0831	1.1943	1.0826	1.3030	7.640	5	-2.204	2.360	0.0982	0.8250	1.0000
100	0.8300	1.0453	1.1466	1.1071	1.1873	2.861	5	-1.056	2.360	0.0982	0.8250	1.0000

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)					0.96903		0.9		0.3141	0.47907
Bartlett's Test indicates equal variances (p = 0.02)					13.5826		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	0.0843	0.10586	0.00525	0.00433	0.33326	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			



Reviewed by:

Macrocystis Germination and Growth Test-Growth-Length

Start Date:	8/18/2009 18:05	Test ID:	C090818.0247	Sample ID:	So. Bay Inlet
End Date:	8/20/2009 17:10	Lab ID:	CCA-Weston, Carlsbad	Sample Type:	EFF3-Power Plant
Sample Date:	8/18/2009 08:25	Protocol:	EPAW 95-EPA West Coast	Test Species:	MP-Macrocystis pyrifera

Comments:

Conc-%	1	2	3	4	5
Control	15.500	16.250	15.500	16.750	16.250
6.25	16.500	14.000	14.750	15.000	15.500
12.5	16.750	15.250	15.500	15.750	15.750
25	15.500	16.250	13.250	16.250	13.250
50	18.250	17.500	15.250	16.250	15.500
100	16.750	13.500	15.250	18.000	16.000

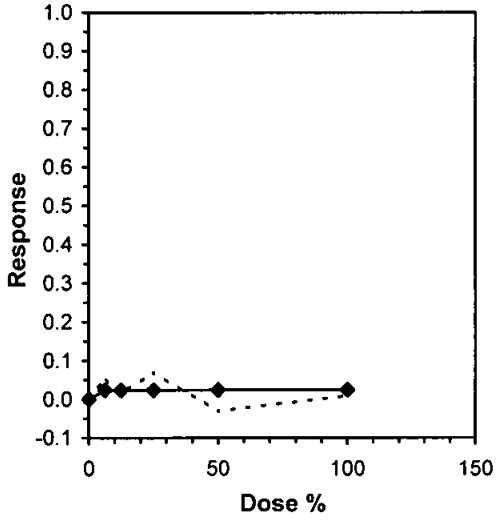
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	16.050	1.0000	16.050	15.500	16.750	3.377	5				16.050	1.0000
6.25	15.150	0.9439	15.150	14.000	16.500	6.130	5	1.207	2.360	1.760	15.660	0.9757
12.5	15.800	0.9844	15.800	15.250	16.750	3.608	5	0.335	2.360	1.760	15.660	0.9757
25	14.900	0.9283	14.900	13.250	16.250	10.316	5	1.542	2.360	1.760	15.660	0.9757
50	16.550	1.0312	16.550	15.250	18.250	7.805	5	-0.670	2.360	1.760	15.660	0.9757
100	15.900	0.9907	15.900	13.500	18.000	10.583	5	0.201	2.360	1.760	15.660	0.9757

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.98682	0.9	-0.122	-0.3069
Bartlett's Test indicates equal variances (p = 0.18)	7.52038	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	1.76014	0.10967	1.83375	1.39063	0.28967	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			



Reviewed by:

Test: MC-Macrocystis Germination and Growth Test
Test ID: C090818.0247
Species: MP-Macrocystis pyrifera
Protocol: EPAW 95-EPA West Coast
Sample ID: So. Bay Inlet
Sample Type: EFF3-Power Plant
Start Date: 8/18/2009 18:05
End Date: 8/20/2009 17:10
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	Control	100	77	5	5	7	7	8	7	7	6	6	4	2.5	
	2	2	Control	100	80	8	4	8	7	5	7	4	8	6	8	2.5	
	3	3	Control	100	71	5	5	5	7	7	9	6	4	6	8	2.5	
	4	4	Control	100	86	4	7	7	6	5	13	6	5	7	7	2.5	
	5	5	Control	100	83	6	6	6	6	6	7	7	8	6	7	2.5	
	6	1	6.250	100	83	6	7	6	8	5	7	7	6	6	8	2.5	
	7	2	6.250	100	84	6	5	5	5	5	3	7	8	6	6	2.5	
	8	3	6.250	100	84	6	7	5	6	7	7	6	6	6	3	2.5	
	9	4	6.250	100	85	6	7	7	4	5	6	8	8	4	5	2.5	
	10	5	6.250	100	83	5	5	7	6	7	6	5	7	7	7	2.5	
	11	1	12.500	100	91	7	7	6	5	6	6	7	7	8	8	2.5	
	12	2	12.500	100	80	7	9	6	4	6	6	6	4	7	6	2.5	
	13	3	12.500	100	75	6	6	7	6	4	5	6	8	6	8	2.5	
	14	4	12.500	100	75	8	9	8	5	5	4	9	6	3	6	2.5	
	15	5	12.500	100	80	6	7	5	7	6	7	6	8	8	3	2.5	
	16	1	25.000	100	86	6	7	7	7	6	5	6	7	5	6	2.5	
	17	2	25.000	100	86	6	7	6	8	6	4	7	7	7	7	2.5	
	18	3	25.000	100	75	7	5	7	4	6	3	5	5	5	6	2.5	
	19	4	25.000	100	82	7	7	9	5	6	5	5	6	8	7	2.5	
	20	5	25.000	100	84	6	3	5	6	4	5	4	7	7	6	2.5	
	21	1	50.000	100	93	7	7	9	6	6	7	7	8	7	9	2.5	
	22	2	50.000	100	86	8	8	7	6	7	7	4	8	6	9	2.5	
	23	3	50.000	100	91	7	5	7	9	4	7	6	4	7	5	2.5	
	24	4	50.000	100	82	6	7	5	6	8	5	7	8	7	6	2.5	
	25	5	50.000	100	78	5	6	9	7	5	7	7	4	7	5	2.5	
	26	1	100.000	100	86	6	9	6	8	7	5	7	7	5	7	2.5	
	27	2	100.000	100	82	5	10	5	5	4	5	7	4	5	4	2.5	
	28	3	100.000	100	85	7	6	6	8	7	7	5	4	5	6	2.5	
	29	4	100.000	100	82	8	7	5	7	8	6	8	9	7	7	2.5	
	30	5	100.000	100	80	7	8	6	6	6	7	7	6	5	6	2.5	

Comments:

6 MC NOV 2009

Reviewed by: am

KELP 48-HOUR CHRONIC TOXICITY TEST

BIO047

CLIENT:	Dynegy ~~So. Bay~~ South Bay LLC
PROJECT:	SBPP Toxicity Sample - August
CLIENT SAMPLE ID:	~~Intake~~ So. Bay Inlet
WESTON TEST ID:	C090818.0247
SPECIES:	*Macrocystis pyrifera*

DATE RECEIVED:	8/18/09
DATE TEST STARTED:	8/18/09
DATE TEST ENDED:	8/20/09
STUDY DIRECTOR:	K. Skrinski
ORGANISMS/CHAMBER:	300,000

	Concentration	Meter #	DO (mg/L)	Meter #	Temp (°C)	Meter #	Salinity (ppt)	Meter #	pH
Day 0 (0 Hours)	CONTROL	7	6.9	7	15.9	5	33.4	3	8.0
Date: 8/18/09	~~BRINE CONTROL~~		—		—		—		—
Sample ID: C090818.02	6.25		7.2		15.5		33.7		8.0
Dilutions (tech): KS	12.5		7.4		15.3		33.9		7.9
WQ Time: 1400	25		6.9		15.3		34.2		7.9
Technician: VH	50		7.4		15.3		34.7		7.9
	100		7.5		15.0		35.9		7.8
24 Hours	CONTROL			7	16.0				
Date: 8/19/09	~~BRINE CONTROL~~				—				
WQ Time: 1150	6.25				15.4				
Technician: VH	12.5				15.3				
	25				15.3				
	50				15.2				
	100				15.2				
48 Hours	CONTROL	7	7.9	7	15.1	5	33.5	2	7.9
Date: 8/20/09	~~BRINE CONTROL~~		—		—		—		—
WQ Time: 1525	6.25		7.7		15.0		34.2		7.9
Technician: KC	12.5		7.6		15.2		34.1		7.9
	25		7.6		15.1		34.3		7.9
	50		7.7		15.3		34.8		7.9
	100		7.6		15.3		36.1		7.9

START TIME:	1805 VS
END TIME:	1710 9/3
ORGANISM BATCH:	D6 080809 K
TEST ROOM:	Rm 2
TEST SHELF #:	1

① IE 9/7/09 VS

DILUTION WATER BATCH:	S10 072709
BRINE BATCH:	N/A
HOBO TEMP. NO.:	2324
TEST ACCEPTABILITY:	
☒ 70% GERMINATION IN CONTROL	
☒ ≥10 µm GERM-TUBE LENGTH IN THE CONTROLS	

KELP 48-HOUR CHRONIC TOXICITY TEST

BIO047

WESTON TEST ID:	CLIENT:	CLIENT SAMPLE ID:
C090818.0247	Dynegy South Bay LLC	So. Bay Inlet

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	77	23	5	5	7	7	8	7	7	6	6	4	CH-2	8/21/09	KS
2	Control	2	80	20	8	4	8	7	5	7	4	8	6	8			
3	Control	3	71	29	5	5	5	7	7	9	6	4	6	8			
4	Control	4	86	14	4	7	7	6	5	13	6	5	7	7			
5	Control	5	83	17	6	6	6	6	6	7	7	8	6	7			
6	6.25	1	83	17	6	7	6	8	5	7	7	6	6	8		9/1/09	
7		2	84	16	6	5	5	5	5	3	7	8	6	6		9/4/09	
8		3	84	16	6	7	5	6	7	7	6	6	6	3			
9		4	85	15	6	7	7	4	5	6	8	8	4	5			
10		5	83	17	5	5	7	6	7	6	5	7	7	7			
11	12.5	1	91	9	7	7	6	5	6	6	7	7	8	8		9/1/09	
12		2	80	20	7	9	6	4	6	6	6	4	7	6		9/5/09	
13		3	75	25	6	6	7	6	4	5	6	8	6	8			
14		4	75	25	8	9	8	5	5	4	9	6	3	6			
15		5	80	20	6	7	5	7	6	7	6	8	8	3			
16	25	1	86	14	6	7	7	7	6	5	6	7	5	6		9/1/09	
17		2	86	14	6	7	6	8	6	4	7	7	7	7		9/5/09	
18		3	75	25	7	5	7	4	6	3	5	5	5	6			
19		4	82	18	7	7	9	5	6	5	5	6	8	7			
20		5	84	16	6	3	5	6	4	5	4	7	7	6			
21	50	1	93	7	7	7	9	6	6	7	7	8	7	9		9/1/09	
22		2	86	14	8	8	7	6	7	7	4	8	6	9		9/5/09	
23		3	91	9	7	5	7	9	4	7	6	4	7	5			
24		4	82	18	6	7	5	6	8	5	7	8	7	6			
25		5	78	22	5	6	9	7	5	7	7	4	7	5			
26	100	1	86	14	6	9	6	8	7	5	7	7	5	7		9/1/09	
27		2	82	18	5	10	5	5	4	5	7	4	5	4		9/5/09	
28		3	85	15	7	6	6	8	7	7	5	4	5	6			
29		4	82	18	8	7	5	7	8	6	8	9	7	7			
30		5	80	20	7	8	6	6	6	7	7	6	5	6			

Macrocystis Germination and Growth Test-Proportion Germinated

Start Date:	8/18/2009 18:05	Test ID:	C090818.0347	Sample ID:	So. Bay Property Line (S2)
End Date:	8/20/2009 17:10	Lab ID:	CCA-Weston, Carlsbad	Sample Type:	EFF3-Power Plant
Sample Date:	8/18/2009 08:35	Protocol:	EPAW 95-EPA West Coast	Test Species:	MP-Macrocystis pyrifera

Comments:

Conc-%	1	2	3	4	5
Control	0.7700	0.8000	0.7100	0.8600	0.8300
6.25	0.7800	0.6800	0.8500	0.8100	0.8500
12.5	0.8500	0.8200	0.8200	0.7800	0.8300
25	0.8300	0.8500	0.8200	0.8900	0.7900
50	0.8700	0.8300	0.8700	0.8900	0.8600
100	0.8500	0.8300	0.8100	0.7800	0.8300

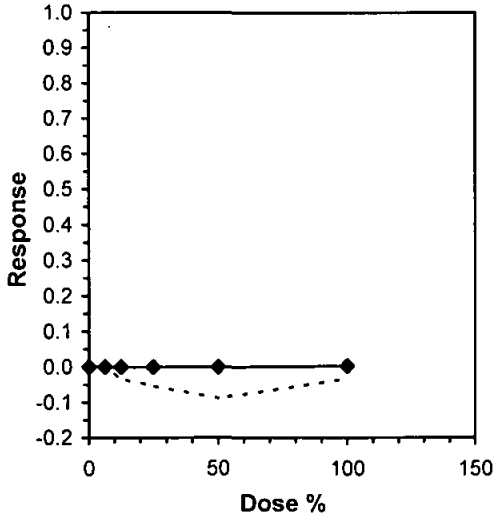
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7940	1.0000	1.1026	1.0021	1.1873	6.442	5				0.8216	1.0000
6.25	0.7940	1.0000	1.1036	0.9695	1.1731	7.627	5	-0.029	2.360	0.0818	0.8216	1.0000
12.5	0.8200	1.0327	1.1334	1.0826	1.1731	2.897	5	-0.888	2.360	0.0818	0.8216	1.0000
25	0.8360	1.0529	1.1558	1.0948	1.2327	4.449	5	-1.535	2.360	0.0818	0.8216	1.0000
50	0.8640	1.0882	1.1939	1.1458	1.2327	2.646	5	-2.636	2.360	0.0818	0.8216	1.0000
100	0.8200	1.0327	1.1334	1.0826	1.1731	3.009	5	-0.889	2.360	0.0818	0.8200	0.9981

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96025	0.9	-0.6176	0.80869
Bartlett's Test indicates equal variances (p = 0.25)	6.64542	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	0.06953	0.08731	0.00592	0.003	0.11948	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			



Reviewed by:

Macrocystis Germination and Growth Test-Growth-Length

Start Date:	8/18/2009 18:05	Test ID:	C090818.0347	Sample ID:	So. Bay Property Line (S2)
End Date:	8/20/2009 17:10	Lab ID:	CCA-Weston, Carlsbad	Sample Type:	EFF3-Power Plant
Sample Date:	8/18/2009 08:35	Protocol:	EPAW 95-EPA West Coast	Test Species:	MP-Macrocystis pyrifera
Comments:					

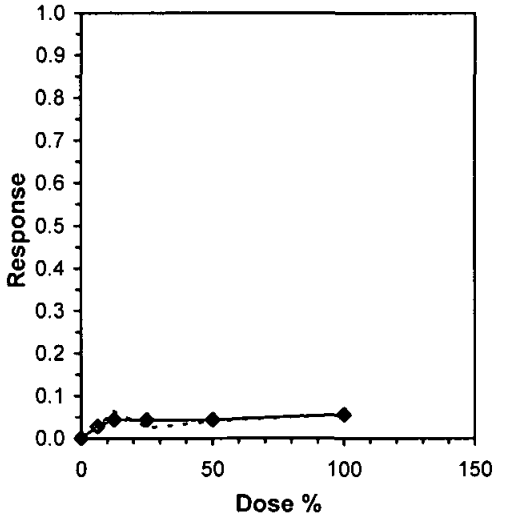
Conc-%	1	2	3	4	5
Control	15.500	16.250	15.500	16.750	16.250
6.25	17.500	15.500	14.500	15.500	15.000
12.5	14.750	15.250	15.500	14.250	15.250
25	15.250	14.000	15.500	16.000	17.500
50	17.250	14.000	16.000	15.000	14.750
100	15.750	14.750	15.000	14.750	15.500

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	16.050	1.0000	16.050	15.500	16.750	3.377	5				16.050	1.0000
6.25	15.600	0.9720	15.600	14.500	17.500	7.309	5	0.761	2.360	1.395	15.600	0.9720
12.5	15.000	0.9346	15.000	14.250	15.500	3.333	5	1.776	2.360	1.395	15.350	0.9564
25	15.650	0.9751	15.650	14.000	17.500	8.114	5	0.677	2.360	1.395	15.350	0.9564
50	15.400	0.9595	15.400	14.000	17.250	8.165	5	1.099	2.360	1.395	15.350	0.9564
100	15.150	0.9439	15.150	14.750	15.750	2.998	5	1.522	2.360	1.395	15.150	0.9439

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)					0.93548		0.9		0.62841	0.77342
Bartlett's Test indicates equal variances (p = 0.16)					7.95932		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	1.39536	0.08694	0.71375	0.87396	0.54967	5, 24

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	75.625			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by:

Test: MC-Macrocystis Germination and Growth Test	Test ID: C090818.0347
Species: MP-Macrocystis pyrifera	Protocol: EPAW 95-EPA West Coast
Sample ID: So. Bay Property Line (S2)	Sample Type: EFF3-Power Plant
Start Date: 8/18/2009 18:05 — End Date: 8/20/2009 17:10	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	Control	100	77	5	5	7	7	8	7	7	6	6	4	2.5	
	2	2	Control	100	80	8	4	8	7	5	7	4	8	6	8	2.5	
	3	3	Control	100	71	5	5	5	7	7	9	6	4	6	8	2.5	
	4	4	Control	100	86	4	7	7	6	5	13	6	5	7	7	2.5	
	5	5	Control	100	83	6	6	6	6	6	7	7	8	6	7	2.5	
	6	1	6.250	100	78	7	6	6	8	5	7	7	9	8	7	2.5	
	7	2	6.250	100	68	4	10	4	8	6	6	5	7	5	7	2.5	
	8	3	6.250	100	85	4	4	7	7	5	6	5	7	5	8	2.5	
	9	4	6.250	100	81	5	6	6	7	9	3	5	7	6	8	2.5	
	10	5	6.250	100	85	8	5	5	5	7	5	7	7	5	6	2.5	
	11	1	12.500	100	85	6	7	6	4	7	6	7	5	5	6	2.5	
	12	2	12.500	100	82	8	3	6	7	6	6	7	7	5	6	2.5	
	13	3	12.500	100	82	6	7	6	7	4	7	8	7	5	5	2.5	
	14	4	12.500	100	78	5	5	5	6	5	5	5	7	8	6	2.5	
	15	5	12.500	100	83	7	5	5	6	5	7	8	4	8	6	2.5	
	16	1	25.000	100	83	5	8	8	6	6	6	5	4	6	7	2.5	
	17	2	25.000	100	85	6	3	6	7	7	6	6	7	5	3	2.5	
	18	3	25.000	100	82	8	8	5	7	6	5	5	5	6	7	2.5	
	19	4	25.000	100	89	6	7	7	4	8	7	8	6	6	5	2.5	
	20	5	25.000	100	79	3	8	8	9	5	8	6	8	8	7	2.5	
	21	1	50.000	100	87	6	6	8	7	6	6	8	7	7	8	2.5	
	22	2	50.000	100	83	9	7	4	7	6	5	6	3	5	4	2.5	
	23	3	50.000	100	87	8	7	5	6	4	6	6	4	9	9	2.5	
	24	4	50.000	100	89	5	6	6	7	6	5	8	7	6	4	2.5	
	25	5	50.000	100	86	7	7	6	5	6	3	9	6	5	5	2.5	
	26	1	100.000	100	85	8	6	6	6	6	7	5	7	6	6	2.5	
	27	2	100.000	100	83	6	5	6	5	7	8	6	5	4	7	2.5	
	28	3	100.000	100	81	7	7	7	5	3	6	8	6	6	5	2.5	
	29	4	100.000	100	78	3	5	6	6	6	7	5	7	8	6	2.5	
	30	5	100.000	100	83	8	6	8	5	5	4	7	5	6	8	2.5	

Comments:

ToxCalc 5.0

Reviewed by: JM

KELP 48-HOUR CHRONIC TOXICITY TEST

BIO047

CLIENT: Dynegy ~~So. Bay~~ South Bay LLC	DATE RECEIVED: 8/18/09
PROJECT: So. Bay SBPP Toxicity Sample - August	DATE TEST STARTED: 8/18/09
CLIENT SAMPLE ID: Property Line (S2)	DATE TEST ENDED: 8/20/09
WESTON TEST ID: C090818.0347	STUDY DIRECTOR: K. Skrivseth
SPECIES: *Macrocystis pyrifera*	ORGANISMS/CHAMBER: 300,000

	Concentration	Meter #	DO (mg/L)	Meter #	Temp (°C)	Meter #	Salinity (ppt)	Meter #	pH
Day 0 (0 Hours)	CONTROL	7	6.9	7	15.9	5	33.4	3	8.0
Date: 8/18/09	~~BRINE CONTROL~~		—		—		—		—
Sample ID: C090818.03	6.25		7.2		14.6		33.7		8.0
Dilutions (tech): KS	12.5		7.2		14.5		33.9		8.0
WQ Time: 1610	25		7.3		14.6		34.2		8.0
Technician: VH	50		7.2		14.7		34.8		8.0
	100		7.6		14.5		35.9		7.9
24 Hours	CONTROL			7	16.0				
Date: 8/19/09	~~BRINE CONTROL~~				—				
WQ Time: 1150	6.25				15.7				
Technician: VH	12.5				15.5				
	25				15.4				
	50				15.3				
	100				15.3				
48 Hours	CONTROL	7	7.9	7	15.1	5	33.5	2	7.9
Date: 8/20/09	~~BRINE CONTROL~~		—		—		—		—
WQ Time: 1515	6.25		7.7		15.2		33.9		7.9
Technician: KC	12.5		7.7		15.2		34.2		7.9
	25		7.8		15.3		34.3		7.9
	50		7.8		15.3		34.9		7.9
	100		7.7		15.3		36.4		7.9

START TIME: 1805 KS	DILUTION WATER BATCH: S10072709
END TIME: 1710 KS	BRINE BATCH: N/A
ORGANISM BATCH: DG081809K	HOBO TEMP. NO.: 2324
TEST ROOM: Rm 2	TEST ACCEPTABILITY:
TEST SHELF #: 1	☒ 70% GERMINATION IN CONTROL
	☒ ≥10 µm GERM-TUBE LENGTH IN THE CONTROLS

① IE 9/7/09 KS

KELP 48-HOUR CHRONIC TOXICITY TEST

BIO047

WESTON TEST ID:	CLIENT:	CLIENT SAMPLE ID:
c090818.0347	Dynegy South Bay LLC	So. Bay Property Line (S2)

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	77	23	5	5	7	7	8	7	7	6	6	4	CH-2	8/21/09	VS
2	Control	2	80	20	8	4	8	7	5	7	4	8	6	8			
3	Control	3	71	29	5	5	5	7	7	9	6	4	6	8			
4	Control	4	86	14	4	7	7	6	5	13	6	5	7	7			
5	Control	5	83	17	6	6	6	6	6	7	7	8	6	7			
31	6.25	1	78	22	7	6	6	8	5	7	7	9	8	7		9/1/09	
32		2	68	32	4	10	4	8	6	6	5	7	5	7		9/1/09	
33		3	85	15	4	4	7	7	5	6	5	7	5	8			
34		4	81	19	5	6	6	7	9	3	5	7	6	8			
35		5	85	15	8	5	5	5	7	5	7	7	5	6			
36	12.5	1	85	15	6	7	6	4	7	6	7	5	5	6		9/1/09	
37		2	82	18	8	3	6	7	6	6	7	7	5	6		9/7/09	
38		3	82	18	6	7	6	7	4	7	8	7	5	5			
39		4	78	22	5	5	5	6	5	5	5	7	8	6			
40		5	83	17	7	5	5	6	5	7	8	4	8	6			
41	25	1	83	17	5	8	8	6	6	6	5	4	6	7		9/1/09	
42		2	85	15	6	3	6	7	7	6	6	7	5	3		9/7/09	
43		3	82	18	8	8	5	7	6	5	5	5	6	7			
44		4	89	11	6	7	7	4	8	7	8	6	6	5			
45		5	79	21	3	8	8	9	5	8	6	8	8	7			
46	50	1	87	13	6	6	8	7	6	6	8	7	7	8		9/1/09	
47		2	83	17	9	7	4	7	6	5	6	3	5	4		9/7/09	
48		3	87	13	8	7	5	6	4	6	6	4	9	9			
49		4	89	11	5	6	6	7	6	5	8	7	6	4			
50		5	86	14	7	7	6	5	6	3	9	6	5	5			
51	100	1	85	15	8	6	6	6	6	7	5	7	6	6		9/1/09	
52		2	83	17	6	5	6	5	7	8	6	5	4	7		9/7/09	
53		3	81	19	7	7	7	5	3	6	8	6	6	5			
54		4	78	22	3	5	6	6	6	7	5	7	8	6			
55		5	83	17	8	6	8	5	5	4	7	5	6	8			

WESTON SOLUTIONS

KELP 48-HOUR CHRONIC TOXICITY TEST
SPOROPHYLL RELEASE DATA SHEET

BIO047

WESTON TEST ID: C090818.0247 C090818.0347	CLIENT: Dynegy South Bay LLC	CLIENT SAMPLE ID: So. Bay Inlet So. Bay Property Line (SD)

Date: 8/18/09

Test: Kelp

Investigator: K. Skriveseth

Condition of Majority of Blades Used: Poor (Fair) Good

Number of Blades Used: 23 Weight of Blades: 103 g Volume of Release Water: 1.0 mL

Time blades are placed in release beaker: 1605

Time blades are removed from release beaker: 1645

Temperature of spore solution: 15.0

Check for zoospore motility on microscope: ✓

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

Determine spore density on the hemacytometer.

Determine density with 5 counts.

1. 19
2. 16
3. 13
4. 17
5. 14

Mean 15.4

Mean x 10,000 x 1.11 = 175,380 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 175,380 spores/mL = 1.71 mL/test container

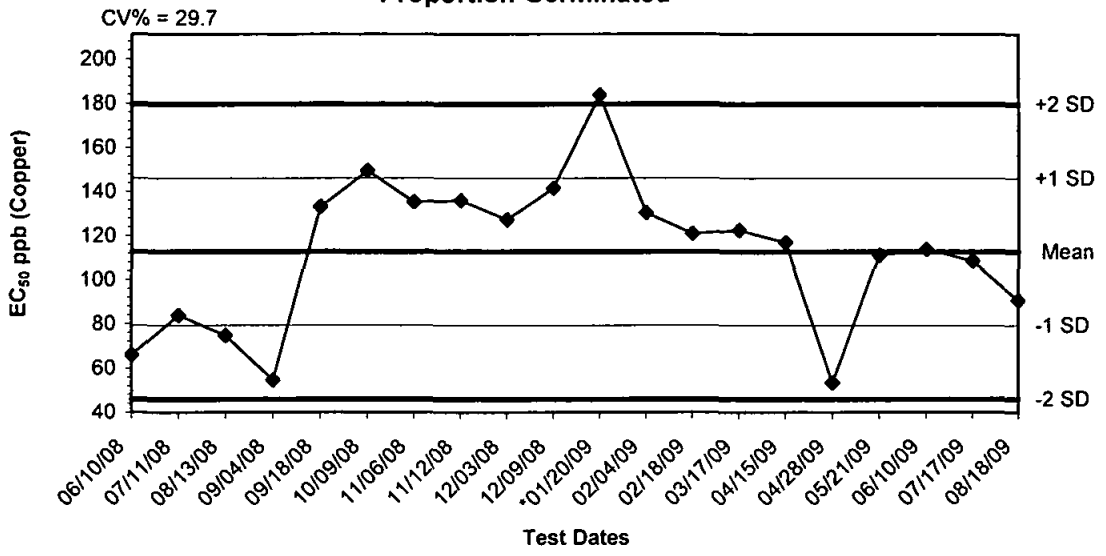
Temperature of control water (stock): 15.0

Light: 205 - 295 (need 200-300 foot-candles)

Time test containers are inoculated: 1805

CONCURS

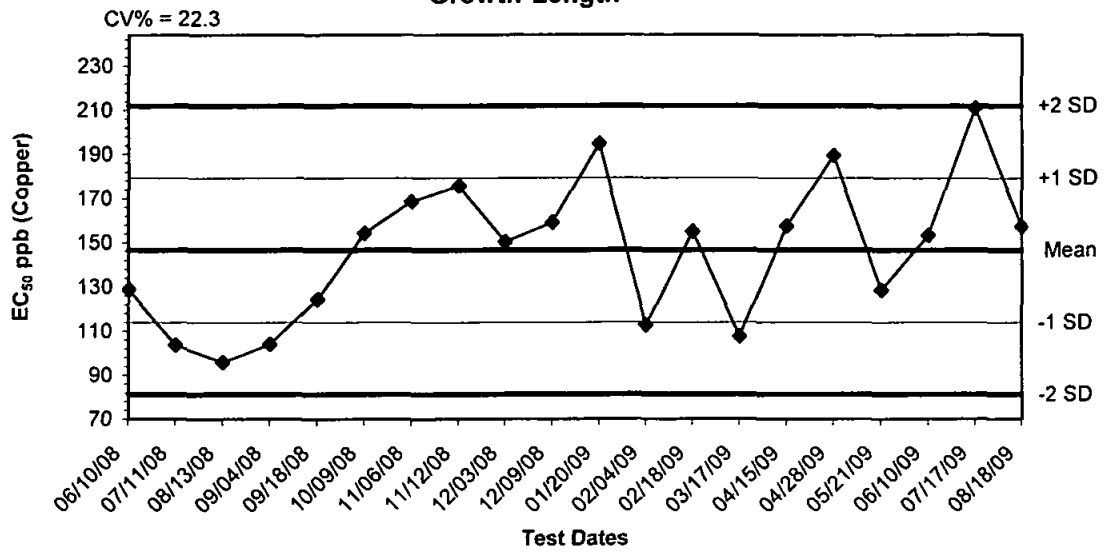
Macrocystis pyrifera Reference Toxicant Control Chart: Proportion Germinated



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
06/10/08	65.9360	112.6692	79.2549	45.8406	146.0835	179.4978
07/11/08	83.8740	112.6692	79.2549	45.8406	146.0835	179.4978
08/13/08	74.8388	112.6692	79.2549	45.8406	146.0835	179.4978
09/04/08	54.5540	112.6692	79.2549	45.8406	146.0835	179.4978
09/18/08	133.0200	112.6692	79.2549	45.8406	146.0835	179.4978
10/09/08	149.3300	112.6692	79.2549	45.8406	146.0835	179.4978
11/06/08	135.2100	112.6692	79.2549	45.8406	146.0835	179.4978
11/12/08	136.0200	112.6692	79.2549	45.8406	146.0835	179.4978
12/03/08	127.3100	112.6692	79.2549	45.8406	146.0835	179.4978
12/09/08	141.4500	112.6692	79.2549	45.8406	146.0835	179.4978
*01/20/09	183.5950	112.6692	79.2549	45.8406	146.0835	179.4978
02/04/09	130.3000	112.6692	79.2549	45.8406	146.0835	179.4978
02/18/09	120.8130	112.6692	79.2549	45.8406	146.0835	179.4978
03/17/09	122.4880	112.6692	79.2549	45.8406	146.0835	179.4978
04/15/09	116.9500	112.6692	79.2549	45.8406	146.0835	179.4978
04/28/09	53.3940	112.6692	79.2549	45.8406	146.0835	179.4978
05/21/09	111.0190	112.6692	79.2549	45.8406	146.0835	179.4978
06/10/09	113.9000	112.6692	79.2549	45.8406	146.0835	179.4978
07/17/09	108.6600	112.6692	79.2549	45.8406	146.0835	179.4978
08/18/09	90.7220	112.6692	79.2549	45.8406	146.0835	179.4978

* Value within 95% CI range at time of testing.
Updated 9/4/09 KS

Macrocystis pyrifera Reference Toxicant Control Chart: Growth-Length



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
06/10/08	128.8900	146.5782	113.9405	81.3028	179.2159	211.8535
07/11/08	103.6520	146.5782	113.9405	81.3028	179.2159	211.8535
08/13/08	95.8466	146.5782	113.9405	81.3028	179.2159	211.8535
09/04/08	104.0000	146.5782	113.9405	81.3028	179.2159	211.8535
09/18/08	124.5200	146.5782	113.9405	81.3028	179.2159	211.8535
10/09/08	154.2900	146.5782	113.9405	81.3028	179.2159	211.8535
11/06/08	168.5390	146.5782	113.9405	81.3028	179.2159	211.8535
11/12/08	175.7100	146.5782	113.9405	81.3028	179.2159	211.8535
12/03/08	150.2900	146.5782	113.9405	81.3028	179.2159	211.8535
12/09/08	159.0500	146.5782	113.9405	81.3028	179.2159	211.8535
01/20/09	194.7090	146.5782	113.9405	81.3028	179.2159	211.8535
02/04/09	112.6800	146.5782	113.9405	81.3028	179.2159	211.8535
02/18/09	155.0000	146.5782	113.9405	81.3028	179.2159	211.8535
03/17/09	107.5000	146.5782	113.9405	81.3028	179.2159	211.8535
04/15/09	157.3900	146.5782	113.9405	81.3028	179.2159	211.8535
04/28/09	189.4040	146.5782	113.9405	81.3028	179.2159	211.8535
05/21/09	128.4800	146.5782	113.9405	81.3028	179.2159	211.8535
06/10/09	153.3300	146.5782	113.9405	81.3028	179.2159	211.8535
07/17/09	210.9830	146.5782	113.9405	81.3028	179.2159	211.8535
08/18/09	157.3000	146.5782	113.9405	81.3028	179.2159	211.8535

Updated 9/4/09 KS

Macrocystis Germination and Growth Test-Proportion Germinated

Start Date:	8/18/2009 18:05	Test ID:	C080922.11	Sample ID:	REF-Ref Toxicant
End Date:	8/20/2009 17:10	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	0.7700	0.8000	0.7100	0.8600	0.8300
5.6	0.7000	0.8100	0.7300	0.7000	0.7800
10	0.6500	0.7000	0.5900	0.5700	0.7300
18	0.7400	0.6500	0.6900	0.7000	0.7100
32	0.6400	0.6900	0.7800	0.5800	0.6800
100	0.3700	0.3300	0.5300	0.4500	0.3600
180	0.1800	0.1400	0.1800	0.1400	0.0700

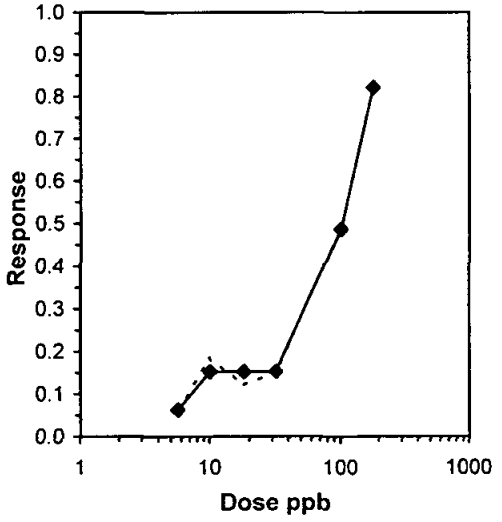
			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
Control	0.7940	1.0000	1.1026	1.0021	1.1873	6.442	5				103	500
5.6	0.7440	0.9370	1.0418	0.9912	1.1198	5.509	5	1.403	2.409	0.1043	128	500
*10	0.6480	0.8161	0.9370	0.8556	1.0244	7.720	5	3.823	2.409	0.1043	176	500
*18	0.6980	0.8791	0.9894	0.9377	1.0357	3.596	5	2.613	2.409	0.1043	151	500
*32	0.6740	0.8489	0.9651	0.8657	1.0826	8.250	5	3.174	2.409	0.1043	163	500
*100	0.4080	0.5139	0.6920	0.6119	0.8154	11.943	5	9.477	2.409	0.1043	296	500
*180	0.1420	0.1788	0.3822	0.2678	0.4381	18.202	5	16.628	2.409	0.1043	429	500

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.97206	0.91	0.08594	-0.6687
Bartlett's Test indicates equal variances (p = 0.83)	2.83273	16.8119		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	5.6	10	7.48331		0.08987	0.11285	0.31747	0.00469	2.3E-15	6, 28

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%			
5.0%			
10.0%			
20.0%	91.518	85.295	98.196
Auto-17.9%	90.722	84.855	96.995



Macrocystis Germination and Growth Test-Growth-Length

Start Date:	8/18/2009 18:05	Test ID:	C080922.11	Sample ID:	REF-Ref Toxicant
End Date:	8/20/2009 17:10	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	15.500	16.250	15.500	16.750	16.250
5.6	14.000	13.750	14.750	12.000	16.500
10	14.250	14.500	14.000	14.000	13.000
18	13.500	13.500	14.750	13.250	13.250
32	12.250	11.250	12.000	10.750	11.250
100	9.000	9.500	8.500	9.000	10.750
180	7.500	7.750	6.500	7.750	8.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	16.050	1.0000	16.050	15.500	16.750	3.377	5				16.050	1.0000
*5.6	14.200	0.8847	14.200	12.000	16.500	11.504	5	3.414	2.409	1.305	14.200	0.8847
*10	13.950	0.8692	13.950	13.000	14.500	4.087	5	3.876	2.409	1.305	13.950	0.8692
*18	13.650	0.8505	13.650	13.250	14.750	4.597	5	4.429	2.409	1.305	13.650	0.8505
*32	11.500	0.7165	11.500	10.750	12.250	5.325	5	8.398	2.409	1.305	11.500	0.7165
*100	9.350	0.5826	9.350	8.500	10.750	9.185	5	12.366	2.409	1.305	9.350	0.5826
*180	7.500	0.4673	7.500	6.500	8.000	7.817	5	15.780	2.409	1.305	7.500	0.4673

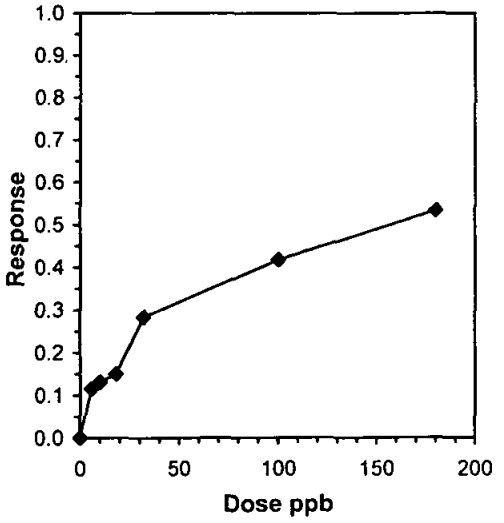
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96277	0.91	0.22853	2.53434
Bartlett's Test indicates equal variances (p = 0.17)	9.08347	16.8119		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	<5.6	5.6			1.30502	0.08131	45.4988	0.73393	7.1E-15	6, 28

Linear Interpolation (200 Resamples)

Point	ppb	SD	95% CL(Exp)		Skew
IC05*	2.43	1.23	1.35	8.05	1.4968
IC10*	4.86	2.23	2.70	12.49	1.9383
IC15	18.05	4.60	0.00	22.95	-0.7985
IC20	23.27	1.61	18.88	27.30	0.5411
IC25	28.50	2.07	24.43	33.21	3.2820
IC40	91.14	10.70	67.95	129.75	0.6843
IC50	157.30				

* indicates IC estimate less than the lowest concentration



Test: MC-Macrocystis Germination and Growth Test · Test ID: C080922.11 ·
Species: MP-Macrocystis pyrifera · Protocol: EPAW 95-EPA West Coast ·
Sample ID: REF-Ref Toxicant · Sample Type: CUCL-Copper chloride ·
Start Date: 8/18/2009 18:05 · End Date: 8/20/2009 17:10 · 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	Control	100	77	5	5	7	7	8	7	7	6	6	4	2.5	
	2	2	Control	100	80	8	4	8	7	5	7	4	8	6	8	2.5	
	3	3	Control	100	71	5	5	5	7	7	9	6	4	6	8	2.5	
	4	4	Control	100	86	4	7	7	6	5	13	6	5	7	7	2.5	
	5	5	Control	100	83	6	6	6	6	6	7	7	8	6	7	2.5	
	6	1	5.600	100	70	7	6	5	4	4	5	6	9	4	6	2.5	
	7	2	5.600	100	81	6	6	6	5	4	5	7	5	5	6	2.5	
	8	3	5.600	100	73	6	6	6	7	5	6	7	5	5	6	2.5	
	9	4	5.600	100	70	5	4	6	6	4	4	4	4	7	4	2.5	
	10	5	5.600	100	78	7	6	6	9	6	8	7	5	6	6	2.5	
	11	1	10.000	100	65	5	5	4	6	6	8	7	6	4	6	2.5	
	12	2	10.000	100	70	6	5	6	6	6	5	6	6	7	5	2.5	
	13	3	10.000	100	59	5	5	5	5	7	6	6	6	4	7	2.5	
	14	4	10.000	100	57	7	4	4	6	7	6	4	4	7	7	2.5	
	15	5	10.000	100	73	7	6	5	5	4	4	6	5	5	5	2.5	
	16	1	18.000	100	74	5	3	6	6	6	5	5	4	5	9	2.5	
	17	2	18.000	100	65	6	6	4	6	4	3	6	7	5	7	2.5	
	18	3	18.000	100	69	6	7	4	7	6	5	5	8	7	4	2.5	
	19	4	18.000	100	70	6	4	5	4	4	7	5	5	6	7	2.5	
	20	5	18.000	100	71	4	6	4	7	5	8	7	4	4	4	2.5	
	21	1	32.000	100	64	6	5	7	5	3	4	6	5	6	2	2.5	
	22	2	32.000	100	69	6	4	3	6	4	4	4	6	3	5	2.5	
	23	3	32.000	100	78	7	4	4	4	6	5	4	3	6	5	2.5	
	24	4	32.000	100	58	3	6	4	6	4	4	3	5	4	4	2.5	
	25	5	32.000	100	68	5	4	5	4	4	4	5	5	6	3	2.5	
	26	1	100.000	100	37	4	4	5	3	3	3	5	3	2	4	2.5	
	27	2	100.000	100	33	3	5	3	3	5	4	3	5	3	4	2.5	
	28	3	100.000	100	53	3	2	5	5	3	2	5	2	3	4	2.5	
	29	4	100.000	100	45	4	6	3	3	2	2	4	4	3	5	2.5	
	30	5	100.000	100	36	5	4	6	2	5	5	3	4	4	5	2.5	
	31	1	180.000	100	18	3	2	3	2	3	3	3	3	4	4	2.5	
	32	2	180.000	100	14	3	3	3	3	4	2	5	3	2	3	2.5	
	33	3	180.000	100	18	3	2	2	3	2	2	2	4	3	3	2.5	
	34	4	180.000	100	14	5	3	2	3	4	3	2	4	3	2	2.5	
	35	5	180.000	100	7	2	3	3	3	3	3	3	3	4	5	2.5	

Comments:

6000/010/6

48 Hour *Macrocystis pyrifera*
Reference Toxicant Test

Test ID: C080922.11	Replicates: 5	Study Director: V. Hayes	Location: Rm 2
Dilution Water Batch: S10 072709	Organism Batch: DG 081809	Associated Test(s): Dynegy	Organism: kelp

Toxicant: Copper Chloride (10,000 µg/L Cu) $CuCl_2 2H_2O$	Lot#: 0604 B3	Date Prepared: 12·8·08	Initials: KS

Target Concentrations:	Quantity of Stock Target:	Actual:	Quantity of Diluent Target:	Actual:
5.6 ppb	0.280 mL	0.2803	500 mL	500.18
10 ppb	0.500 mL	0.4995	500 mL	500.06
18 ppb	0.900 mL	0.8998	500 mL	500.06
32 ppb	1.60 mL	1.6005	500 mL	500.05
100 ppb	5.00 mL	5.0009	500 mL	500.09
180 ppb	9.00 mL	8.9999	500 mL	500.04

0 Hours Date: 8/18/09 WQ Time: 1630 Start Time: 1805 Initials: VH

STOCK

	Control	5.6	10	18	32	100	180
D.O. (mg/L)	6.9	7.3	7.3	7.3	7.2	7.3	7.3
Temperature	15.9	14.9	14.9	15.0	14.9	15.0	15.0
Salinity	33.4	33.6	33.6	33.6	33.6	33.3	33.1
pH	8.0	8.0	8.0	8.0	8.0	8.0	8.0

48 Hours Date: 8/20/09 WQ Time: 1535 Initials: EB

TC STOCK End Time: 1710

	Control	5.6	10	18	32	100	180
D.O. (mg/L)	7.9	7.9	7.8	8.0	7.9	7.9	7.8
Temperature	15.1	14.5	14.6	14.6	14.3	14.5	14.6
Salinity	33.5	33.5	33.7	33.9	33.7	33.3	33.3
pH	7.9	7.9	8.0	8.0	8.0	8.0	8.0

☒ Pass ☐ Fail

WESTON SOLUTIONS

48 Hour *Macrocystis pyrifera*
Reference Toxicant Test

REF TOX ID:	CO80922.11
LOT NUMBER:	06404BJ
ASSOCIATED TEST:	Dynegy

MICROSCOPE:	CH-2
MICROMETER CONVERSION FACTOR:	2.5
STUDY DIRECTOR:	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	0	77	23	5	5	7	7	8	7	7	6	6	4	VS	8/24/09
2		80	20	8	4	8	7	5	7	4	8	6	8		
3		71	29	5	5	5	7	7	9	6	4	6	8		
4		86	14	4	7	7	6	5	13	6	5	7	7		
5	↓	83	17	6	6	6	6	6	7	7	8	6	7		
56	5.6	70	30	7	6	5	4	4	5	6	9	4	6		9/3/09
57		81	19	6	6	6	5	4	5	7	5	5	6		
58		73	27	6	6	6	7	5	6	7	5	5	6		
59		70	30	5	4	6	6	4	4	4	4	7	4		
60	↓	78	22	7	6	6	9	6	8	7	5	6	6		
61	10	65	35	5	5	4	6	6	8	7	6	4	6		
62		70	30	6	5	6	6	6	5	6	6	7	5		
63		59	41	5	5	5	5	7	6	6	6	4	7		
64		57	43	7	4	4	6	7	6	4	4	7	7		
65	↓	73	27	7	6	5	5	4	4	6	5	5	5		
66	18	74	26	5	3	6	6	6	5	5	4	5	9		
67		65	35	6	6	4	6	4	3	6	7	5	7		
68		69	31	6	7	4	7	6	5	5	8	7	4		
69		70	30	6	4	5	4	4	7	5	5	6	7		
70	↓	71	29	4	6	4	7	5	8	7	4	4	4		
71	32	64	36	6	5	7	5	3	4	6	5	6	2		9/4/09
72		69	31	6	4	3	6	4	4	4	6	3	5		
73		78	22	7	4	4	4	6	5	4	3	6	5		
74		58	42	3	6	4	6	4	4	3	5	4	4		
75	↓	68	32	5	4	5	4	4	4	5	5	6	3		
76	100	~~37~~	63	4	4	5	3	3	3	5	3	2	4		
77		33	67	3	5	3	3	5	4	3	5	3	4		
78		53	47	3	2	5	5	3	2	5	2	3	4		
79		45	55	4	6	3	3	2	2	4	4	3	5		
80	↓	36	64	5	4	6	2	5	5	3	4	4	5		
81	180	18	82	3	2	3	2	3	3	3	3	4	4		
82		14	86	3	3	3	3	4	2	5	3	2	3		
83		18	82	3	2	2	3	2	2	2	4	3	3		
84		14	86	5	3	2	3	4	3	2	4	3	2		
85	↓	7	93	2	3	3	3	3	3	3	3	4	5		

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	18 Aug 09
Project:	SBPP Toxicity Sample - August	Date Test Started:	18 Aug 09
Client Sample ID:	So. Bay Inlet	Date Test Ended:	22 Aug 09
Weston Test ID:	C090818.0261	Matrix:	Liquid

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

Test Organism: ***Mysidopsis bahia***
Age: 3 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	37	92.5	92.5

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 92.5 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%. Temperature of the Control was slightly above test protocol limits of 20 ± 1°C at test initiation. Since there was not an adverse effect on survival in the Control or test substance So. Bay Inlet, these deviations should not affect the usefulness of the test results.

Elizabeth M. Battin — QA Officer — 9/14/09 — Date

Approved — 9/21/09 — Date

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	18 Aug 09
Project:	SBPP Toxicity Sample - August	Date Test Started:	18 Aug 09
Client Sample ID:	So. Bay Inlet	Date Test Ended:	22 Aug 09
Weston Test ID:	C090818.0261	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	0.00	*	*
100	0.02	*	*

* Chlorine not detected at test initiation.

Concentration (%)	Statistic	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	pH
Control	Mean	6.0	21.1	33.5	7.9
	Minimum	5.0	20.6	33.1	7.7
	Maximum	7.9	21.8	33.7	8.0
100	Mean	6.2	20.7	35.6	7.9
	Minimum	4.5	19.7	35.2	7.7
	Maximum	8.3	21.2	35.9	7.9

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	18 Aug 09
Project:	SBPP Toxicity Sample - August	Date Test Started:	18 Aug 09
Client Sample ID:	So. Bay Inlet	Date Test Ended:	22 Aug 09
Weston Test ID:	C090818.0261	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	33.7 ppt
Dissolved Oxygen	6.2 *mg/L*
Temperature	21.8 °C
pH	8.0

TEST ORGANISM: *Mysidopsis bahia* Age: 3 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 August 18, 2009, at 0825 hours. Weston Solutions personnel received 10 liters of the sample in one container on the same day at 1000 hours.
Temperature upon arrival at the Weston Solutions laboratory was 7.3°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: (Control Chart Included)
Toxicant: CuSO4, Lot No.: 1804614, Received: 5/23/08, Opened: 5/29/08, Expires: 3/31/10.

96 Hour LC_{50}:	289.08 ppb	
Laboratory Mean:	365.53 *ppb*	
Test Date:	8/18/2009	Within 95 % Confidence Limits

STUDY DIRECTOR: K. Skrivseth
INVESTIGATORS: K. Skrivseth, V. Hayes, E. Batliner, K. Curry

WESTON SOLUTIONS

Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

Client	Dynegy So. Bay
Project:	SBPP Toxicity Sample - August
Client Sample ID:	Inlet So. Bay Inlet
Weston Test ID:	C090818.0261
Species:	*Mysidopsis bahia*

Date Received:	8/18/09
Date Test Started:	8/18/09
Date Test Ended:	8/22/09
Study Director:	K. Strobel
# Organisms/Chamber:	10

	Conc.	D.O. (mg/L)	Temp (°C)	Salinity (ppt)	pH	Total Chlorine (mg/L)
Day 0 (0 Hours)	Control	6.2	21.8 @ab	33.7	8.0	0.00
Date: 8/18/09						
Sample ID: C090818.02						
Dilutions (Tech): VH						
WQ Time: 1530 (on stock)						
Technician: KC	100	7.3	19.7	35.9	7.9	0.02
24 Hours	Control	6.2	21.0	33.1	8.0	
Date: 8/19/09						
WQ Time: 1200						
Replicate: 1						
Technician: VH						
	100	6.1	20.7	35.2	7.9	
48 Hours (OLD)	Control	5.6	20.6	33.2	7.7	
Date: 8/20/09						
WQ Time: 1440						
Replicate: 2						
Technician: VH						
	100	5.4	20.8	35.3	7.7	
48 Hours (Renewal Water)	Control	7.9	20.8	33.5	7.8	@ab
Date: 8/20/09						
Sample ID: C090818.02						
Dilutions (Tech): VH						
WQ Time: 1420						
Technician: KC	100	8.3	20.8	35.5	7.8	@ab
72 Hours	Control	5.2	21.3	33.6	7.9	
Date: 8/21/09						
WQ Time: 1025						
Replicate: 2						
Technician: EB						
	100	5.8	21.2	35.8	7.9	
96 Hours	Control	5.0	21.3	33.6	7.9	@EB
Date: 8/22/09						
WQ Time: 1500						
Replicate: 3						
Technician: VH						
	100	4.5	21.2	35.7	7.9	@EB

Start Time:	1730		Initials: VH
End Time:	1545		Initials: VH
Supplier:		Aquatic Bio Systems	
Organism Batch:		ABS 8082M	Age: 3 day

Dilution Water Batch:	SW 072709
Hobo Temp. No.:	2323
Test Location:	3
Test Acceptability:	✓ ≥ 90% Survival in Control

@ Temp out of test parameters 8/18/09 eb
@ Chlorine not detected at test initiation 8/20/09 eb

WESTON SOLUTIONS

Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

Weston Test ID:	Client:	Client Sample ID:
C090818.0261	Dynegy South Bay LLC	~~Inlet~~ So. Bay Inlet

Conc.	Rep	24 Hours		48 Hours		72 Hours		96 Hours	
		Date: 8/19/09		Date: 8/20/09		Date: 8/21/09		Date: 8/22/09	
		Time: 1200		Renewal Time: 1510		Time: 1315		End Time: 1545	
		Technician: VH		Technician: VH		Technician: CB		Technician: VH	
		# Alive	#Dead	# Alive	#Dead	# Alive	#Dead	# Alive	#Dead
Control	1	10	Ø	10	Ø	10	Ø	10	Ø
	2	10	Ø	10	Ø	10	Ø	10	Ø
	3	10	Ø	10	Ø	10	Ø	10	Ø
	4	10	Ø	10	Ø	10	Ø	10	Ø
100	1	10	Ø	10	Ø	10	Ø	10	Ø
	2	10	Ø	9	Ø (INB)	9	Ø	9	Ø
	3	10	Ø	10	Ø	10	Ø	10	Ø
	4	10	Ø	10	Ø	9	Ø (INB)	8	Ø (INB)
	1								
	2								
	3								
	4								
	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):		VH	VH	VH	VH
PM Feed (Tech):	VH	CB	VH	VH	

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	18 Aug 09
Project:	SBPP Toxicity Sample - August	Date Test Started:	18 Aug 09
Client Sample ID:	So. Bay Property Line (S2)	Date Test Ended:	22 Aug 09
Weston Test ID:	C090818.0361	Matrix:	Liquid

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

Test Organism: ***Mysidopsis bahia***
Age: 3 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 ± 10%. Temperature of the Control was slightly above test protocol limits of 20 ± 1°C at test initiation. Since there was not a adverse effect on survival in the Control or test substance So. Bay Property Line (S2), these deviations should not affect the usefulness of the test results.

E. Elizabeth M. Battini — QA Officer — 9/14/09 — Date

Approved — 9/21/09 — Date

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	18 Aug 09
Project:	SBPP Toxicity Sample - August	Date Test Started:	18 Aug 09
Client Sample ID:	So. Bay Property Line (S2)	Date Test Ended:	22 Aug 09
Weston Test ID:	C090818.0361	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	0.00	*	*
100	0.02	*	*

* Chlorine not detected at test initiation.

Concentration (%)	Statistic	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	pH
Control	Mean	6.0	21.1	33.5	7.9
	Minimum	5.0	20.6	33.1	7.7
	Maximum	7.9	21.8	33.7	8.0
100	Mean	6.2	20.7	35.5	7.9
	Minimum	4.2	19.6	35.3	7.8
	Maximum	8.2	21.3	35.7	8.0

WESTON Solutions, Inc.

Analytical Report

Client:	Dynegy South Bay LLC	Date Received:	18 Aug 09
Project:	SBPP Toxicity Sample - August	Date Test Started:	18 Aug 09
Client Sample ID:	So. Bay Property Line (S2)	Date Test Ended:	22 Aug 09
Weston Test ID:	C090818.0361	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	33.7 ppt
Dissolved Oxygen	6.2 mg/L
Temperature	21.8 °C
pH	8.0

TEST ORGANISM: *Mysidopsis bahia* Age: 3 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 August 18, 2009, at 0835 hours. Weston Solutions personnel received 10 liters of the sample in one container on the same day at 1000 hours. Temperature upon arrival at the Weston Solutions laboratory was 7.5°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: (Control Chart Included)
Toxicant: CuSO4, Lot No.: 1804614, Received: 5/23/08, Opened: 5/29/08, Expires: 3/31/10.

96 Hour LC_{50}:	289.08 ppb	
Laboratory Mean:	365.53 ppb	
Test Date:	8/18/2009	Within 95 % Confidence Limits

STUDY DIRECTOR: K. Skrivseth
INVESTIGATORS: K. Skrivseth, V. Hayes, E. Batliner, K. Curry

WESTON SOLUTIONS

Mysidopsis bahia 96-Hour Acute Toxicity Test

BIO061

Client	Dynegy So. Bay
Project:	SBPP Toxicity Sample - August
Client Sample ID:	Property Line (82)
Weston Test ID:	C090818.0361
Species:	*Mysidopsis bahia*

Date Received:	8/18/09
Date Test Started:	8/18/09
Date Test Ended:	8/22/09
Study Director:	K. Strivath
# Organisms/Chamber:	10

	Conc.	D.O. (mg/L)	Temp (°C)	Salinity (ppt)	pH	Total Chlorine (mg/L)
Day 0 (0 Hours) Date: 8/18/09 Sample ID: C090818.03 Dilutions (Tech): VH WQ Time: 1525 (on stock) Technician: KC	Control	6.2	21.8 Adj	33.7	8.0	0.00
	100	7.4	19.6	35.7	8.0	0.02
24 Hours Date: 8/19/09 WQ Time: 1200 Replicate: 1 Technician: VH	Control	6.2	21.0	33.1	8.0	
	100	6.3	20.4	35.3	8.0	
48 Hours (OLD) Date: 8/20/09 WQ Time: 1430 Replicate: 2 Technician: VH	Control	5.6	20.6	33.2	7.7	
	100	5.8	20.8	35.3	7.8	
48 Hours (Renewal Water) Date: 8/20/09 Sample ID: C090818.03 Dilutions (Tech): VH WQ Time: 1415 Technician: KC	Control	7.9	20.8	33.5	7.8	④ eb
	100	8.2	20.8	35.5	7.9	③ eb
72 Hours Date: 8/21/09 WQ Time: 1025 Replicate: 3 Technician: eb	Control	~~8.2~~ ② 5.2	~~20.8~~ ② 21.3	33.6	7.9	
	100	~~5.0~~ 5.0	21.1	35.7	7.9	
96 Hours Date: 8/22/09 WQ Time: 1500 Replicate: 4 Technician: VH	Control	5.0	21.3	33.6	7.9	③ eb
	100	4.2	21.3	35.6	7.8	③ eb

Start Time:	1730	Initials: VH
End Time:	1540	Initials: VH
Supplier:	Aquatic Bio Systems	
Organism Batch:	ABS 50823M	Age: 3 day

Dilution Water Batch:	S10 072709
Hobo Temp. No.:	2323
Test Location:	3
Test Acceptablility: X ≥ 90% Survival in Control	

① Temp out of test parameters 8/18/09 eb
② Entry in wrong space 8/20/09 KC
③ Chlorine not detected at test initiation 8/18/09 eb
④ IE 8/21/09 VH

WOON ON 6

WESTON SOLUTIONS

Mysidopsis bahia 96-Hour Acute Toxicity Test

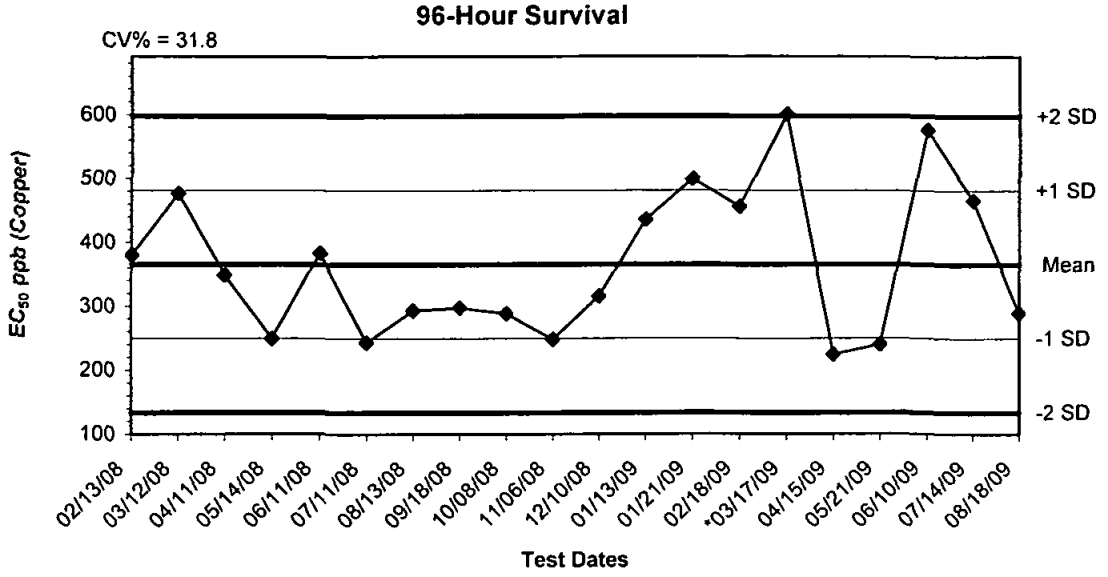
BIO061

Weston Test ID:	Client:	Client Sample ID:
C090818.0361	Dynegy South Bay LLC	So. Bay Property Line (52)

Conc.	Rep	24 Hours		48 Hours		72 Hours		96 Hours	
		Date: 8/19/09		Date: 8/20/09		Date: 8/21/09		Date: 8/22/09	
		Time: 1200		Renewal Time: 1510		Time: 1315		End Time: 1540	
		Technician: VH		Technician: VH		Technician: EB		Technician: VH	
		# Alive	#Dead	# Alive	#Dead	# Alive	#Dead	# Alive	#Dead
Control	1	10	Ø	10	Ø	10	Ø	10	Ø
	2	10	Ø	10	Ø	10	Ø	10	Ø
	3	10	Ø	10	Ø	10	Ø	10	Ø
	4	10	Ø	10	Ø	10	Ø	10	Ø
100	1	10	Ø	10	Ø	10	Ø	10	Ø
	2	10	Ø	10	Ø	10	Ø	10	Ø
	3	10	Ø	10	Ø	10	Ø	10	Ø
	4	10	Ø	10	Ø	10	Ø	10	Ø
	1								
	2								
	3								
	4								
	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):		VH	VH	VH	VH
PM Feed (Tech):	VH	EB	VH	VH	

Mysidopsis bahia Reference Toxicant Control Chart: 96-Hour Survival



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
02/13/08	380.1460	365.5265	249.3500	133.1736	481.7029	597.8793
03/12/08	476.4770	365.5265	249.3500	133.1736	481.7029	597.8793
04/11/08	348.6020	365.5265	249.3500	133.1736	481.7029	597.8793
05/14/08	249.0090	365.5265	249.3500	133.1736	481.7029	597.8793
06/11/08	382.6760	365.5265	249.3500	133.1736	481.7029	597.8793
07/11/08	243.1980	365.5265	249.3500	133.1736	481.7029	597.8793
08/13/08	292.6560	365.5265	249.3500	133.1736	481.7029	597.8793
09/18/08	297.3800	365.5265	249.3500	133.1736	481.7029	597.8793
10/08/08	288.4480	365.5265	249.3500	133.1736	481.7029	597.8793
11/06/08	247.8800	365.5265	249.3500	133.1736	481.7029	597.8793
12/10/08	315.5210	365.5265	249.3500	133.1736	481.7029	597.8793
01/13/09	435.7070	365.5265	249.3500	133.1736	481.7029	597.8793
01/21/09	499.5560	365.5265	249.3500	133.1736	481.7029	597.8793
02/18/09	456.2280	365.5265	249.3500	133.1736	481.7029	597.8793
*03/17/09	601.0970	365.5265	249.3500	133.1736	481.7029	597.8793
04/15/09	224.5880	365.5265	249.3500	133.1736	481.7029	597.8793
05/21/09	240.1090	365.5265	249.3500	133.1736	481.7029	597.8793
06/10/09	576.3830	365.5265	249.3500	133.1736	481.7029	597.8793
07/14/09	465.7920	365.5265	249.3500	133.1736	481.7029	597.8793
08/18/09	289.0760	365.5265	249.3500	133.1736	481.7029	597.8793

*Value within 95% CI range at time of testing.
Updated 8/31/09 EB

Mysidopsis Acute-96 Hr Survival

Start Date:	8/18/2009 17:35	Test ID:	C080523.168	Sample ID:	REF-Ref Toxicant
End Date:	8/22/2009 16:00	Lab ID:	CCA-Weston, Carlsbad	Sample Type:	CUSO-Copper sulfate
Sample Date:		Protocol:	EPAA 02-EPA Acute	Test Species:	MY-Mysidopsis bahia
Comments:					

Conc-ppb	1	2	3	4
Control	1.0000	1.0000	1.0000	0.9000
62.5	0.9000	1.0000	0.9000	1.0000
125	0.8000	1.0000	0.9000	1.0000
250	0.8000	0.6000	0.7000	0.6000
500	0.0000	0.0000	0.1000	0.0000
1000	0.1000	0.0000	0.0000	0.0000

			Transform: Untransformed					1-Tailed				
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.9750	1.0000	0.9750	0.9000	1.0000	5.128	4				0.9750	0.0000
62.5	0.9500	0.9744	0.9500	0.9000	1.0000	6.077	4	0.507	2.410	0.1188	0.9500	0.0256
125	0.9250	0.9487	0.9250	0.8000	1.0000	10.351	4	1.014	2.410	0.1188	0.9250	0.0513
*250	0.6750	0.6923	0.6750	0.6000	0.8000	14.184	4	6.085	2.410	0.1188	0.6750	0.3077
*500	0.0250	0.0256	0.0250	0.0000	0.1000	200.000	4	19.270	2.410	0.1188	0.0250	0.9744
*1000	0.0250	0.0256	0.0250	0.0000	0.1000	200.000	4	19.270	2.410	0.1188	0.0250	0.9744

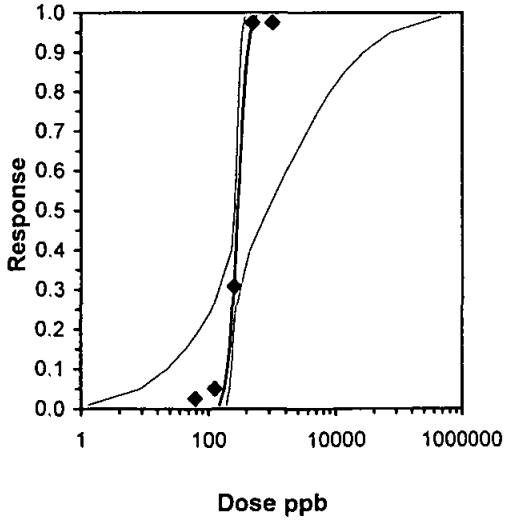
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.95737	0.884	0.0758	-0.5517
Bartlett's Test indicates equal variances (p = 0.71)	2.9309	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	125	250	176.777		0.11881	0.12186	0.82842	0.00486	1.7E-14	5, 18

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	7.88373	3.59459	0.83833	14.9291	0	0.69986	7.81473	0.87	2.46101	0.12684	7
Intercept	-14.402	8.66124	-31.378	2.57409							
TSCR											

Point	Probits	ppb	95% Fiducial Limits	
EC01	2.674	146.531	1.31364	193.413
EC05	3.355	178.802	8.47548	216.455
EC10	3.718	198.818	22.7927	230.907
EC15	3.964	213.573	44.1921	242.491
EC20	4.158	226.078	74.1918	254.165
EC25	4.326	237.387	113.918	268.805
EC40	4.747	268.458	231.455	448.883
EC50	5.000	289.076	257.187	842.416
EC60	5.253	311.277	273.304	1653.12
EC75	5.674	352.02	295.938	5179.89
EC80	5.842	369.629	304.622	8171.81
EC85	6.036	391.271	314.782	13915.6
EC90	6.282	420.309	327.757	27212.4
EC95	6.645	467.36	347.586	73613.5
EC99	7.326	570.288	387.328	476993



Reviewed by: VS

Test: MA-Mysidopsis Acute		Test ID: C080523.168
Species: MY-Mysidopsis bahia		Protocol: EPAA 02-EPA Acute
Sample ID: REF-Ref Toxicant		Sample Type: CUSO-Copper sulfate
Start Date: 8/18/2009 17:35	End Date: 8/22/2009 16:00	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				9	
	5	1	62.500	10				9	
	6	2	62.500	10				10	
	7	3	62.500	10				9	
	8	4	62.500	10				10	
	9	1	125.000	10				8	
	10	2	125.000	10				10	
	11	3	125.000	10				9	
	12	4	125.000	10				10	
	13	1	250.000	10				8	
	14	2	250.000	10				6	
	15	3	250.000	10				7	
	16	4	250.000	10				6	
	17	1	500.000	10				0	
	18	2	500.000	10				0	
	19	3	500.000	10				1	
	20	4	500.000	10				0	
	21	1	1000.000	10				1	
	22	2	1000.000	10				0	
	23	3	1000.000	10				0	
	24	4	1000.000	10				0	

Comments:

ToxCalc 5.0

Reviewed by: VS

96-Hour Mysid
Reference Toxicant Test

BIO061

Test ID: C080523.168	Associated Test(s): Dynagy		Study Director: V. Hayes
Organism Batch: ABS 8082M	Location: Room 3	Replicates: 4	No. of Organisms: 10
Start Time: 1735	Initials: VH	End Time: 1600	Initials: VH

Toxicant: Copper Sulfate ($0.509gCu/LCuSO_4$)	Toxicant Lot Number: 1804614	Stock Preparation Date: 8/17/09

Serial Dilute by ½ 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.
8/18/09	0	1000 ppb	3.932 mL	3.9321	2000 mL	2000.2	S10072909	VH
8/20/09	2	1000ppb	1.966mL	1.9660	1000mL	1000.9	S10072909	VH

Day 0 Water Quality Data

Stock

Date: 8/18/09 Time: 1520 Initials: KC

	Control	62.5	125	250	500	1000
D.O. (mg/L)	6.0	6.3	6.4	6.4	6.4	6.4
Temperature	21.2	20.7	20.1	20.2	20.0	19.7
Salinity	34.1	33.7	33.7	33.7	33.7	33.7
pH	8.0	8.0	8.0	8.0	8.0	8.0

Day 4 (96-Hour) Water Quality Data

Date: 8/22/09 Time: 1550 Replicate: 1 Initials: VH

	Control	62.5	125	250	500	1000
D.O. (mg/L)	5.4	4.8	5.4	5.5	5.7	5.6
Temperature	21.3	21.1	21.3	21.1	21.2	21.2
Salinity	33.7	33.7	33.6	33.7	33.6	33.6
pH	8.0	7.9	8.0	8.0	8.1	8.1

☒ Pass ☐ Fail

Notes:

WESTON SOLUTIONS

96-Hour Mysid Reference Toxicant Test

BIO061

SURVIVAL DATA

Test ID: C080523.168

Conc. (ppb)	Rep	Day 1 # Alive	Day 1 # Dead	Day 2 # Alive	Day 2 # Dead	Day 3 # Alive	Day 3 # Dead	Day 4 # Alive	Day 4 # Dead
		Date: 8/19/09		Date: 8/20/09		Date: 8/21/09		Date: 8/22/09	
		Time: 1210		Renewal Time: 1520		Time: 1330		End Time: 1600	
		Technician: VH		Technician: VH		Technician: EB		Technician: VH	
Control	1	9	Ø (1NB)	10	Ø (1FB)	10	Ø	10	Ø
	2	10	Ø	10	Ø	10	Ø	10	Ø
	3	10	Ø	10	Ø	10	Ø	10	Ø
	4	10	Ø	9	Ø (1NB)	9	Ø	9	Ø
62.5	1	10	Ø	10	Ø	9	Ø (1NB)	9	Ø
	2	10	Ø	10	Ø	10	Ø	10	Ø
	3	9	Ø (1NB)	9	Ø	9	Ø	9	Ø
	4	10	Ø	10	Ø	10	Ø	10	Ø
125	1	10	Ø	10	Ø	9	Ø (1NB)	8	Ø (1NB)
	2	10	Ø	10	Ø	10	Ø	10	Ø
	3	10	Ø	10	Ø	10	Ø	9	Ø (1NB)
	4	10	Ø	10	Ø	10	Ø	10	Ø
250	1	10	Ø	10 ~~8~~ Ø VH	Ø ~~1 (1NB)~~ ①	10	Ø	8	2
	2	10	Ø	8 ~~3~~ ①	(1NB) ~~7~~ ①	8	1	6	Ø (2NB)
	3	10	Ø	8 ~~3~~ ①	2 ~~7~~ ①	8	Ø	7	Ø (1NB)
	4	10	Ø	7	1 (2NB)	6	Ø (1NB)	6	Ø
500	1	10	Ø	3	7	2	1	Ø	1
	2	10	Ø	3	7	Ø	3	—	—
	3	9	1	5	4	1	3 (1NB)	1	1 (1NB)
	4	10	Ø	4	6	Ø	4	—	—
1000	1	10	Ø	3	7	1	2	1	Ø
	2	10	Ø	Ø	10	—	—	—	—
	3	9	1	5	4	Ø	5	—	—
	4	9	1	2	7	Ø	2	—	—

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

① WC 8/20/09 VH

0002/0312

BIOASSAY SAMPLE RECEIPT

Client: Dynegy South Bay LLC		Project: SBPP - Toxicity Sample - August	
Weston Sample ID:	C090818.02	C090818.03	
Client Sample ID:	So. Bay Inlet	So. Bay Property Line (S)	
Renewal Sample (Y/N):	N	N	
Date/Time Received:	8/18/09 1000	8/18/09 1000	
Airbill #:	N/A	N/A	
Sample Tracking Information Kept for Records: (Y/N)	N	N	
Collection Date/Time:	8/18/09 0825	8/18/09 0835	
Condition of Shipping Container:	good	good	
Type and Capacity of Sample Container:	10 L cubi	10 L cubi	
Total Sample Volume (L):	10 L	10 L	
Condition of Sampling Container:	good	good	
Sample Container Appropriate: (Y/N)	Y	Y	
Custody Seals Intact: (Y/N)	N/A	N/A	
Ice or Frozen Blue Ice Present During Shipment/Transport: (Y/N)	Y	Y	
Sampler's Name Present on COC Form: (Y/N)	Y	Y	

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 $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)	Total Chlorine (mg/L)	Total Ammonia (mg NH_3/L)	Tech
C090818.02	7.3	7.3	7.8	35.7	—	—	0.02	<0.5	KB/AM
C090818.03	7.5	7.5	7.9	35.8	—	—	0.02	<0.5	↓ ↓

*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:

Dynegy South Bay LLC

SOUTH BAY POWER PLANT

Lab No.

Work ID: SBPP TOXICITY SAMPLE

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

Client Code: Dynegy South Bay, LLC

Number of Containers: 2

Sampled by (Print): Tom Liebst

Sampled by (Signature): [signature]

Sample ID	Bottle	Date	Time	Sample Type	Sample Container	Preservation	Test Codes
So. Bay Inlet	01A	8/17/09 - 8/18/09	0825 - 0825	Water	10- Liter Cubitainer	4°C	Acute Vertabrate Test
So. Bay Inlet	01A	8/17/09 - 8/18/09	0825 - 0825	Water	10- Liter Cubitainer	4°C	Chronic Plant Test
So. Bay Property Line (S2)	02A	8/17/09 - 8/18/09	0835 - 0835	Water	10- Liter Cubitainer	4°C	Acute Vertabrate Test
So. Bay Property Line (S2)	02A	8/17/09 - 8/18/09	0835 - 0835	Water	10- Liter Cubitainer	4°C	Chronic Plant Test

Total Residual Chlorine - Property Line (S2) = 0.0 mg/l @ 0839 hrs.

Releasing	Date	Time	Accepting	Date	Time
[signature]	8/18/09	1000	Yasey Skrinsetz [signature]	8/18/09	1000

California, San Diego, Imperial Beach

N 32° 34.7' / W 117° 8.1'

August 2009

Tide Tables, Charts and Scripts available at FreeTideTables.com

Date	Day	High Tide	High Tide	Low Tide	Low Tide	Sunrise	Sunset	Moonrise	Moonset	Phase
1	Sa	852am 3.5	712pm 5.5	159am 0.1	1252pm 2.8	602am	746pm	502pm	201am	
2	Su	916am 3.7	753pm 5.7	234am -0.2	137pm 2.6	603am	745pm	548pm	254am	
3	Mo	936am 3.8	828pm 5.9	304am -0.3	214pm 2.3	604am	744pm	629pm	349am	
4	Tu	956am 4.0	901pm 6.0	330am -0.4	248pm 2.1	604am	743pm	704pm	446am	
5	We	1017am 4.2	932pm 6.0	356am -0.4	320pm 1.9	605am	743pm	736pm	543am	
6	Th	1040am 4.3	1002pm 5.8	421am -0.4	353pm 1.7	606am	742pm	805pm	640am	
7	Fr	1105am 4.5	1033pm 5.5	445am -0.2	427pm 1.6	606am	741pm	832pm	736am	
8	Sa	1130am 4.6	1104pm 5.1	509am 0.1	504pm 1.6	607am	740pm	859pm	832am	
9	Su	1157am 4.7	1139pm 4.6	533am 0.4	545pm 1.6	608am	739pm	926pm	928am	
10	Mo	1226pm 4.8		555am 0.9	634pm 1.6	608am	738pm	955pm	1026am	
11	Tu	1220am 4.0	100pm 4.9	617am 1.3	738pm 1.6	609am	737pm	1027pm	1126am	
12	We	117am 3.4	144pm 4.9	639am 1.8	906pm 1.5	610am	736pm	1104pm	1229pm	
13	Th	302am 2.8	247pm 5.0	706am 2.3	1048pm 1.1	610am	735pm	1148pm	134pm	
14	Fr	547am 2.7	409pm 5.2	807am 2.7		611am	734pm		240pm	
15	Sa	724am 3.2	527pm 5.7	1211am 0.5	1039am 2.9	612am	733pm	1241am	345pm	
16	Su	800am 3.5	632pm 6.1	108am -0.2	1208pm 2.7	612am	731pm	143am	444pm	
17	Mo	831am 4.0	728pm 6.5	154am -0.7	111pm 2.2	613am	730pm	253am	537pm	
18	Tu	903am 4.4	819pm 6.8	235am -1.1	204pm 1.6	614am	729pm	407am	622pm	
19	We	935am 4.7	906pm 6.9	313am -1.2	253pm 1.1	614am	728pm	520am	702pm	
20	Th	1009am 5.1	952pm 6.6	349am -1.1	341pm 0.8	615am	727pm	633am	737pm	
21	Fr	1043am 5.4	1038pm 6.0	424am -0.8	429pm 0.6	616am	726pm	742am	809pm	
22	Sa	1118am 5.6	1124pm 5.4	458am -0.3	519pm 0.6	616am	725pm	850am	841pm	
23	Su	1154am 5.6		531am 0.4	612pm 0.7	617am	723pm	955am	914pm	
24	Mo	1214am 4.6	1233pm 5.5	603am 1.1	711pm 0.9	618am	722pm	1100am	949pm	
25	Tu	112am 3.7	116pm 5.2	634am 1.8	825pm 1.1	618am	721pm	1203pm	1027pm	
26	We	235am 3.1	211pm 4.9	707am 2.4	1002pm 1.1	619am	720pm	105pm	1109pm	
27	Th	540am 2.9	326pm 4.7	757am 2.9	1142pm 1.0	620am	719pm	203pm	1156pm	
28	Fr	736am 3.3	453pm 4.7	1011am 3.3		620am	717pm	257pm		
29	Sa	804am 3.6	604pm 4.9	1247am 0.7	1154am 3.1	621am	716pm	345pm	1248am	
30	Su	823am 3.8	655pm 5.2	130am 0.4	1251pm 2.8	622am	715pm	427pm	142am	
31	Mo	839am 4.0	735pm 5.5	202am 0.2	129pm 2.4	622am	714pm	505pm	239am	

SOUTH BAY POWER PLANT

Monthly Intake and Receiving Water Monitoring Study

August 2009

Prepared for:

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

WESTON SOLUTIONS

SOUTH BAY POWER PLANT

Monthly Intake and Receiving Water Monitoring Study

August 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

CONTENTS

TABLES AND FIGURES

Tables

Figures

1 INTRODUCTION

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

2.1 Field Methods

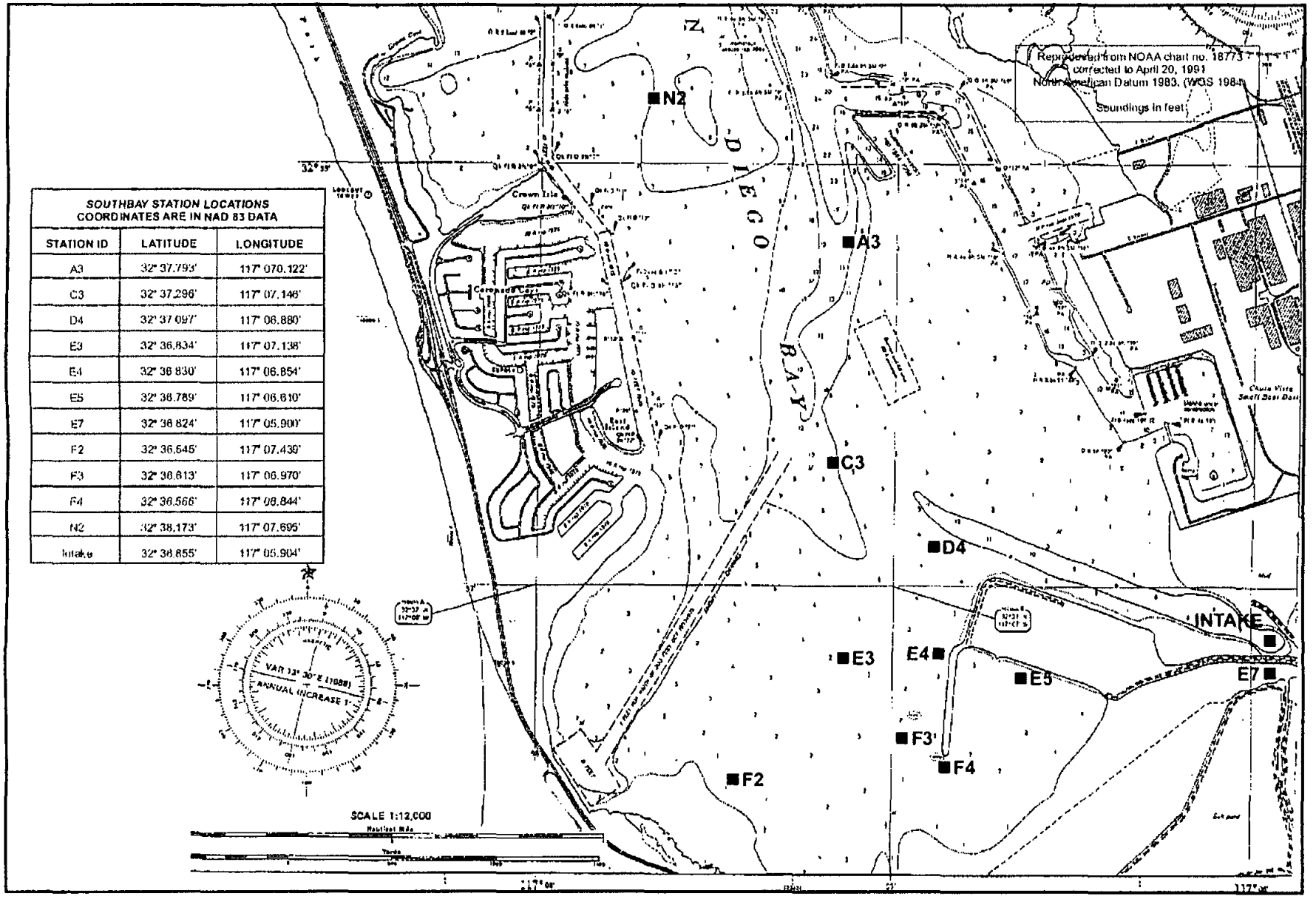
The intake and eleven receiving water monitoring stations (Figure 1) were sampled on 27 August 2009. Stations were located at positions sampled during previous studies (Ford et al. 1973). Positions for these stations were re-established by KLI in 1987 using Loran coordinates, compass bearings, and visual 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 twenty two 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.



SOUTHBAY STATION LOCATIONS COORDINATES ARE IN NAD 83 DATA		
STATION ID	LATITUDE	LONGITUDE
A3	32° 37.793'	117° 070.122'
C3	32° 37.296'	117° 07.146'
D4	32° 37.097'	117° 06.880'
E3	32° 36.834'	117° 07.138'
E4	32° 36.830'	117° 06.854'
E5	32° 36.789'	117° 06.610'
E7	32° 36.824'	117° 05.900'
F2	32° 36.645'	117° 07.439'
F3	32° 36.613'	117° 06.970'
F4	32° 36.566'	117° 06.844'
N2	32° 38.173'	117° 07.695'
Intake	32° 36.855'	117° 05.904'

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

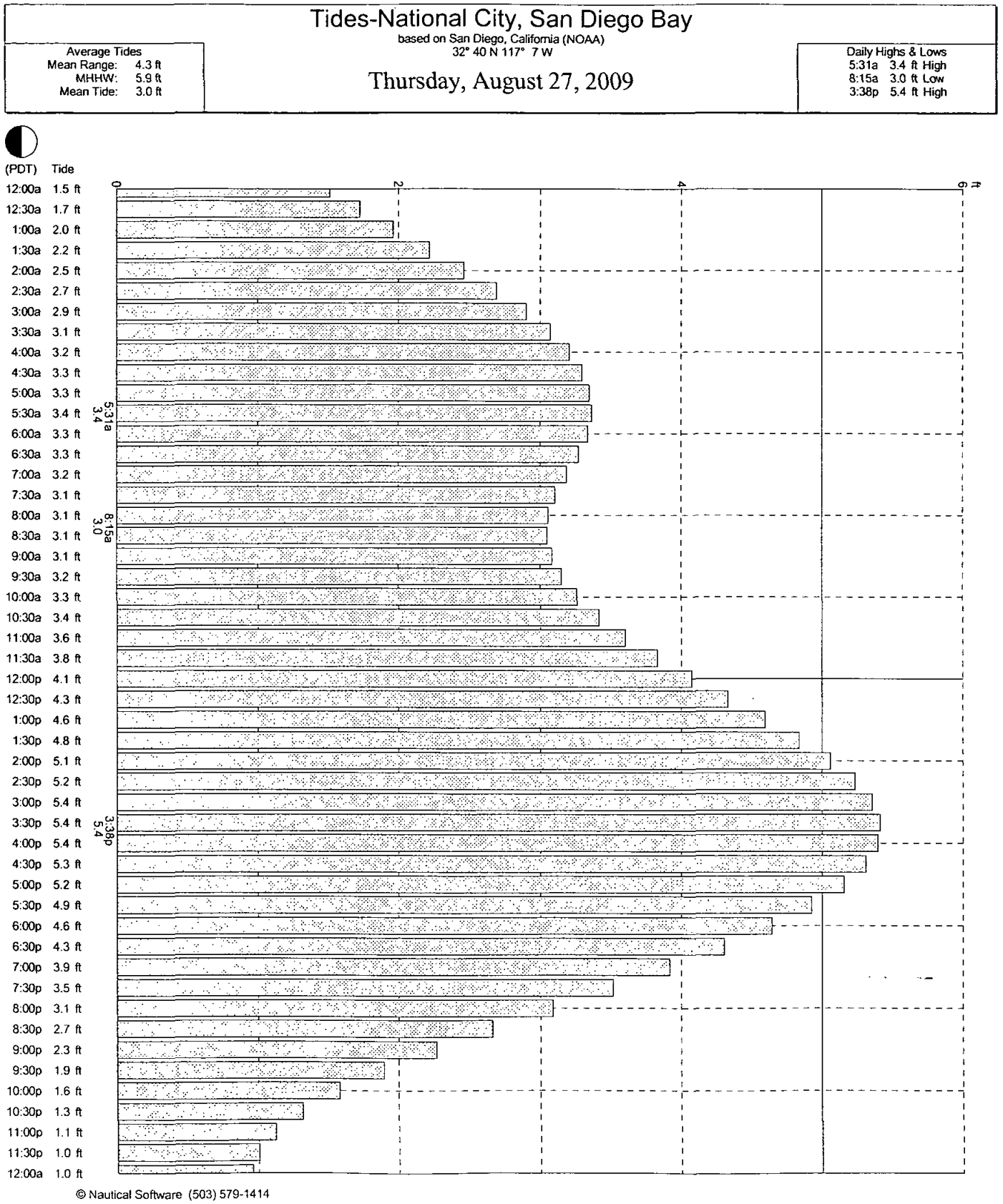


Figure 2. Tidal heights during sampling.

3 RESULTS

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 73.2°F to 77.4° 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 5.9°F to 14.5°F higher than the other stations. Surface water temperatures ranged from 76.9°F at Station N2 to 91.4°F at Station E7 and bottom temperatures ranged from 76.9°F Station N2 to 91.1°F at Station E7.

3.1.2 Salinity

Salinity measurements ranged from 34.9‰ (Station N2) to 36.0‰ (Stations E4, F2 and F3) in surface waters and from 34.8‰ (Station D4) to 36.3‰ (Intake) in bottom waters.

3.1.3 Dissolved Oxygen

Surface and bottom dissolved oxygen measurements ranged from 5.6 mg/L (Station F3) to 6.8 mg/L (Station N2 and Intake) in surface waters and from 5.6 mg/L (Station F3) to 6.8 mg/L (Station N2) in bottom waters. Percent saturation ranged from 87% (Station F3) to 106% (Intake) in surface waters and from 86% (Station F3) to 101% (Station D4) in bottom waters.

3.1.4 Transparency

Secchi disk transparency ranged from 0.5 m (Station F2) to 2.0 m (Station A3 and 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, 27 August 2009.

Parameters	STATIONS											
Physical and Chemical Data	**N2**	**A3**	**C3**	**D4**	**E3**	**E4**	**F2**	**F3**	**F4**	**E5**	**E7**	**Intake**
Water Column Temp. (°F)												
Surface	76.9	78.0	78.3	79.6	79.5	81.6	79.6	81.2	82.9	85.5	91.4	81.7
2 ft	76.9	78.0	78.3	79.6	79.5	81.5	79.6	81.1	82.3	85.4	91.4	81.7
4 ft	76.9	78.0	78.4	79.6	79.4	81.5	79.6	81.0	81.7	85.1	91.3	81.6
6 ft	76.9	78.0	78.4	79.6	79.4	81.5	.	80.9	81.5	84.3	91.2	81.7
8 ft	76.9	78.0	78.8	.	.	81.4	.	80.9	81.3	80.6	91.1	81.1
10 ft	76.9	78.0	.	.	.	.	.	.	.	80.2	.	80.2
12 ft	.	77.9	.	.	.	.	.	.	.	.	.	80.2
14 ft	.	.	.	.	.	.	.	.	.	.	.	79.9
16 ft	.	.	.	.	.	.	.	.	.	.	.	79.9
Transparency (m)	1.5	2.0	1.5	1.0	1.5	1.0	0.5	1.5	1.5	1.0	1.0	2.0
Salinity (ppt) - Surface	34.9	35.1	35.4	35.7	35.9	36.0	36.0	36.0	35.8	35.8	35.8	35.9
Salinity (ppt) - Bottom	35.0	35.2	35.6	34.8	35.7	35.3	36.0	36.0	36.0	36.1	35.8	36.3
D.O. (mg/L) - Surface	6.8	6.6	6.6	6.7	6.5	6.2	5.8	5.6	6.0	5.7	5.9	6.8
(% of Saturation)	(100)	(98)	(99)	(102)	(98)	(96)	(89)	(87)	(94)	(91)	(100)	(106)
(Receiving/Intake)	0.99	0.97	0.97	0.98	0.95	0.91	0.86	0.82	0.88	0.83	0.87	1.00
D.O. (mg/L) - Bottom	6.8	6.6	6.6	6.6	6.5	5.9	5.8	5.6	5.8	5.7	5.9	5.9
(% of Saturation)	(100)	(99)	(100)	(101)	(99)	(91)	(89)	(86)	(90)	(92)	(100)	(90)
(Receiving/Intake)	1.14	1.12	1.11	1.12	1.09	0.99	0.98	0.94	0.97	0.97	1.00	1.00
Bottom Depth (ft) at MLLW	6.2	7.8	4.7	3.0	2.6	3.3	0.2	3.1	3.2	5.3	3.9	11.8
Air Temperature (°F)	75.9	75.7	76.6	74.5	74.8	74.7	73.2	74.3	75.2	74.5	77.4	75.6
Date Sampled	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09	27Aug09
Time Sampled (PDT)	1200	1210	1225	1400	1243	1350	1250	1340	1330	1320	1305	1415
Tide Height (ft) (At Sampling Time)	4.1	4.2	4.3	5.1	4.4	5.0	4.5	4.9	4.8	4.7	4.6	5.2

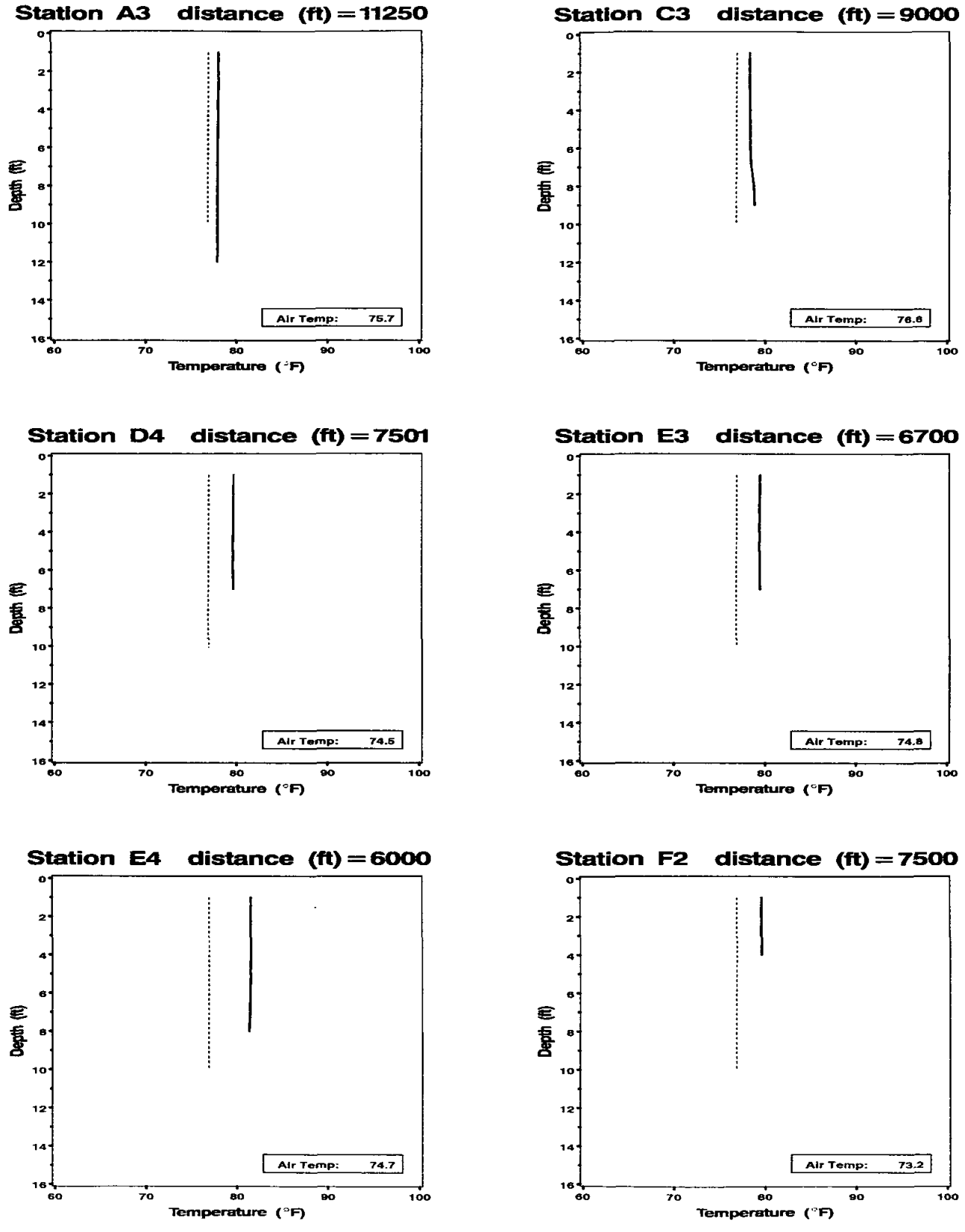


Figure 3. Temperature Profiles by Station.
Distance from the Discharge is Reported in Feet.
(solid line = station temperatures, dashed line = N2 temperatures)

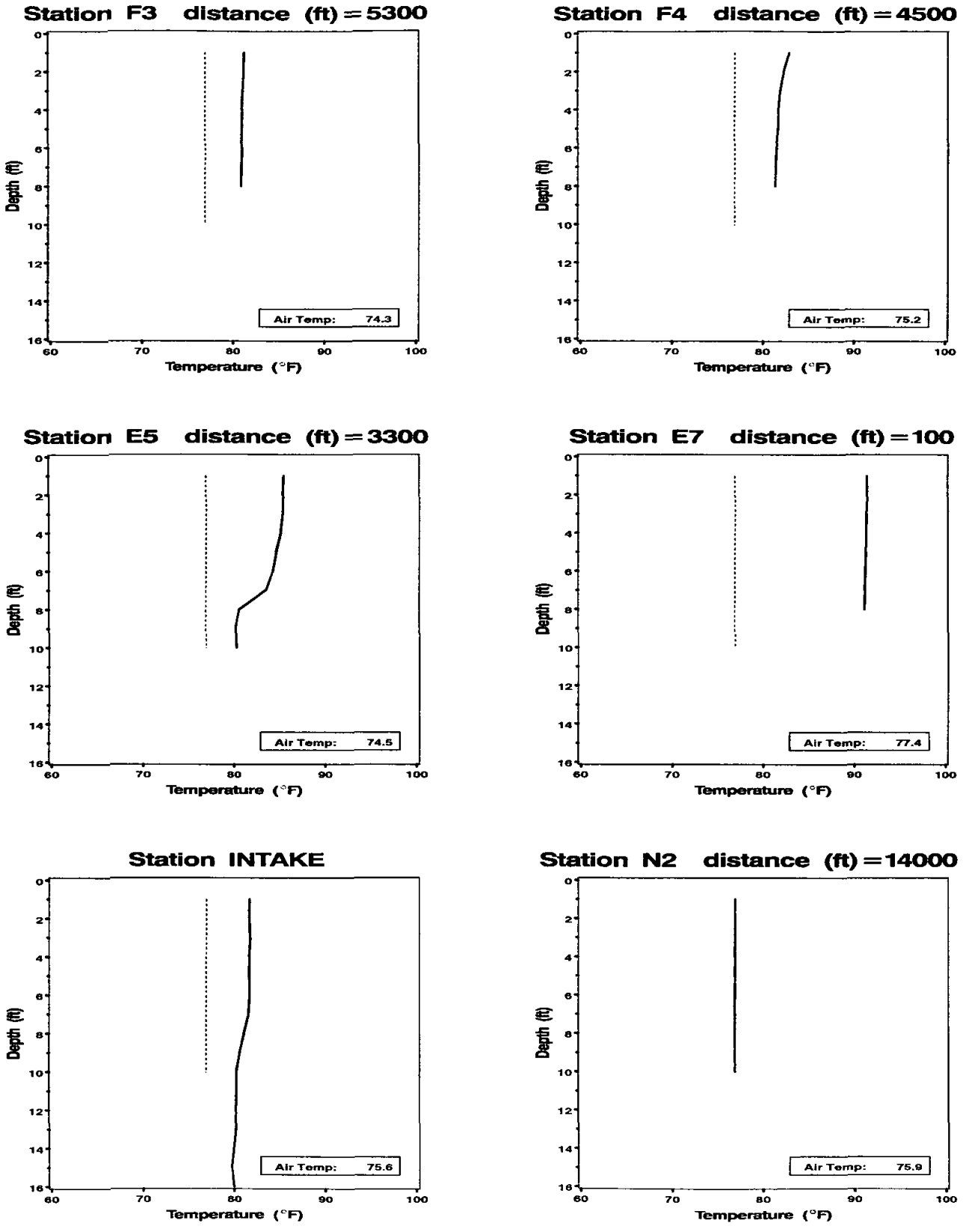


Figure 3. Continued.

4 PERSONNEL AND TASK ASSIGNMENTS

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

5 LITERATURE CITED

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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	August 26, 2009
Calibrated by	Kasey Skrivseth
Bath Temperature	22.778°C
Dissolved Oxygen-Winkler	8.600mg/L
Dissolved Oxygen-Sensor	8.380 mg/L
Differential less than 5%?	Yes
pH 7	6.989
pH 8	8.023
pH 9	9.003

Post-Calibration

Date	September 7, 2009
Calibrated by	Kasey Skrivseth
Bath Temperature	25.289 °C
Dissolved Oxygen-Winkler	8.000 mg/L
Dissolved Oxygen-Sensor	8.008 mg/L
Differential less than 5%?	Yes
pH 7	6.973
pH 8	8.039
pH 9	8.993