City of Morro Bay and
Cayucos Sanitary District

OFFSHORE MONITORING AND REPORTING PROGRAM

SEMI-ANNUAL EFFLUENT SAMPLING

CHEMICAL AND BIOASSAY ANALYSIS RESULTS

JULY 2011

Marine Research Specialists

3140 Telegraph Rd., Suite A
Ventura, California 93003

Report to

City of Morro Bay and
Cayucos Sanitary District

955 Shasta Avenue
Morro Bay, California 93442
(805) 772-6272

MONITORING AND REPORTING PROGRAM

SEMI-ANNUAL EFFLUENT REPORT

CHEMICAL AND BIOASSAY ANALYSIS RESULTS

JULY 2011

Prepared by

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August 2011

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Bruce Keogh
Wastewater Division Manager
City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442

2 August 2011

Reference: Annual Effluent Self-Monitoring Report for 2011
Semiannual Effluent Self-Monitoring Report for July through December 2011

Dear Mr. Keogh:

This self-monitoring report documents the chemical and bioassay analysis results for effluent samples collected in July 2011 as required by NPDES discharge permit CA0047881.[1] Analyses of effluent samples collected on 12 July 2011 and 13 July 2011 were conducted in accordance with the monitoring requirements specified in the permit, including:

- Chemical and radionuclide analyses conducted on a composite sample collected on 13 July 2011;
- Phenolic and nutrient compounds measured in a grab sample collected on 13 July 2011; and
- Chronic bioassays conducted on a composite sample collected on 12 July 2011.

Three attachments to this report demonstrate that all chemical concentrations, radioactivity, and toxicological endpoints were within the limitations specified in the discharge permit. Attachment A compares the results of the analyses with the limitations established for each of the effluent parameters specified in the permit. The comparisons are based on the minimum-level (ML) reporting requirements of the permit, and all units have been converted to those used in the discharge monitoring forms that were submitted under separate cover to the California Division of Water Quality (Attachment B). Attachment C collates the original laboratory reports, including raw data and results, pertinent QA/QC analyses, and chains of custody.

The comprehensive chemical and bioassay analyses of effluent samples collected in July 2011 augment data collected over the past two decades. Together, the measurements demonstrate the consistently benign character of the discharge from the MBSCD[2] treatment plant. The general lack of toxicity and chemical contaminants within the effluent samples reflects the absence of heavy industry within the collection area and the high performance of the treatment process. The concentrations of the few chemical compounds detected in the July 2011 samples were typical of wastewater derived from domestic sources, and all concentrations were considerably below the limits specified in the NPDES discharge permit.

There are a total of 78 chemical compounds whose concentrations are limited under the current permit.[3] In July 2011, only 15 of these compounds were detected, and of those, only three had concentrations high enough to be reliably quantified above their respective MLs: copper, cyanide, and dioxin. Copper is a commonly occurring metal that enters the wastewater collection system through erosion of natural mineral deposits, and through corrosion of household plumbing systems. Nevertheless, the concentration of copper in the effluent was an order of magnitude below the level deemed deleterious to marine organisms.

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[1] Regional Water Quality Control Board (RWQCB) - Central Coast Region and the Environmental Protection Agency (EPA) – Region IX. 2009. Waste Discharge Requirements (Order No. R3-2008-0065) and National Pollutant Discharge Elimination System (Permit No. CA0047881) for the Morro Bay and Cayucos Wastewater Treatment Plant Discharges to the Pacific Ocean, Morro Bay, San Luis Obispo County. Effective 1 March 2009.

[2] City of Morro Bay and the Cayucos Sanitary District, joint owners of the wastewater treatment and disposal facility

[3] In addition to these 78 chemical compounds, levels of nutrients, radionuclides, and chronic toxicity are also documented as part of the current permit requirements.

Similarly, the concentrations of two organic compounds that were also quantified within the effluent samples were both well below permit limitations. Both are ubiquitous compounds consistently detected at low levels within effluent and biosolid samples collected over the past decade.

Although cyanide occurs naturally, it can also form in the treatment process as a byproduct of the disinfection process. It has been detected at low, but quantifiable levels within approximately 20% of the effluent samples collected over the past decade and a half. However, cyanide's measured concentration in the July 2011 sample was 21-fold lower than its permit limitation and therefore, not of ecological concern.

Finally, dioxin concentrations in the July 2011 sample were only one-third of the level considered a potential threat to human health. Historically, trace amounts of dioxin were released to the environment primarily through incineration of municipal and chemical wastes, exhaust from automobiles using leaded gasoline, and improper disposal of chlorinated chemical wastes. These chemically stable dioxins do not readily decompose and once produced, they persist in the environment for long periods. Extremely small concentrations of various dioxin congeners are also found in effluent discharged from publicly owned treatment works, after they are formed during the chlorination process. Low concentrations of dioxin have been detected in the majority of MBCSD effluent samples collected during the last decade, although concentrations rarely approach the permitted limit.

A chronic bioassay further affirmed the effluent's overall low toxicity. Chronic toxicity tests on the July 2011 composite effluent sample measured its effect on the development of larval red abalone (*Haliotis rufescens*) after exposure to a range of effluent dilutions. Although the larval abalone were highly sensitive to contaminants, adverse effects were not observed in effluent that was seven times more concentrated than that allowed by the discharge permit.

Please contact the undersigned if you have questions regarding these results.

Sincerely,

Bonnie Luke
Program Manager

Submitted via email

ATTACHMENT A

MINIMUM LEVEL REPORTING

ATTACHMENT A
Analytical Results for Effluent Samples Collected during July 2011

Chemical Compound or Parameter	Units	Method	Detection Limit[a]	Practical[b] Quantification Limit	Minimum Level[c]	Permit[d] Limit	Reported Value
Nutrients							
Nitrate (as N)	mg/L	300.0	—	0.05	—	—[e]	0.06 as measured
Urea (as N)	mg/L	Mulvenna & Savid	—	0.01	—	—	0.085 as measured
Ortho-Phosphate (as P)	mg/L	300.0	—	0.05	—	—	1.56 as measured
Dissolved Silica (Si02)	mg/L	4500-SI-E	—	0.5	—	—	14. as measured
Objectives for the Protection of Marine Aquatic Life							
Arsenic	mg/L	200.8	0.00061	0.002	0.002	0.67	DNQ 0.001 Est. Conc.
Cadmium	mg/L	200.7	0.001	0.01	0.01	0.13	ND
Chromium VI	mg/L	200.7	0.001	0.01	0.01	0.27	DNQ 0.0017 Est. Conc.
Copper	mg/L	200.7	0.0023	0.01	0.01	0.14	0.014 as measured
Lead	mg/L	200.8	0.00012	0.001	0.0005	0.27	DNQ 0.0009 Est. Conc.
Mercury	µg/L	245.1	0.03	0.2	0.2	5.29	DNQ 0.088 Est. Conc.
Nickel	mg/L	200.7	0.0012	0.01	0.02	0.67	DNQ 0.0038 Est. Conc.
Selenium	mg/L	200.8	0.00036	0.002	0.002	2.01	DNQ 0.0019 Est. Conc.
Silver	mg/L	200.7	0.001	0.01	0.01	0.07	ND
Zinc	mg/L	200.7	0.0029	0.05	0.02	1.62	DNQ 0.048 Est. Conc.
Cyanide	mg/L	335.4	0.0016	0.005	0.005	0.13	0.0061 as measured
Toxicity-Chronic: H. Rufescens	TUc	600/R-95/136	—	—	—	134.	17.9 as measured
Nonchlorinated Phenolics	mg/L	625	0.0016	0.002	0.005	4.02	DNQ 0.0026 Est. Conc.
Chlorinated Phenolics	mg/L	625	0.00031	0.002	0.005	0.13	ND

[a] The Method Detection Limit (MDL) is the analysis- and instrument-specific minimum concentration at which the presence of a substance can be reported with 99% confidence. It is determined from an analysis of a sample in a matrix containing the analyte.

[b] The Practical Quantification Limit (PQL) is the analysis- and instrument-specific minimum concentration of a substance that can be routinely determined with a high degree of certainty (>99.9% confidence).

[c] The Minimum Level (ML) is the method-specific minimum concentration of a substance that can be quantitatively measured in a sample given the current analytical performance used by most certified laboratories within California, as specified in the 2005 Ocean Plan.

[d] The Permit Limit is the lowest, most-stringent threshold that is associated with the longest-duration averaging period. For limits established to protect marine aquatic life, the six-month median is the most stringent threshold. For other constituents, limits are imposed only on monthly averages.

[e] No permit limits have been established for nutrients.

Analytical Results for Effluent Samples Collected during July 2011

Chemical Compound or Parameter	Units	Method	Detection Limit[a]	Practical[b] Quantification Limit	Minimum Level[c]	Permit[d] Limit	Reported Value
Endosulfan (Sum)	µg/L	608	0.0014	0.005	0.01	1.21	ND
Endrin	µg/L	608	0.00082	0.005	0.01	0.27	ND
HCH	µg/L	608	0.00094	0.005	0.02	0.54	ND
Radioactivity Gross α	pCi/L	7110C	0.016	—	—	15.	3.79 as measured
Radioactivity Gross β	pCi/L	900	3.395	—	—	50.	7.2 as measured
Objectives for the Protection of Human Health: Noncarcinogens							
Acrolein	mg/L	624	0.0079	0.02	0.005	29.5	ND
Antimony	mg/L	200.7	0.013	0.1	0.05	160.8	ND
Bis(2-chloroethoxy) methane	mg/L	625	0.00027	0.002	0.005	0.59	ND
Bis(2-chloroisopropyl)ether	mg/L	625	0.0003	0.002	0.002	160.8	ND
Chlorobenzene	mg/L	624	0.000063	0.0005	0.002	76.4	ND
Chromium III[f]	g/L	200.7	0.000001	0.00001	0.05	25.5	DNQ 0.0000017 Est. Conc.
Di-n-butyl phthalate	mg/L	625	0.00039	0.002	0.01	469.	ND
Dichlorobenzene	mg/L	624	0.000059	0.0005	0.002	683.	ND
Diethyl phthalate	mg/L	625	0.00033	0.002	0.002	4,420.	ND
Dimethyl phthalate	g/L	625	0.00000039	0.000002	0.000002	109.9	ND
2-Methyl-4,6-dinitrophenol	mg/L	625	0.00034	0.01	0.005	29.5	ND
2,4-Dinitrophenol	mg/L	625	0.0002	0.01	0.005	0.54	ND
Ethylbenzene	mg/L	624	0.000077	0.0005	0.002	549.	ND
Fluoranthene	mg/L	625	0.0002	0.002	0.001	2.	ND
Hexachlorocyclopentadiene	mg/L	625	0.0003	0.002	0.005	7.8	ND
Nitrobenzene	mg/L	625	0.00026	0.002	0.001	0.66	ND
Thallium	mg/L	200.8	0.000081	0.001	0.001	0.27	ND
Toluene	g/L	624	0.000000067	0.0000005	0.000002	11.4	DNQ 0.00000022 Est. Conc.
Tributyltin	µg/L	GC/MS	0.03	0.05	0.1	0.188	ND
1,1,1-Trichloroethane	g/L	624	0.00000011	0.0000005	0.000002	72.4	ND

[f] Total chromium concentration was reported rather than the concentration of the trivalent oxidation state alone.

Analytical Results for Effluent Samples Collected during July 2011

Chemical Compound or Parameter	Units	Method	Detection Limit[a]	Practical[b] Quantification Limit	Minimum Level[c]	Permit[d] Limit	Reported Value
Objectives for the Protection of Human Health: Carcinogens							
Acrylonitrile	µg/L	624	0.75	5.	2.	13.4	ND
Aldrin	ng/L	608	1.3	5.	5.	2.95	ND
Benzene	µg/L	624	0.083	0.5	2.	791.	ND
Benzidine	ng/L	625	7,100.	20,000.	5,000.	9.25	ND
Beryllium	µg/L	200.7	1.	10.	2.	4.42	ND
Bis (2-chloroethyl) ether	µg/L	625	0.68	2.	1.	6.03	ND
Bis(2-ethylhexyl) phthalate	µg/L	625	3.	5.	5.	469.	DNQ 4.9 Est. Conc.
Carbon Tetrachloride	µg/L	624	0.12	0.5	2.	121.	ND
Chlordane	ng/L	608	380.	500.	100.	3.08	ND
Dibromochloromethane	µg/L	624	0.13	0.5	2.	1,152.	ND
Chloroform	mg/L	624	0.00012	0.0005	0.002	17.4	DNQ 0.00086 Est. Conc.[g]
DDT (Sum)	ng/L	608	0.76	5.	50.	22.8	ND
1,4-Dichlorobenzene	mg/L	624	0.000059	0.0005	0.002	2.41	ND
3,3-Dichlorobenzidine	µg/L	625	8.2	10.	5.	1.09	ND
1,2-Dichloroethane	mg/L	624	0.000092	0.0005	0.002	3.75	ND
1,1-Dichloroethene	mg/L	624	0.00007	0.0005	0.002	0.12	ND
Dichlorobromomethane	mg/L	624	0.00024	0.0005	0.002	0.83	ND
Methylene chloride	mg/L	624	0.00048	0.001	0.002	60.3	ND
1,3-Dichloropropene	mg/L	624	0.000071	0.0005	5.	1.19	ND
Dieldrin	ng/L	608	1.2	5.	10.	5.36	ND
2,4-Dinitrotoluene	µg/L	625	0.26	2.	5.	348.	ND
1,2-Diphenylhydrazine	µg/L	625	0.34	2.	1.	21.4	ND
Halomethanes	mg/L	624	0.00012	0.0005	0.002	17.4	ND
Heptachlor	pg/L	608	1,200.	5,000.	10,000.	6,700.[h]	ND
Heptachlor Epoxide	pg/L	608	990.	5,000.	10,000.	2,680.[h]	ND

[g] Although the laboratory reported the chloroform concentration (0.86 µg/L) as quantified because it exceeded the PQL (0.5 µg/L), it did not exceed the ML (2 µg/L) and is reported here as DNQ.

[h] The heptachlor and heptachlor epoxide limits in the discharge permit are incorrect; the correct limiting concentrations are listed here.

Analytical Results for Effluent Samples Collected during July 2011

Chemical Compound or Parameter	Units	Method	Detection Limit[a]	Practical[b] Quantification Limit	Minimum Level[c]	Permit[d] Limit	Reported Value
Hexachlorobenzene	ng/L	625	200.	2,000.	1,000.	28.1	ND
Hexachlorobutadiene	mg/L	625	0.00024	0.002	0.001	1.88	ND
Hexachloroethane	µg/L	625	0.32	2.	1.	335.	ND
Isophorone	mg/L	625	0.00031	0.002	0.001	98.	ND
N-Nitrosodimethylamine	µg/L	625	0.61	2.	5.	978.	ND
N-Nitrosodi-n-propylamine	µg/L	625	1.3	2.	5.	50.9	ND
N-Nitrosodiphenylamine	µg/L	625	0.44	2.	1.	335.	ND
PAHs	µg/L	625	0.2	2.	10.	1.18	ND
Total PCB's	ng/L	608	20.	200.	500.	2.55	ND
Dioxin (TCDD equivalents)	pg/L	1613B	0	0	—	0.52	0.123 as measured
1,1,2,2-Tetrachloroethane	mg/L	624	0.00017	0.0005	0.002	0.31	ND
Tetrachloroethene	µg/L	624	0.095	0.5	2.	268.	ND
Toxaphene	ng/L	608	420.	2,000.	500.	28.1	ND
Trichloroethene	mg/L	624	0.000072	0.0005	0.002	3.62	ND
1,1,2-Trichloroethane	mg/L	624	0.00015	0.0005	0.002	1.26	ND
2,4,6-Trichlorophenol	mg/L	625	0.0006	0.005	0.01	0.039	ND
Vinyl chloride	mg/L	624	0.00011	0.0005	0.002	4.82	ND

ATTACHMENT B

DISCHARGE MONITORING REPORTS

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: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-S
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2011	**TO**	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ SEMIANNUALLY
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			
Nitrogen, nitrate total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	*0.06*	*mg/L*	0	*Semi-annual*	*Grab*
00620 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	*0.0061*	*0.0061*	*0.0061*	*mg/L*	0	*Semi-annual*	*Comp24*
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Semiannual	COMP24
Silica, dissolved (as SiO2)	SAMPLE MEASUREMENT	******	******	******	******	******	*14.*	*mg/L*	0	*Semi-annual*	*Grab*
00955 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB
Arsenic, total recoverable	SAMPLE MEASUREMENT	******	******	******	*NODI(Q)*	*NODI(Q)*	*NODI(Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
00978 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.67 6 MO MED	3.89 DAILY MX	10.3 INST MAX	mg/L		Semiannual	COMP24
Selenium, total recoverable	SAMPLE MEASUREMENT	******	******	******	*NODI(Q)*	*NODI(Q)*	*NODI(Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
00981 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	2.01 6 MO MED	8.04 DAILY MX	20.1 INST MAX	mg/L		Semiannual	COMP24
Chromium, hexavalent (as Cr)	SAMPLE MEASUREMENT	******	******	******	*NODI(Q)*	*NODI(Q)*	*NODI(Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
01032 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.27 6 MO MED	1.07 DAILY MX	2.68 INST MAX	mg/L		Semiannual	COMP24
Nickel, total recoverable	SAMPLE MEASUREMENT	******	******	******	*NODI(Q)*	*NODI(Q)*	*NODI(Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
01074 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.67 6 MO MED	2.68 DAILY MX	6.7 INST MAX	mg/L		Semiannual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division 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.		(805)772-6272		08/08/2011
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

~~AFTER SCREENING PERIOD FOR CHRONIC TOXICITY TESTING, REPORT "NODI(9)" FOR SPECIES NOT TESTED.~~

Total chromium is reported for hexavalent chromium.

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: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-S
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ SEMIANNUALLY
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			
Silver total recoverable	SAMPLE MEASUREMENT	******	******	******			NODI(B)	mg/L	0	Semi-annual	Comp24
01079 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.07 6 MO MED	.35 DAILY MX	.92 INST MAX	mg/L		Semiannual	COMP24
Zinc, total recoverable	SAMPLE MEASUREMENT	******	******	******	NODI(Q)	NODI(Q)	NODI(Q)	mg/L	0	Semi-annual	Comp24
01094 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	1.62 6 MO MED	9.66 DAILY MX	25.7 INST MAX	mg/L		Semiannual	COMP24
Cadmium, total recoverable	SAMPLE MEASUREMENT	******	******	******			NODI(B)	mg/L	0	Semi-annual	Comp24
01113 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Semiannual	COMP24
Lead, total recoverable	SAMPLE MEASUREMENT	******	******	******	NODI(Q)	NODI(Q)	NODI(Q)	mg/L	0	Semi-annual	Comp24
01114 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.27 6 MO MED	1.07 DAILY MX	2.68 INST MAX	mg/L		Semiannual	COMP24
Copper, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.014	0.014	0.014	mg/L	0	Semi-annual	Comp24
01119 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.14 6 MO MED	1.34 DAILY MX	3.75 INST MAX	mg/L		Semiannual	COMP24
Phosphate, ortho (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	1.56	mg/L	0	Semi-annual	Grab
04175 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB
Urea	SAMPLE MEASUREMENT	******	******	******	******	******	0.085	mg/L	0	Semi-annual	Grab
71800 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division 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.		(805)772-6272		08/08/2011
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

~~AFTER SCREENING PERIOD FOR CHRONIC TOXICITY TESTING, REPORT "NODI(9)" FOR SPECIES NOT TESTED.~~

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)*

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FACILITY: MORRO BAY/CAYUCOS WWTP
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ATTN: BRUCE KEOGH

CA0047881	001-S
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		**MM/DD/YYYY**
FROM	07/01/2011	**TO**	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ SEMIANNUALLY
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**			
Mercury, total recoverable	**SAMPLE MEASUREMENT**	******	******	******	*NODI(Q)*	*NODI(Q)*	*NODI(Q)*	µg/L	0	*Semi-annual*	*Comp24*
71901 1 0 Effluent Gross	**PERMIT REQUIREMENT**	******	******	******	5.29 6 MO MED	21.4 DAILY MX	53.5 INST MAX	ug/L		Semiannual	COMP24
Static 48Hr Chronic Macrocystis Pyrifera	**SAMPLE MEASUREMENT**	******	******	******	******	******	*NODI(9)*	*TUc*	0	*Semi-annual*	*Comp24*
TTK1D 1 0 Effluent Gross	**PERMIT REQUIREMENT**	******	******	******	******	******	134 DAILY MX	tox chronic		Semiannual	COMP24
Static 48Hr Chronic Haliotis Rufescens	**SAMPLE MEASUREMENT**	******	******	******	******	******	*17.9*	*TUc*	0	*Semi-annual*	*Comp24*
TTK3R 1 0 Effluent Gross	**PERMIT REQUIREMENT**	******	******	******	******	******	134 DAILY MX	tox chronic		Semiannual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			**TELEPHONE**		**DATE**
Bruce Keogh Wastewater Division 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.		(805)772-6272		08/08/2011
TYPED OR PRINTED		**SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT**	**AREA Code**	**NUMBER**	**MM/DD/YYYY**

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

AFTER SCREENING PERIOD FOR CHRONIC TOXICITY TESTING, REPORT "NODI(9)" FOR SPECIES NOT TESTED.

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: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Radioactivity	SAMPLE MEASUREMENT	******	******	******	******	******	*7.2*	*pCi/L*	0	*Annual*	*Comp24*
00189 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	pCi/L		Annual	COMP24
Thallium, total recoverable	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
00982 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.27 MO AVG	******	mg/L		Annual	COMP24
Beryllium, total recoverable (as Be)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*µg/L*	0	*Annual*	*Comp24*
00998 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	4.42 MO AVG	******	ug/L		Annual	COMP24
Chromium, trivalent (as Cr)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (Q)*	******	*g/L*	0	*Annual*	*Comp24*
01033 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	25.5 MO AVG	******	g/L		Annual	COMP24
Antimony, total recoverable	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
01268 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	160.8 MO AVG	******	mg/L		Annual	COMP24
2-Methyl-4,6-dinitrophenol	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
03615 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	29.5 MO AVG	******	mg/L		Annual	COMP24
Tributyltin	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*µg/L*	0	*Annual*	*Comp24*
03824 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.188 MO AVG	******	ug/L		Annual	COMP24

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

Gross beta activity is reported above for "Radioactivity." Gross alpha activity was 3.79 pCi/L. Both were below their respective drinking-water standards of 50 and 15 pCi/L. Total chromium is reported for trivalent chromium.

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)*

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ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	**TO**	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Polynuclear Aromatic Hydrocarbons (Method 610)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
22456 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.18 MO AVG	******	ug/L		Annual	COMP24
Dichlorobromomethane	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	mg/L	0	*Annual*	*Comp24*
32101 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.83 MO AVG	******	mg/L		Annual	COMP24
Carbon tetrachloride	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
32102 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	121 MO AVG	******	ug/L		Annual	COMP24
1,2-Dichloroethane	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	mg/L	0	*Annual*	*Comp24*
32103 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	3.75 MO AVG	******	mg/L		Annual	COMP24
Dibromochloromethane	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
32105 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1152 MO AVG	******	ug/L		Annual	COMP24
Chloroform	SAMPLE MEASUREMENT	******	******	******	******	*NODI (Q)*	******	mg/L	0	*Annual*	*Comp24*
32106 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	17.4 MO AVG	******	mg/L		Annual	COMP24
Toluene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (Q)*	******	g/L	0	*Annual*	*Comp24*
34010 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	11.4 MO AVG	******	g/L		Annual	COMP24

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

Individual concentrations of PAH congeners were determined with Method 625, rather than Method 610, and their sum was reported on this form, as allowed by the discharge permit and the COP.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Benzene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34030 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	791 MO AVG	******	ug/L		Annual	COMP24
Acrolein	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34210 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	29.5 MO AVG	******	mg/L		Annual	COMP24
Acrylonitrile	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34215 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	13.4 MO AVG	******	ug/L		Annual	COMP24
Bis(2-chloroethyl) ether	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34273 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	6.03 MO AVG	******	ug/L		Annual	COMP24
Bis(2-chloroethoxy)methane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34278 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.59 MO AVG	******	mg/L		Annual	COMP24
Bis(2-chloroisopropyl) ether	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34283 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	160.8 MO AVG	******	mg/L		Annual	COMP24
Chlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34301 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	76.4 MO AVG	******	mg/L		Annual	COMP24

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
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LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Diethyl phthalate	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34336 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	4420 MO AVG	******	mg/L		Annual	COMP24
Dimethyl phthalate	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*g/L*	0	*Annual*	*Comp24*
34341 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	109.9 MO AVG	******	g/L		Annual	COMP24
1,2-Diphenylhydrazine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*µg/L*	0	*Annual*	*Comp24*
34346 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	21.4 MO AVG	******	ug/L		Annual	COMP24
Ethylbenzene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34371 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	549 MO AVG	******	mg/L		Annual	COMP24
Fluoranthene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34376 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2 MO AVG	******	mg/L		Annual	COMP24
Hexachlorocyclopentadiene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34386 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	7.8 MO AVG	******	mg/L		Annual	COMP24
Hexachlorobutadiene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34391 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.88 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE	DATE
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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: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		**MM/DD/YYYY**
FROM	01/01/2011	**TO**	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Hexachloroethane	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
34396 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	335 MO AVG	******	ug/L		Annual	COMP24
Isophorone	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	mg/L	0	*Annual*	*Comp24*
34408 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	98 MO AVG	******	mg/L		Annual	COMP24
Methylene chloride	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	mg/L	0	*Annual*	*Comp24*
34423 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	60.3 MO AVG	******	mg/L		Annual	COMP24
N-Nitrosodi-N-propylamine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
34428 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	50.9 MO AVG	******	ug/L		Annual	COMP24
N-Nitrosodiphenylamine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
34433 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	335 MO AVG	******	ug/L		Annual	COMP24
N-Nitrosodimethylamine (NDMA)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	µg/L	0	*Annual*	*Comp24*
34438 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	978 MO AVG	******	ug/L		Annual	COMP24
Nitrobenzene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	mg/L	0	*Annual*	*Comp24*
34447 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.66 MO AVG	******	mg/L		Annual	COMP24

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

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DISCHARGE MONITORING REPORT (DMR)

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CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Tetrachloroethylene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34475 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	268 MO AVG	******	ug/L		Annual	COMP24
1,1-Dichloroethylene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34501 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.12 MO AVG	******	mg/L		Annual	COMP24
1,1,1-Trichloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	g/L	0	Annual	Comp24
34506 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	72.4 MO AVG	******	g/L		Annual	COMP24
1,1,2-Trichloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34511 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.26 MO AVG	******	mg/L		Annual	COMP24
1,1,2,2-Tetrachloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34516 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.31 MO AVG	******	mg/L		Annual	COMP24
1,4-Dichlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34571 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.41 MO AVG	******	mg/L		Annual	COMP24
2,4-Dinitrotoluene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34611 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	348 MO AVG	******	ug/L		Annual	COMP24

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Form Approved
OMB No. 2040-0004

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
2,4-Dinitrophenol	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34616 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.54 MO AVG	******	mg/L		Annual	COMP24
2,4,6-Trichlorophenol	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34621 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.039 MO AVG	******	mg/L		Annual	COMP24
3,3'-Dichlorobenzidine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*µg/L*	0	*Annual*	*Comp24*
34631 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.09 MO AVG	******	ug/L		Annual	COMP24
Bis(2-ethylhexyl) phthalate	SAMPLE MEASUREMENT	******	******	******	******	*NODI (Q)*	******	*µg/L*	0	*Annual*	*Comp24*
39100 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	469 MO AVG	******	ug/L		Annual	COMP24
Di-n-butyl phthalate	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
39110 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	469 MO AVG	******	mg/L		Annual	COMP24
Benzidine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39120 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	9.25 MO AVG	******	ng/L		Annual	COMP24
Vinyl chloride	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
39175 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	4.82 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division 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.		(805)772-6272		08/08/2011
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	**TO**	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Trichloroethylene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
39180 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	3.62 MO AVG	******	mg/L		Annual	COMP24
Aldrin	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39330 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.95 MO AVG	******	ng/L		Annual	COMP24
Chlordane (tech mix. and metabolites)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39350 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	3.08 MO AVG	******	ng/L		Annual	COMP24
DDT/DDD/DDE, sum of p,p' & o,p' isomers	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39379 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	22.8 MO AVG	******	ng/L		Annual	COMP24
Dieldrin	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39380 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	5.36 MO AVG	******	ng/L		Annual	COMP24
Endosulfan, total	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*µg/L*	0	*Annual*	*Comp24*
39388 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	1.21 6 MO MED	2.41 DAILY MX	3.62 INST MAX	ug/L		Annual	COMP24
Endrin	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*µg/L*	0	*Annual*	*Comp24*
39390 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.27 6 MO MED	.54 DAILY MX	.8 INST MAX	ug/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division 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.		(805)772-6272		08/08/2011
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

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MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	**TO**	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Toxaphene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	28.1 MO AVG	******	ng/L		Annual	COMP24
Heptachlor	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*pg/L*	0	*Annual*	*Comp24*
39410 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	6.7 MO AVG	******	pg/L		Annual	COMP24
Heptachlor epoxide	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*pg/L*	0	*Annual*	*Comp24*
39420 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.68 MO AVG	******	pg/L		Annual	COMP24
Polychlorinated biphenyls (PCBs)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39516 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.55 MO AVG	******	ng/L		Annual	COMP24
Hexachlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39700 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	28.1 MO AVG	******	ng/L		Annual	COMP24
Phenols, chlorinated	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*mg/L*	0	*Annual*	*Grab*
74015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Annual	GRAB
1,3-Dichloropropene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
77163 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.19 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division 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.		(805)772-6272		08/08/2011
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

The heptachlor and heptachlor epoxide limits listed here and in the discharge permit are incorrect; the correct limiting concentrations are 6,700. and 2,680 pg/L, respectively.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
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MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881	001-Y
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2011	TO	12/31/2011

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
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			
Hexachlorocyclohexane, total	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*µg/L*	0	*Annual*	*Comp24*
77835 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.54 6 MO MED	1.07 DAILY MX	1.61 INST MAX	ug/L		Annual	COMP24
Phenolic compounds, unchlorinated	SAMPLE MEASUREMENT	******	******	******	*NODI (Q)*	*NODI (Q)*	*NODI (Q)*	*mg/L*	0	*Annual*	*Grab*
78218 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	4.02 6 MO MED	16.1 DAILY MX	40.2 INST MAX	mg/L		Annual	GRAB
Halomethanes, sum	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
78456 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	17.4 MO AVG	******	mg/L		Annual	COMP24
Dichlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
81524 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	683 MO AVG	******	mg/L		Annual	COMP24
TCDD equivalents	SAMPLE MEASUREMENT	******	******	******	******	*0.123*	******	*pg/L*	0	*Annual*	*Comp24*
82698 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.52 MO AVG	******	pg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE	DATE
Bruce Keogh Wastewater Division 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.		(805)772-6272	08/08/2011
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code / NUMBER	MM/DD/YYYY

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

ATTACHMENT C
LABORATORY REPORTS

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 07/26/2011

Doug Coats

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Project: Semi-Annual Eff
BC Work Order: 1111025
Invoice ID: B104459

Enclosed are the results of analyses for samples received by the laboratory on 7/13/2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Tina Green
Client Services Manager

Authorized Signature

Table of Contents

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949.

Chain of Custody Form

Report To: Client: Marine Research Specialists	Project #:
Attn: Bonnie Luke	Project Name: MBCSD SemiAnn
Street Address: 3140 Telegraph Rd. Suite A	Global ID #:
City, State, Zip: Ventura, CA 93003	Sampler(s): SRA
Phone: 805-289-3926	
Email Address: bonnie.luke@mrsenv.com	
Work Order# 11-11025	

Analysis Requested

Comments:
Grab 625: Total chlorinated & non-chlorinated phenolic compounds. Report only the phenolic compounds! Composite 625: full list of base neutral and acid-extractable congeners. See next page!

Sample Matrix

Are there any tests with holding times less than or equal to 48 hours? ☐ Yes ☒ No

Sample #	Description	Date Sampled	Time Sampled	EPA 625 (see comments)	EPA 625 (see comments)	EPA 624 (see attachment!)	EPA 608	Cyanide: EPA 335.3	Metals: Ag, Be, Cd, Cr, Cu, Ni,	Sb, Zn, As, Pb, Se, Tl, & Hg	Soil	Sludge	Drinking Water	Ground water	Waste Water	Other	Notes
1	GRAB EFF A.R.S. BC1	7/13/11		✓											✓		Please see/read page 2 for
2	COMP EFF A.R.S. BC2	7/13/11			✓	✓	✓	✓	✓	✓					✓		additional instructions!!

CHAIN OF CUSTODY DISTRIBUTION WHITE PINK YELLOW GOLDENROD

Billing ☑ Same as above

Client:
Address:
City: State Zip
Attn:
PO#:

EDF Required? ☐ Yes ☐ No

Send Copy to State of CA? ☐ Yes ☐ No

Sample Disposal ☐ Return to Client ☐ Disposal by lab ☐ Archive Months

Special Reporting ☐ QC ☐ EDF ☐ Raw Data

	Relinquished By	Date	Time	Received By	Date	Time
1		7/13/11	1330		7-13-11	1330
2		7-13-11	2020		7/13/11	2020
3						

BC Laboratories, Inc. – 4100 Atlas Court Bakersfield, Ca. 93308 661.327-4911 Fax: 661.327-1918

Page 1 of 2

11-11025

Analysis Effluent Samples to be collected from the Morro Bay Wastewater Treatment Plant on Wednesday, July 13, 2011

Analysis	Sample	Method
Level IIA QC Report concentrations that are detected above the MDL, but are below the PQL		
Total Chlorinated and Total Non-Chlorinated Phenolic Compounds (Report only the phenolic compounds)	Grab	EPA-625
13 Metals:		
Ag Silver	Composite	EPA 200.7
As Arsenic	Composite	EPA 200.8
Be Beryllium	Composite	EPA 200.7
Cd Cadmium	Composite	EPA 200.7
Cr Chromium	Composite	EPA 200.7
Cu Copper	Composite	EPA 200.7
Hg Mercury	Composite	EPA 245.1
Ni Nickel	Composite	EPA 200.7
Pb Lead	Composite	EPA 200.8
Sb Antimony	Composite	EPA 200.7
Se Selenium	Composite	EPA 200.8
Tl Thallium	Composite	EPA 200.8
Zn Zinc	Composite	EPA 200.7
Volatile Organics - Low Level, Including Acrolein, and Acrylonitrile	Composite	EPA 624/8240
Organochlorine Pesticides and PCBs	Composite	EPA 608/8080
Phenolic Compounds: Full list of base-neutral and acid-extractable congeners	Composite	EPA 625/8270
Cyanide	Composite	EPA 335.3

Invoice and Report to be sent to: Bonnie Luke (Bonnie.Luke@mrsenv.com)
Marine Research Specialists
3140 Telegraph Rd., Suite A
Ventura, CA 93003
Telephone: (805) 289-3926

Samples to be collected from: Morro Bay Wastewater Treatment Plant
160 Atascadero Rd.
Morro Bay, CA 93442
Telephone: (805) 772-6272

Chain of Custody and Cooler Receipt Form for 1111025 Page 3 of 3

BC LABORATORIES INC. SAMPLE RECEIPT FORM Rev. No. 12 06/24/08 Page 1 Of 1

Submission #: 11-11025

SHIPPING INFORMATION
Federal Express ☐ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☑ None ☐
Box ☐ Other ☐ (Specify)_____

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.97 Container: QtA Thermometer ID: 1103

Temperature: A 2.8 °C / C 2.5 °C

Date/Time 7-13-11 2010

Analyst Init JNW

SAMPLE CONTAINERS	SAMPLE NUMBERS 2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL									
PT PE UNPRESERVED									
QT INORGANIC CHEMICAL METALS									
PT INORGANIC CHEMICAL METALS	B C	A B							
PT CYANIDE									
PT NITROGEN FORMS		JNW 7/13/11							
PT TOTAL SULFIDE									
2oz. NITRATE / NITRITE									
PT TOTAL ORGANIC CARBON									
PT TOX									
PT CHEMICAL OXYGEN DEMAND									
PtA PHENOLICS									
40ml VOA VIAL TRAVEL BLANK									
40ml VOA VIAL	A3								
QT EPA 413.1, 413.2, 418.1									
PT ODOR									
RADIOLOGICAL									
BACTERIOLOGICAL									
40 ml VOA VIAL- 504									
QT EPA 508/608/8080									
QT EPA 515.1/8150									
QT EPA 525									
QT EPA 525 TRAVEL BLANK									
100ml EPA 547									
100ml EPA 531.1									
QT EPA 548									
QT EPA 549									
QT EPA 632									
QT EPA 8015M									
QT AMBER 1025	DEF	~~DEFG~~	AB						
8 OZ. JAR									
32 OZ. JAR									
SOIL SLEEVE									
PCB VIAL									
PLASTIC BAG									
FERROUS IRON									
ENCORE									

Comments:

Sample Numbering Completed By: JNW Date/Time: 7/13/11 2051

A = Actual / C = Corrected

(H:\DOCS\WP80\LAB_DOCS\FORMS\SAMREC2.WPD)

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1111025-01	**COC Number:**	---	**Receive Date:**	07/13/2011 20:20
	Project Number:	---	**Sampling Date:**	07/13/2011 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GRAB EFF A.R.S BC1	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Wastewater
1111025-02	**COC Number:**	---	**Receive Date:**	07/13/2011 20:20
	Project Number:	---	**Sampling Date:**	07/13/2011 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	COMP EFF A.R.S BC2	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Wastewater

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1111025-01 | **Client Sample Name:** GRAB EFF A.R.S BC1, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Chloro-3-methylphenol	ND	ug/L	5.0	0.40	EPA-625	ND		1
2-Chlorophenol	ND	ug/L	2.0	0.37	EPA-625	ND		1
2,4-Dichlorophenol	ND	ug/L	2.0	0.43	EPA-625	ND		1
2,4-Dimethylphenol	ND	ug/L	2.0	0.20	EPA-625	ND		1
4,6-Dinitro-2-methylphenol	ND	ug/L	10	0.34	EPA-625	ND		1
2,4-Dinitrophenol	ND	ug/L	10	0.20	EPA-625	ND		1
2-Methylphenol	ND	ug/L	2.0	1.0	EPA-625	ND		1
3- & 4-Methylphenol	**2.6**	**ug/L**	**2.0**	**1.6**	**EPA-625**	ND		1
2-Nitrophenol	ND	ug/L	2.0	0.28	EPA-625	ND		1
4-Nitrophenol	ND	ug/L	2.0	0.73	EPA-625	ND		1
Pentachlorophenol	ND	ug/L	10	0.79	EPA-625	ND		1
Phenol	ND	ug/L	2.0	0.20	EPA-625	ND		1
2,4,5-Trichlorophenol	ND	ug/L	5.0	0.31	EPA-625	ND		1
2,4,6-Trichlorophenol	ND	ug/L	5.0	0.60	EPA-625	ND		1
2-Fluorophenol (Surrogate)	50.3	%	20 - 129 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	47.5	%	10 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	83.2	%	42 - 152 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	87.5	%	51 - 130 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	90.7	%	29 - 158 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	123	%	24 - 181 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/20/11	07/24/11 04:14	SKC	MS-B2	1	BUG1466

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Aldrin	ND	ug/L	0.0050	0.0013	EPA-608	ND	V11	1
alpha-BHC	ND	ug/L	0.0050	0.0011	EPA-608	ND	V11	1
beta-BHC	ND	ug/L	0.0050	0.0021	EPA-608	ND	V11	1
delta-BHC	ND	ug/L	0.0050	0.0014	EPA-608	ND	V11	1
gamma-BHC (Lindane)	ND	ug/L	0.0050	0.00094	EPA-608	ND	V11	1
Chlordane (Technical)	ND	ug/L	0.50	0.38	EPA-608	ND	V11	1
4,4'-DDD	ND	ug/L	0.0050	0.0017	EPA-608	ND	V11	1
4,4'-DDE	ND	ug/L	0.0050	0.0019	EPA-608	ND	V11	1
4,4'-DDT	ND	ug/L	0.0050	0.00076	EPA-608	ND	V11	1
Dieldrin	ND	ug/L	0.0050	0.0012	EPA-608	ND	V11	1
Endosulfan I	ND	ug/L	0.0050	0.0016	EPA-608	ND	V11	1
Endosulfan II	ND	ug/L	0.0050	0.0014	EPA-608	ND	V11	1
Endosulfan sulfate	ND	ug/L	0.0050	0.0026	EPA-608	ND	V11	1
Endrin	ND	ug/L	0.0050	0.00082	EPA-608	ND	V11	1
Endrin aldehyde	ND	ug/L	0.010	0.0032	EPA-608	ND	V11	1
Heptachlor	ND	ug/L	0.0050	0.0012	EPA-608	ND	V11	1
Heptachlor epoxide	ND	ug/L	0.0050	0.00099	EPA-608	ND	V11	1
Methoxychlor	ND	ug/L	0.0050	0.0011	EPA-608	ND	V11	1
Toxaphene	ND	ug/L	2.0	0.42	EPA-608	ND	V11	1
PCB-1016	ND	ug/L	0.20	0.020	EPA-608	ND	V11	1
PCB-1221	ND	ug/L	0.20	0.089	EPA-608	ND	V11	1
PCB-1232	ND	ug/L	0.20	0.090	EPA-608	ND	V11	1
PCB-1242	ND	ug/L	0.20	0.095	EPA-608	ND	V11	1
PCB-1248	ND	ug/L	0.20	0.025	EPA-608	ND	V11	1
PCB-1254	ND	ug/L	0.20	0.042	EPA-608	ND	V11	1
PCB-1260	ND	ug/L	0.20	0.020	EPA-608	ND	V11	1
Total PCB's (Summation)	ND	ug/L	0.20	0.10	EPA-608	ND	V11	1
TCMX (Surrogate)	138	%	40 - 126 (LCL - UCL)		EPA-608		S09,V11	1
Dibutyl chlorendate (Surrogate)	51.0	%	40 - 140 (LCL - UCL)		EPA-608		V11	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-608	07/18/11	07/21/11 18:50	VH1	GC-1	1	BUG1062

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Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-624	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.24	EPA-624	ND		1
Bromoform	ND	ug/L	0.50	0.26	EPA-624	ND		1
Bromomethane	ND	ug/L	1.0	0.12	EPA-624	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.12	EPA-624	ND		1
Chlorobenzene	ND	ug/L	0.50	0.063	EPA-624	ND		1
Chloroethane	ND	ug/L	0.50	0.12	EPA-624	ND		1
Chloroform	**0.86**	**ug/L**	**0.50**	**0.12**	**EPA-624**	ND		1
Chloromethane	ND	ug/L	0.50	0.13	EPA-624	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.13	EPA-624	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.072	EPA-624	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.059	EPA-624	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.092	EPA-624	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.070	EPA-624	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.14	EPA-624	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.13	EPA-624	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-624	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.071	EPA-624	ND		1
Ethylbenzene	ND	ug/L	0.50	0.077	EPA-624	ND		1
Methylene chloride	ND	ug/L	1.0	0.48	EPA-624	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-624	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.095	EPA-624	ND		1
Toluene	**0.22**	**ug/L**	**0.50**	**0.067**	**EPA-624**	ND	**J**	1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.15	EPA-624	ND		1
Trichloroethene	ND	ug/L	0.50	0.072	EPA-624	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.079	EPA-624	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.12	EPA-624	ND		1
Vinyl chloride	ND	ug/L	0.50	0.11	EPA-624	ND		1
Total Xylenes	**0.52**	**ug/L**	**0.50**	**0.22**	**EPA-624**	ND		1

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Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acrolein	ND	ug/L	20	7.9	EPA-624	ND		1
Acrylonitrile	ND	ug/L	5.0	0.75	EPA-624	ND		1
p- & m-Xylenes	**0.33**	**ug/L**	**0.50**	**0.17**	**EPA-624**	ND	**J**	1
o-Xylene	**0.19**	**ug/L**	**0.50**	**0.050**	**EPA-624**	ND	**J**	1
1,2-Dichloroethane-d4 (Surrogate)	104	%	76 - 114 (LCL - UCL)		EPA-624			1
Toluene-d8 (Surrogate)	99.7	%	88 - 110 (LCL - UCL)		EPA-624			1
4-Bromofluorobenzene (Surrogate)	94.7	%	86 - 115 (LCL - UCL)		EPA-624			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-624	07/20/11	07/20/11 11:57	mgc	MS-V7	1	BUG1136

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	ug/L	2.0	0.24	EPA-625	ND		1
Acenaphthylene	ND	ug/L	2.0	0.28	EPA-625	ND		1
Aldrin	ND	ug/L	2.0	0.35	EPA-625	ND		1
Aniline	ND	ug/L	5.0	0.69	EPA-625	ND	V11	1
Anthracene	ND	ug/L	2.0	0.30	EPA-625	ND		1
Benzidine	ND	ug/L	20	7.1	EPA-625	ND	V11	1
Benzo[a]anthracene	ND	ug/L	2.0	0.38	EPA-625	ND		1
Benzo[b]fluoranthene	ND	ug/L	2.0	0.41	EPA-625	ND		1
Benzo[k]fluoranthene	ND	ug/L	2.0	0.31	EPA-625	ND	V11	1
Benzo[a]pyrene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Benzo[g,h,i]perylene	ND	ug/L	2.0	0.22	EPA-625	ND	V11	1
Benzoic acid	ND	ug/L	10	5.8	EPA-625	ND		1
Benzyl alcohol	ND	ug/L	2.0	0.34	EPA-625	ND		1
Benzyl butyl phthalate	ND	ug/L	2.0	0.47	EPA-625	ND		1
alpha-BHC	ND	ug/L	2.0	0.27	EPA-625	ND		1
beta-BHC	ND	ug/L	2.0	0.27	EPA-625	ND		1
delta-BHC	ND	ug/L	2.0	0.30	EPA-625	ND		1
gamma-BHC (Lindane)	ND	ug/L	2.0	0.22	EPA-625	ND		1
bis(2-Chloroethoxy)methane	ND	ug/L	2.0	0.27	EPA-625	ND		1
bis(2-Chloroethyl) ether	ND	ug/L	2.0	0.68	EPA-625	ND		1
bis(2-Chloroisopropyl)ether	ND	ug/L	2.0	0.30	EPA-625	ND		1
bis(2-Ethylhexyl)phthalate	**4.9**	**ug/L**	**5.0**	**3.0**	**EPA-625**	ND	**J**	1
4-Bromophenyl phenyl ether	ND	ug/L	2.0	0.23	EPA-625	ND		1
4-Chloroaniline	ND	ug/L	2.0	0.69	EPA-625	ND	V11	1
2-Chloronaphthalene	ND	ug/L	2.0	0.34	EPA-625	ND		1
4-Chlorophenyl phenyl ether	ND	ug/L	2.0	0.23	EPA-625	ND		1
Chrysene	ND	ug/L	2.0	0.63	EPA-625	ND		1
4,4'-DDD	ND	ug/L	2.0	0.48	EPA-625	ND	V11	1
4,4'-DDE	ND	ug/L	3.0	0.41	EPA-625	ND	V11	1
4,4'-DDT	ND	ug/L	2.0	0.43	EPA-625	ND		1
Dibenzo[a,h]anthracene	ND	ug/L	3.0	0.26	EPA-625	ND		1
Dibenzofuran	ND	ug/L	2.0	0.21	EPA-625	ND		1
1,2-Dichlorobenzene	ND	ug/L	2.0	0.37	EPA-625	ND		1

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	ug/L	2.0	0.35	EPA-625	ND		1
1,4-Dichlorobenzene	ND	ug/L	2.0	0.31	EPA-625	ND		1
3,3-Dichlorobenzidine	ND	ug/L	10	8.2	EPA-625	ND	V11	1
Dieldrin	ND	ug/L	3.0	0.41	EPA-625	ND		1
Diethyl phthalate	ND	ug/L	2.0	0.33	EPA-625	ND		1
Dimethyl phthalate	ND	ug/L	2.0	0.39	EPA-625	ND		1
Di-n-butyl phthalate	ND	ug/L	2.0	0.39	EPA-625	ND		1
2,4-Dinitrotoluene	ND	ug/L	2.0	0.26	EPA-625	ND		1
2,6-Dinitrotoluene	ND	ug/L	2.0	0.41	EPA-625	ND		1
Di-n-octyl phthalate	ND	ug/L	2.0	0.46	EPA-625	ND		1
1,2-Diphenylhydrazine	ND	ug/L	2.0	0.34	EPA-625	ND		1
Endosulfan I	ND	ug/L	10	1.7	EPA-625	ND		1
Endosulfan II	ND	ug/L	10	1.2	EPA-625	ND		1
Endosulfan sulfate	ND	ug/L	3.0	0.58	EPA-625	ND		1
Endrin	ND	ug/L	2.0	1.1	EPA-625	ND		1
Endrin aldehyde	ND	ug/L	10	0.52	EPA-625	ND		1
Fluoranthene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Fluorene	ND	ug/L	2.0	0.28	EPA-625	ND		1
Heptachlor	ND	ug/L	2.0	0.32	EPA-625	ND		1
Heptachlor epoxide	ND	ug/L	2.0	0.27	EPA-625	ND		1
Hexachlorobenzene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Hexachlorobutadiene	ND	ug/L	2.0	0.24	EPA-625	ND		1
Hexachlorocyclopentadiene	ND	ug/L	2.0	0.30	EPA-625	ND		1
Hexachloroethane	ND	ug/L	2.0	0.32	EPA-625	ND		1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2.0	0.26	EPA-625	ND		1
Isophorone	ND	ug/L	2.0	0.31	EPA-625	ND		1
2-Methylnaphthalene	ND	ug/L	2.0	0.28	EPA-625	ND		1
Naphthalene	ND	ug/L	2.0	0.21	EPA-625	ND		1
2-Naphthylamine	ND	ug/L	20	4.8	EPA-625	ND	V11	1
2-Nitroaniline	ND	ug/L	2.0	0.33	EPA-625	ND		1
3-Nitroaniline	ND	ug/L	2.0	0.66	EPA-625	ND		1
4-Nitroaniline	ND	ug/L	5.0	0.87	EPA-625	ND		1
Nitrobenzene	ND	ug/L	2.0	0.26	EPA-625	ND		1

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	ug/L	2.0	0.61	EPA-625	ND		1
N-Nitrosodi-N-propylamine	ND	ug/L	2.0	1.3	EPA-625	ND		1
N-Nitrosodiphenylamine	ND	ug/L	2.0	0.44	EPA-625	ND		1
Phenanthrene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Pyrene	ND	ug/L	2.0	0.26	EPA-625	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	2.0	0.27	EPA-625	ND		1
4-Chloro-3-methylphenol	ND	ug/L	5.0	0.40	EPA-625	ND		1
2-Chlorophenol	ND	ug/L	2.0	0.37	EPA-625	ND		1
2,4-Dichlorophenol	ND	ug/L	2.0	0.43	EPA-625	ND		1
2,4-Dimethylphenol	ND	ug/L	2.0	0.20	EPA-625	ND		1
4,6-Dinitro-2-methylphenol	ND	ug/L	10	0.34	EPA-625	ND		1
2,4-Dinitrophenol	ND	ug/L	10	0.20	EPA-625	ND		1
2-Methylphenol	ND	ug/L	2.0	1.0	EPA-625	ND		1
3- & 4-Methylphenol	ND	ug/L	2.0	1.6	EPA-625	ND		1
2-Nitrophenol	ND	ug/L	2.0	0.28	EPA-625	ND		1
4-Nitrophenol	ND	ug/L	2.0	0.73	EPA-625	ND		1
Pentachlorophenol	ND	ug/L	10	0.79	EPA-625	ND		1
Phenol	ND	ug/L	2.0	0.20	EPA-625	ND		1
2,4,5-Trichlorophenol	ND	ug/L	5.0	0.31	EPA-625	ND		1
2,4,6-Trichlorophenol	ND	ug/L	5.0	0.60	EPA-625	ND		1
2-Fluorophenol (Surrogate)	50.4	%	20 - 129 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	50.0	%	10 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	86.2	%	42 - 152 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	87.2	%	51 - 130 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	86.9	%	29 - 158 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	117	%	24 - 181 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/20/11	07/24/11 04:41	SKC	MS-B2	1	BUG1466

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (General Chemistry)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	**0.0061**	**mg/L**	**0.0050**	**0.0016**	**EPA-335.4**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-335.4	07/14/11	07/14/11 10:14	TDC	KONE-1	1	BUG0728

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (Metals)

BCL Sample ID: 1111025-02 | **Client Sample Name:** COMP EFF A.R.S BC2, 7/13/2011 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Antimony	ND	ug/L	100	13	EPA-200.7	ND		1
Total Beryllium	ND	ug/L	10	1.0	EPA-200.7	ND		1
Total Cadmium	ND	ug/L	10	1.0	EPA-200.7	ND		1
Total Chromium	**1.7**	**ug/L**	**10**	**1.0**	**EPA-200.7**	ND	**J**	1
Total Copper	**14**	**ug/L**	**10**	**2.3**	**EPA-200.7**	ND		1
Total Mercury	**0.088**	**ug/L**	**0.20**	**0.030**	**EPA-245.1**	0.092	**J**	2
Total Nickel	**3.8**	**ug/L**	**10**	**1.2**	**EPA-200.7**	ND	**J**	1
Total Silver	ND	ug/L	10	1.0	EPA-200.7	ND		1
Total Zinc	**48**	**ug/L**	**50**	**2.9**	**EPA-200.7**	ND	**J**	1
Total Recoverable Arsenic	**1.0**	**ug/L**	**2.0**	**0.61**	**EPA-200.8**	ND	**J**	3
Total Recoverable Lead	**0.90**	**ug/L**	**1.0**	**0.12**	**EPA-200.8**	ND	**J**	3
Total Recoverable Selenium	**1.9**	**ug/L**	**2.0**	**0.36**	**EPA-200.8**	ND	**J**	3
Total Recoverable Thallium	ND	ug/L	1.0	0.081	EPA-200.8	ND		3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-200.7	07/19/11	07/20/11 22:28	JRG	PE-OP2	1	BUG1093
2	EPA-245.1	07/18/11	07/19/11 12:38	MEV	CETAC1	1	BUG1039
3	EPA-200.8	07/19/11	07/21/11 00:33	PPS	PE-EL1	1	BUG1104

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Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1062						
Aldrin	BUG1062-BLK1	ND	ug/L	0.0050	0.0013	
alpha-BHC	BUG1062-BLK1	ND	ug/L	0.0050	0.0011	
beta-BHC	BUG1062-BLK1	ND	ug/L	0.0050	0.0021	
delta-BHC	BUG1062-BLK1	ND	ug/L	0.0050	0.0014	
gamma-BHC (Lindane)	BUG1062-BLK1	ND	ug/L	0.0050	0.00094	
Chlordane (Technical)	BUG1062-BLK1	ND	ug/L	0.50	0.38	
4,4'-DDD	BUG1062-BLK1	ND	ug/L	0.0050	0.0017	
4,4'-DDE	BUG1062-BLK1	ND	ug/L	0.0050	0.0019	
4,4'-DDT	BUG1062-BLK1	ND	ug/L	0.0050	0.00076	
Dieldrin	BUG1062-BLK1	ND	ug/L	0.0050	0.0012	
Endosulfan I	BUG1062-BLK1	ND	ug/L	0.0050	0.0016	
Endosulfan II	BUG1062-BLK1	ND	ug/L	0.0050	0.0014	
Endosulfan sulfate	BUG1062-BLK1	ND	ug/L	0.0050	0.0026	
Endrin	BUG1062-BLK1	ND	ug/L	0.0050	0.00082	
Endrin aldehyde	BUG1062-BLK1	ND	ug/L	0.010	0.0032	
Heptachlor	BUG1062-BLK1	ND	ug/L	0.0050	0.0012	
Heptachlor epoxide	BUG1062-BLK1	ND	ug/L	0.0050	0.00099	
Methoxychlor	BUG1062-BLK1	ND	ug/L	0.0050	0.0011	
Toxaphene	BUG1062-BLK1	ND	ug/L	2.0	0.42	
PCB-1016	BUG1062-BLK1	ND	ug/L	0.20	0.020	
PCB-1221	BUG1062-BLK1	ND	ug/L	0.20	0.089	
PCB-1232	BUG1062-BLK1	ND	ug/L	0.20	0.090	
PCB-1242	BUG1062-BLK1	ND	ug/L	0.20	0.095	
PCB-1248	BUG1062-BLK1	ND	ug/L	0.20	0.025	
PCB-1254	BUG1062-BLK1	ND	ug/L	0.20	0.042	
PCB-1260	BUG1062-BLK1	ND	ug/L	0.20	0.020	
Total PCB's (Summation)	BUG1062-BLK1	ND	ug/L	0.20	0.10	
TCMX (Surrogate)	BUG1062-BLK1	90.1	%	40 - 126 (LCL - UCL)		
Dibutyl chlorendate (Surrogate)	BUG1062-BLK1	76.1	%	40 - 140 (LCL - UCL)		

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Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BUG1062										
Aldrin	BUG1062-BS1	LCS	0.13905	0.15000	ug/L	92.7		50 - 129		
gamma-BHC (Lindane)	BUG1062-BS1	LCS	0.14267	0.15000	ug/L	95.1		40 - 136		
4,4'-DDT	BUG1062-BS1	LCS	0.11920	0.15000	ug/L	79.5		39 - 142		
Dieldrin	BUG1062-BS1	LCS	0.13772	0.15000	ug/L	91.8		68 - 129		
Endrin	BUG1062-BS1	LCS	0.18466	0.15000	ug/L	123		66 - 170		
Heptachlor	BUG1062-BS1	LCS	0.14029	0.15000	ug/L	93.5		54 - 129		
PCB-1260	BUG1062-BS1	LCS	ND		ug/L			64 - 120		
TCMX (Surrogate)	BUG1062-BS1	LCS	0.27904	0.30000	ug/L	93.0		40 - 126		
Dibutyl chlorendate (Surrogate)	BUG1062-BS1	LCS	0.59208	0.75000	ug/L	78.9		40 - 140		

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Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1062	Used client sample: N										
Aldrin	MS	1110024-24	ND	0.19585	0.15000	ug/L		131		57 - 119	Q03
	MSD	1110024-24	ND	0.18625	0.15000	ug/L	5.0	124	21	57 - 119	Q03
gamma-BHC (Lindane)	MS	1110024-24	ND	0.19746	0.15000	ug/L		132		40 - 129	Q03
	MSD	1110024-24	ND	0.18866	0.15000	ug/L	4.6	126	20	40 - 129	
4,4'-DDT	MS	1110024-24	ND	0.28203	0.15000	ug/L		188		40 - 143	Q03
	MSD	1110024-24	ND	0.25307	0.15000	ug/L	10.8	169	22	40 - 143	Q03
Dieldrin	MS	1110024-24	ND	0.21973	0.15000	ug/L		146		70 - 125	Q03
	MSD	1110024-24	ND	0.20992	0.15000	ug/L	4.6	140	22	70 - 125	Q03
Endrin	MS	1110024-24	ND	0.47857	0.15000	ug/L		319		67 - 147	Q03
	MSD	1110024-24	ND	0.40782	0.15000	ug/L	16.0	272	25	67 - 147	Q03
Heptachlor	MS	1110024-24	ND	0.20132	0.15000	ug/L		134		62 - 119	Q03
	MSD	1110024-24	ND	0.19233	0.15000	ug/L	4.6	128	20	62 - 119	Q03
PCB-1260	MS	1110024-24	ND	ND		ug/L				60 - 119	
	MSD	1110024-24	ND	ND		ug/L			25	60 - 119	
TCMX (Surrogate)	MS	1110024-24	ND	0.35410	0.30000	ug/L		118		40 - 126	
	MSD	1110024-24	ND	0.33889	0.30000	ug/L	4.4	113		40 - 126	
Dibutyl chlorendate (Surrogate)	MS	1110024-24	ND	1.3433	0.75000	ug/L		179		40 - 140	Q03
	MSD	1110024-24	ND	1.2689	0.75000	ug/L	5.7	169		40 - 140	Q03

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1136						
Benzene	BUG1136-BLK1	ND	ug/L	0.50	0.083	
Bromodichloromethane	BUG1136-BLK1	ND	ug/L	0.50	0.24	
Bromoform	BUG1136-BLK1	ND	ug/L	0.50	0.26	
Bromomethane	BUG1136-BLK1	ND	ug/L	1.0	0.12	
Carbon tetrachloride	BUG1136-BLK1	ND	ug/L	0.50	0.12	
Chlorobenzene	BUG1136-BLK1	ND	ug/L	0.50	0.063	
Chloroethane	BUG1136-BLK1	ND	ug/L	0.50	0.12	
Chloroform	BUG1136-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BUG1136-BLK1	ND	ug/L	0.50	0.13	
Dibromochloromethane	BUG1136-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichlorobenzene	BUG1136-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BUG1136-BLK1	ND	ug/L	0.50	0.11	
1,4-Dichlorobenzene	BUG1136-BLK1	ND	ug/L	0.50	0.059	
1,1-Dichloroethane	BUG1136-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BUG1136-BLK1	ND	ug/L	0.50	0.092	
1,1-Dichloroethene	BUG1136-BLK1	ND	ug/L	0.50	0.070	
trans-1,2-Dichloroethene	BUG1136-BLK1	ND	ug/L	0.50	0.14	
1,2-Dichloropropane	BUG1136-BLK1	ND	ug/L	0.50	0.13	
cis-1,3-Dichloropropene	BUG1136-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	BUG1136-BLK1	ND	ug/L	0.50	0.071	
Ethylbenzene	BUG1136-BLK1	ND	ug/L	0.50	0.077	
Methylene chloride	BUG1136-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BUG1136-BLK1	ND	ug/L	0.50	0.11	
1,1,2,2-Tetrachloroethane	BUG1136-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BUG1136-BLK1	ND	ug/L	0.50	0.095	
Toluene	BUG1136-BLK1	ND	ug/L	0.50	0.067	
1,1,1-Trichloroethane	BUG1136-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BUG1136-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BUG1136-BLK1	ND	ug/L	0.50	0.072	
Trichlorofluoromethane	BUG1136-BLK1	ND	ug/L	0.50	0.079	
1,1,2-Trichloro-1,2,2-trifluoroethane	BUG1136-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BUG1136-BLK1	ND	ug/L	0.50	0.11	
Total Xylenes	BUG1136-BLK1	ND	ug/L	0.50	0.22	
Acrolein	BUG1136-BLK1	ND	ug/L	20	7.9	

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1136						
Acrylonitrile	BUG1136-BLK1	ND	ug/L	5.0	0.75	
p- & m-Xylenes	BUG1136-BLK1	ND	ug/L	0.50	0.17	
o-Xylene	BUG1136-BLK1	ND	ug/L	0.50	0.050	
1,2-Dichloroethane-d4 (Surrogate)	BUG1136-BLK1	96.0	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BUG1136-BLK1	100	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BUG1136-BLK1	92.7	%	86 - 115 (LCL - UCL)		

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BUG1136										
Benzene	BUG1136-BS1	LCS	27.390	25.000	ug/L	110		70 - 130		
Bromodichloromethane	BUG1136-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
Bromoform	BUG1136-BS1	LCS	25.560	25.000	ug/L	102		70 - 130		
Bromomethane	BUG1136-BS1	LCS	23.890	25.000	ug/L	95.6		70 - 130		
Carbon tetrachloride	BUG1136-BS1	LCS	25.750	25.000	ug/L	103		70 - 130		
Chlorobenzene	BUG1136-BS1	LCS	25.320	25.000	ug/L	101		70 - 130		
Chloroethane	BUG1136-BS1	LCS	24.650	25.000	ug/L	98.6		70 - 130		
Chloroform	BUG1136-BS1	LCS	26.240	25.000	ug/L	105		70 - 130		
Chloromethane	BUG1136-BS1	LCS	22.010	25.000	ug/L	88.0		70 - 130		
Dibromochloromethane	BUG1136-BS1	LCS	26.880	25.000	ug/L	108		70 - 130		
1,2-Dichlorobenzene	BUG1136-BS1	LCS	25.870	25.000	ug/L	103		70 - 130		
1,3-Dichlorobenzene	BUG1136-BS1	LCS	25.970	25.000	ug/L	104		70 - 130		
1,4-Dichlorobenzene	BUG1136-BS1	LCS	25.690	25.000	ug/L	103		70 - 130		
1,1-Dichloroethane	BUG1136-BS1	LCS	25.080	25.000	ug/L	100		70 - 130		
1,2-Dichloroethane	BUG1136-BS1	LCS	23.750	25.000	ug/L	95.0		70 - 130		
1,1-Dichloroethene	BUG1136-BS1	LCS	29.370	25.000	ug/L	117		70 - 130		
trans-1,2-Dichloroethene	BUG1136-BS1	LCS	27.320	25.000	ug/L	109		70 - 130		
1,2-Dichloropropane	BUG1136-BS1	LCS	25.220	25.000	ug/L	101		70 - 130		
cis-1,3-Dichloropropene	BUG1136-BS1	LCS	25.260	25.000	ug/L	101		70 - 130		
trans-1,3-Dichloropropene	BUG1136-BS1	LCS	24.400	25.000	ug/L	97.6		70 - 130		
Ethylbenzene	BUG1136-BS1	LCS	25.740	25.000	ug/L	103		70 - 130		
Methylene chloride	BUG1136-BS1	LCS	24.130	25.000	ug/L	96.5		70 - 130		
Methyl t-butyl ether	BUG1136-BS1	LCS	23.630	25.000	ug/L	94.5		70 - 130		
1,1,2,2-Tetrachloroethane	BUG1136-BS1	LCS	24.940	25.000	ug/L	99.8		70 - 130		
Tetrachloroethene	BUG1136-BS1	LCS	26.790	25.000	ug/L	107		70 - 130		
Toluene	BUG1136-BS1	LCS	26.330	25.000	ug/L	105		70 - 130		
1,1,1-Trichloroethane	BUG1136-BS1	LCS	25.830	25.000	ug/L	103		70 - 130		
1,1,2-Trichloroethane	BUG1136-BS1	LCS	25.980	25.000	ug/L	104		70 - 130		
Trichloroethene	BUG1136-BS1	LCS	25.490	25.000	ug/L	102		70 - 130		
Trichlorofluoromethane	BUG1136-BS1	LCS	24.830	25.000	ug/L	99.3		70 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	BUG1136-BS1	LCS	25.360	25.000	ug/L	101		70 - 130		
Vinyl chloride	BUG1136-BS1	LCS	24.680	25.000	ug/L	98.7		70 - 130		
Total Xylenes	BUG1136-BS1	LCS	75.550	75.000	ug/L	101		70 - 130		

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BUG1136										
p- & m-Xylenes	BUG1136-BS1	LCS	50.520	50.000	ug/L	101		70 - 130		
o-Xylene	BUG1136-BS1	LCS	25.030	25.000	ug/L	100		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BUG1136-BS1	LCS	9.8700	10.000	ug/L	98.7		76 - 114		
Toluene-d8 (Surrogate)	BUG1136-BS1	LCS	10.200	10.000	ug/L	102		88 - 110		
4-Bromofluorobenzene (Surrogate)	BUG1136-BS1	LCS	9.8200	10.000	ug/L	98.2		86 - 115		

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1136	Used client sample: N										
Benzene	MS	1111441-01	ND	28.140	25.000	ug/L		113		70 - 130	
	MSD	1111441-01	ND	28.020	25.000	ug/L	0.4	112	20	70 - 130	
Bromodichloromethane	MS	1111441-01	ND	25.700	25.000	ug/L		103		70 - 130	
	MSD	1111441-01	ND	25.650	25.000	ug/L	0.2	103	20	70 - 130	
Bromoform	MS	1111441-01	ND	24.720	25.000	ug/L		98.9		70 - 130	
	MSD	1111441-01	ND	24.940	25.000	ug/L	0.9	99.8	20	70 - 130	
Bromomethane	MS	1111441-01	ND	23.350	25.000	ug/L		93.4		70 - 130	
	MSD	1111441-01	ND	24.550	25.000	ug/L	5.0	98.2	20	70 - 130	
Carbon tetrachloride	MS	1111441-01	ND	25.780	25.000	ug/L		103		70 - 130	
	MSD	1111441-01	ND	25.980	25.000	ug/L	0.8	104	20	70 - 130	
Chlorobenzene	MS	1111441-01	ND	24.610	25.000	ug/L		98.4		70 - 130	
	MSD	1111441-01	ND	24.840	25.000	ug/L	0.9	99.4	20	70 - 130	
Chloroethane	MS	1111441-01	ND	24.910	25.000	ug/L		99.6		70 - 130	
	MSD	1111441-01	ND	25.030	25.000	ug/L	0.5	100	20	70 - 130	
Chloroform	MS	1111441-01	ND	26.660	25.000	ug/L		107		70 - 130	
	MSD	1111441-01	ND	26.640	25.000	ug/L	0.1	107	20	70 - 130	
Chloromethane	MS	1111441-01	ND	22.080	25.000	ug/L		88.3		70 - 130	
	MSD	1111441-01	ND	22.320	25.000	ug/L	1.1	89.3	20	70 - 130	
Dibromochloromethane	MS	1111441-01	ND	26.400	25.000	ug/L		106		70 - 130	
	MSD	1111441-01	ND	26.640	25.000	ug/L	0.9	107	20	70 - 130	
1,2-Dichlorobenzene	MS	1111441-01	ND	25.140	25.000	ug/L		101		70 - 130	
	MSD	1111441-01	ND	24.920	25.000	ug/L	0.9	99.7	20	70 - 130	
1,3-Dichlorobenzene	MS	1111441-01	ND	25.720	25.000	ug/L		103		70 - 130	
	MSD	1111441-01	ND	25.410	25.000	ug/L	1.2	102	20	70 - 130	
1,4-Dichlorobenzene	MS	1111441-01	ND	25.130	25.000	ug/L		101		70 - 130	
	MSD	1111441-01	ND	25.320	25.000	ug/L	0.8	101	20	70 - 130	
1,1-Dichloroethane	MS	1111441-01	ND	25.580	25.000	ug/L		102		70 - 130	
	MSD	1111441-01	ND	25.690	25.000	ug/L	0.4	103	20	70 - 130	
1,2-Dichloroethane	MS	1111441-01	ND	23.510	25.000	ug/L		94.0		70 - 130	
	MSD	1111441-01	ND	23.820	25.000	ug/L	1.3	95.3	20	70 - 130	
1,1-Dichloroethene	MS	1111441-01	ND	29.550	25.000	ug/L		118		70 - 130	
	MSD	1111441-01	ND	29.810	25.000	ug/L	0.9	119	20	70 - 130	
trans-1,2-Dichloroethene	MS	1111441-01	ND	27.470	25.000	ug/L		110		70 - 130	
	MSD	1111441-01	ND	27.660	25.000	ug/L	0.7	111	20	70 - 130	
1,2-Dichloropropane	MS	1111441-01	ND	24.930	25.000	ug/L		99.7		70 - 130	
	MSD	1111441-01	ND	24.980	25.000	ug/L	0.2	99.9	20	70 - 130	

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1136	Used client sample: N										
cis-1,3-Dichloropropene	MS	1111441-01	ND	25.030	25.000	ug/L		100		70 - 130	
	MSD	1111441-01	ND	25.510	25.000	ug/L	1.9	102	20	70 - 130	
trans-1,3-Dichloropropene	MS	1111441-01	ND	24.220	25.000	ug/L		96.9		70 - 130	
	MSD	1111441-01	ND	24.570	25.000	ug/L	1.4	98.3	20	70 - 130	
Ethylbenzene	MS	1111441-01	ND	25.430	25.000	ug/L		102		70 - 130	
	MSD	1111441-01	ND	25.380	25.000	ug/L	0.2	102	20	70 - 130	
Methylene chloride	MS	1111441-01	ND	24.540	25.000	ug/L		98.2		70 - 130	
	MSD	1111441-01	ND	24.610	25.000	ug/L	0.3	98.4	20	70 - 130	
Methyl t-butyl ether	MS	1111441-01	ND	23.400	25.000	ug/L		93.6		70 - 130	
	MSD	1111441-01	ND	23.760	25.000	ug/L	1.5	95.0	20	70 - 130	
1,1,2,2-Tetrachloroethane	MS	1111441-01	ND	24.680	25.000	ug/L		98.7		70 - 130	
	MSD	1111441-01	ND	24.320	25.000	ug/L	1.5	97.3	20	70 - 130	
Tetrachloroethene	MS	1111441-01	ND	26.220	25.000	ug/L		105		70 - 130	
	MSD	1111441-01	ND	26.610	25.000	ug/L	1.5	106	20	70 - 130	
Toluene	MS	1111441-01	ND	25.920	25.000	ug/L		104		70 - 130	
	MSD	1111441-01	ND	26.750	25.000	ug/L	3.2	107	20	70 - 130	
1,1,1-Trichloroethane	MS	1111441-01	ND	26.100	25.000	ug/L		104		70 - 130	
	MSD	1111441-01	ND	26.030	25.000	ug/L	0.3	104	20	70 - 130	
1,1,2-Trichloroethane	MS	1111441-01	ND	25.210	25.000	ug/L		101		70 - 130	
	MSD	1111441-01	ND	25.730	25.000	ug/L	2.0	103	20	70 - 130	
Trichloroethene	MS	1111441-01	ND	24.890	25.000	ug/L		99.6		70 - 130	
	MSD	1111441-01	ND	24.970	25.000	ug/L	0.3	99.9	20	70 - 130	
Trichlorofluoromethane	MS	1111441-01	ND	24.780	25.000	ug/L		99.1		70 - 130	
	MSD	1111441-01	ND	24.970	25.000	ug/L	0.8	99.9	20	70 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	MS	1111441-01	ND	25.380	25.000	ug/L		102		70 - 130	
	MSD	1111441-01	ND	25.430	25.000	ug/L	0.2	102	20	70 - 130	
Vinyl chloride	MS	1111441-01	ND	24.510	25.000	ug/L		98.0		70 - 130	
	MSD	1111441-01	ND	24.730	25.000	ug/L	0.9	98.9	20	70 - 130	
Total Xylenes	MS	1111441-01	ND	73.770	75.000	ug/L		98.4		70 - 130	
	MSD	1111441-01	ND	73.260	75.000	ug/L	0.7	97.7	20	70 - 130	
p- & m-Xylenes	MS	1111441-01	ND	48.960	50.000	ug/L		97.9		70 - 130	
	MSD	1111441-01	ND	48.700	50.000	ug/L	0.5	97.4	20	70 - 130	
o-Xylene	MS	1111441-01	ND	24.810	25.000	ug/L		99.2		70 - 130	
	MSD	1111441-01	ND	24.560	25.000	ug/L	1.0	98.2	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1111441-01	ND	9.9100	10.000	ug/L		99.1		76 - 114	
	MSD	1111441-01	ND	9.9500	10.000	ug/L	0.4	99.5		76 - 114	

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Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1136	Used client sample: N										
Toluene-d8 (Surrogate)	MS	1111441-01	ND	10.010	10.000	ug/L		100		88 - 110	
	MSD	1111441-01	ND	10.180	10.000	ug/L	1.7	102		88 - 110	
4-Bromofluorobenzene (Surrogate)	MS	1111441-01	ND	9.7300	10.000	ug/L		97.3		86 - 115	
	MSD	1111441-01	ND	9.6300	10.000	ug/L	1.0	96.3		86 - 115	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1466						
Acenaphthene	BUG1466-BLK1	ND	ug/L	2.0	0.24	
Acenaphthylene	BUG1466-BLK1	ND	ug/L	2.0	0.28	
Aldrin	BUG1466-BLK1	ND	ug/L	2.0	0.35	
Aniline	BUG1466-BLK1	ND	ug/L	5.0	0.69	
Anthracene	BUG1466-BLK1	ND	ug/L	2.0	0.30	
Benzidine	BUG1466-BLK1	ND	ug/L	20	7.1	
Benzo[a]anthracene	BUG1466-BLK1	ND	ug/L	2.0	0.38	
Benzo[b]fluoranthene	BUG1466-BLK1	ND	ug/L	2.0	0.41	
Benzo[k]fluoranthene	BUG1466-BLK1	ND	ug/L	2.0	0.31	
Benzo[a]pyrene	BUG1466-BLK1	ND	ug/L	2.0	0.20	
Benzo[g,h,i]perylene	BUG1466-BLK1	ND	ug/L	2.0	0.22	
Benzoic acid	BUG1466-BLK1	ND	ug/L	10	5.8	
Benzyl alcohol	BUG1466-BLK1	ND	ug/L	2.0	0.34	
Benzyl butyl phthalate	BUG1466-BLK1	ND	ug/L	2.0	0.47	
alpha-BHC	BUG1466-BLK1	ND	ug/L	2.0	0.27	
beta-BHC	BUG1466-BLK1	ND	ug/L	2.0	0.27	
delta-BHC	BUG1466-BLK1	ND	ug/L	2.0	0.30	
gamma-BHC (Lindane)	BUG1466-BLK1	ND	ug/L	2.0	0.22	
bis(2-Chloroethoxy)methane	BUG1466-BLK1	ND	ug/L	2.0	0.27	
bis(2-Chloroethyl) ether	BUG1466-BLK1	ND	ug/L	2.0	0.68	
bis(2-Chloroisopropyl)ether	BUG1466-BLK1	ND	ug/L	2.0	0.30	
bis(2-Ethylhexyl)phthalate	BUG1466-BLK1	ND	ug/L	5.0	3.0	
4-Bromophenyl phenyl ether	BUG1466-BLK1	ND	ug/L	2.0	0.23	
4-Chloroaniline	BUG1466-BLK1	ND	ug/L	2.0	0.69	
2-Chloronaphthalene	BUG1466-BLK1	ND	ug/L	2.0	0.34	
4-Chlorophenyl phenyl ether	BUG1466-BLK1	ND	ug/L	2.0	0.23	
Chrysene	BUG1466-BLK1	ND	ug/L	2.0	0.63	
4,4'-DDD	BUG1466-BLK1	ND	ug/L	2.0	0.48	
4,4'-DDE	BUG1466-BLK1	ND	ug/L	3.0	0.41	
4,4'-DDT	BUG1466-BLK1	ND	ug/L	2.0	0.43	
Dibenzo[a,h]anthracene	BUG1466-BLK1	ND	ug/L	3.0	0.26	
Dibenzofuran	BUG1466-BLK1	ND	ug/L	2.0	0.21	
1,2-Dichlorobenzene	BUG1466-BLK1	ND	ug/L	2.0	0.37	
1,3-Dichlorobenzene	BUG1466-BLK1	ND	ug/L	2.0	0.35	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1466						
1,4-Dichlorobenzene	BUG1466-BLK1	ND	ug/L	2.0	0.31	
3,3-Dichlorobenzidine	BUG1466-BLK1	ND	ug/L	10	8.2	
Dieldrin	BUG1466-BLK1	ND	ug/L	3.0	0.41	
Diethyl phthalate	BUG1466-BLK1	ND	ug/L	2.0	0.33	
Dimethyl phthalate	BUG1466-BLK1	ND	ug/L	2.0	0.39	
Di-n-butyl phthalate	BUG1466-BLK1	ND	ug/L	2.0	0.39	
2,4-Dinitrotoluene	BUG1466-BLK1	ND	ug/L	2.0	0.26	
2,6-Dinitrotoluene	BUG1466-BLK1	ND	ug/L	2.0	0.41	
Di-n-octyl phthalate	BUG1466-BLK1	ND	ug/L	2.0	0.46	
1,2-Diphenylhydrazine	BUG1466-BLK1	ND	ug/L	2.0	0.34	
Endosulfan I	BUG1466-BLK1	ND	ug/L	10	1.7	
Endosulfan II	BUG1466-BLK1	ND	ug/L	10	1.2	
Endosulfan sulfate	BUG1466-BLK1	ND	ug/L	3.0	0.58	
Endrin	BUG1466-BLK1	ND	ug/L	2.0	1.1	
Endrin aldehyde	BUG1466-BLK1	ND	ug/L	10	0.52	
Fluoranthene	BUG1466-BLK1	ND	ug/L	2.0	0.20	
Fluorene	BUG1466-BLK1	ND	ug/L	2.0	0.28	
Heptachlor	BUG1466-BLK1	ND	ug/L	2.0	0.32	
Heptachlor epoxide	BUG1466-BLK1	ND	ug/L	2.0	0.27	
Hexachlorobenzene	BUG1466-BLK1	ND	ug/L	2.0	0.20	
Hexachlorobutadiene	BUG1466-BLK1	ND	ug/L	2.0	0.24	
Hexachlorocyclopentadiene	BUG1466-BLK1	ND	ug/L	2.0	0.30	
Hexachloroethane	BUG1466-BLK1	ND	ug/L	2.0	0.32	
Indeno[1,2,3-cd]pyrene	BUG1466-BLK1	ND	ug/L	2.0	0.26	
Isophorone	BUG1466-BLK1	ND	ug/L	2.0	0.31	
2-Methylnaphthalene	BUG1466-BLK1	ND	ug/L	2.0	0.28	
Naphthalene	BUG1466-BLK1	ND	ug/L	2.0	0.21	
2-Naphthylamine	BUG1466-BLK1	ND	ug/L	20	4.8	
2-Nitroaniline	BUG1466-BLK1	ND	ug/L	2.0	0.33	
3-Nitroaniline	BUG1466-BLK1	ND	ug/L	2.0	0.66	
4-Nitroaniline	BUG1466-BLK1	ND	ug/L	5.0	0.87	
Nitrobenzene	BUG1466-BLK1	ND	ug/L	2.0	0.26	
N-Nitrosodimethylamine	BUG1466-BLK1	ND	ug/L	2.0	0.61	
N-Nitrosodi-N-propylamine	BUG1466-BLK1	ND	ug/L	2.0	1.3	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1466						
N-Nitrosodiphenylamine	BUG1466-BLK1	ND	ug/L	2.0	0.44	
Phenanthrene	BUG1466-BLK1	ND	ug/L	2.0	0.20	
Pyrene	BUG1466-BLK1	ND	ug/L	2.0	0.26	
1,2,4-Trichlorobenzene	BUG1466-BLK1	ND	ug/L	2.0	0.27	
4-Chloro-3-methylphenol	BUG1466-BLK1	ND	ug/L	5.0	0.40	
2-Chlorophenol	BUG1466-BLK1	ND	ug/L	2.0	0.37	
2,4-Dichlorophenol	BUG1466-BLK1	ND	ug/L	2.0	0.43	
2,4-Dimethylphenol	BUG1466-BLK1	ND	ug/L	2.0	0.20	
4,6-Dinitro-2-methylphenol	BUG1466-BLK1	ND	ug/L	10	0.34	
2,4-Dinitrophenol	BUG1466-BLK1	ND	ug/L	10	0.20	
2-Methylphenol	BUG1466-BLK1	ND	ug/L	2.0	1.0	
3- & 4-Methylphenol	BUG1466-BLK1	ND	ug/L	2.0	1.6	
2-Nitrophenol	BUG1466-BLK1	ND	ug/L	2.0	0.28	
4-Nitrophenol	BUG1466-BLK1	ND	ug/L	2.0	0.73	
Pentachlorophenol	BUG1466-BLK1	ND	ug/L	10	0.79	
Phenol	BUG1466-BLK1	ND	ug/L	2.0	0.20	
2,4,5-Trichlorophenol	BUG1466-BLK1	ND	ug/L	5.0	0.31	
2,4,6-Trichlorophenol	BUG1466-BLK1	ND	ug/L	5.0	0.60	
2-Fluorophenol (Surrogate)	BUG1466-BLK1	60.1	%	20 - 129 (LCL - UCL)		
Phenol-d5 (Surrogate)	BUG1466-BLK1	42.5	%	10 - 110 (LCL - UCL)		
Nitrobenzene-d5 (Surrogate)	BUG1466-BLK1	92.6	%	42 - 152 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BUG1466-BLK1	88.8	%	51 - 130 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	BUG1466-BLK1	94.4	%	29 - 158 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BUG1466-BLK1	116	%	24 - 181 (LCL - UCL)		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BUG1466										
Acenaphthene	BUG1466-BS1	LCS	43.457	50.000	ug/L	86.9		53 - 125		
1,4-Dichlorobenzene	BUG1466-BS1	LCS	37.299	50.000	ug/L	74.6		46 - 120		
2,4-Dinitrotoluene	BUG1466-BS1	LCS	40.808	50.000	ug/L	81.6		42 - 132		
Hexachlorobenzene	BUG1466-BS1	LCS	42.981	50.000	ug/L	86.0		58 - 120		
Hexachlorobutadiene	BUG1466-BS1	LCS	32.380	50.000	ug/L	64.8		28 - 114		
Hexachloroethane	BUG1466-BS1	LCS	32.896	50.000	ug/L	65.8		36 - 127		
Nitrobenzene	BUG1466-BS1	LCS	40.672	50.000	ug/L	81.3		39 - 139		
N-Nitrosodi-N-propylamine	BUG1466-BS1	LCS	39.399	50.000	ug/L	78.8		52 - 133		
Pyrene	BUG1466-BS1	LCS	57.118	50.000	ug/L	114		30 - 169		
1,2,4-Trichlorobenzene	BUG1466-BS1	LCS	41.807	50.000	ug/L	83.6		45 - 120		
4-Chloro-3-methylphenol	BUG1466-BS1	LCS	45.541	50.000	ug/L	91.1		56 - 126		
2-Chlorophenol	BUG1466-BS1	LCS	38.394	50.000	ug/L	76.8		44 - 116		
2-Methylphenol	BUG1466-BS1	LCS	37.586	50.000	ug/L	75.2		40 - 107		
3- & 4-Methylphenol	BUG1466-BS1	LCS	65.927	100.00	ug/L	65.9		30 - 110		
4-Nitrophenol	BUG1466-BS1	LCS	18.963	50.000	ug/L	37.9		18 - 71		
Pentachlorophenol	BUG1466-BS1	LCS	37.216	50.000	ug/L	74.4		34 - 135		
Phenol	BUG1466-BS1	LCS	19.047	50.000	ug/L	38.1		18 - 62		
2,4,6-Trichlorophenol	BUG1466-BS1	LCS	47.227	50.000	ug/L	94.5		46 - 138		
2-Fluorophenol (Surrogate)	BUG1466-BS1	LCS	46.960	80.000	ug/L	58.7		20 - 129		
Phenol-d5 (Surrogate)	BUG1466-BS1	LCS	33.760	80.000	ug/L	42.2		10 - 110		
Nitrobenzene-d5 (Surrogate)	BUG1466-BS1	LCS	69.730	80.000	ug/L	87.2		42 - 152		
2-Fluorobiphenyl (Surrogate)	BUG1466-BS1	LCS	70.060	80.000	ug/L	87.6		51 - 130		
2,4,6-Tribromophenol (Surrogate)	BUG1466-BS1	LCS	84.240	80.000	ug/L	105		29 - 158		
p-Terphenyl-d14 (Surrogate)	BUG1466-BS1	LCS	46.350	40.000	ug/L	116		24 - 181		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1466	Used client sample: N										
Acenaphthene	MS	1107512-96	ND	46.406	50.000	ug/L		92.8		54 - 120	
	MSD	1107512-96	ND	46.584	50.000	ug/L	0.4	93.2	30	54 - 120	
1,4-Dichlorobenzene	MS	1107512-96	ND	39.970	50.000	ug/L		79.9		43 - 116	
	MSD	1107512-96	ND	36.473	50.000	ug/L	9.2	72.9	24	43 - 116	
2,4-Dinitrotoluene	MS	1107512-96	ND	45.001	50.000	ug/L		90.0		40 - 117	
	MSD	1107512-96	ND	43.746	50.000	ug/L	2.8	87.5	30	40 - 117	
Hexachlorobenzene	MS	1107512-96	ND	44.588	50.000	ug/L		89.2		58 - 117	
	MSD	1107512-96	ND	43.419	50.000	ug/L	2.7	86.8	30	58 - 117	
Hexachlorobutadiene	MS	1107512-96	ND	35.590	50.000	ug/L		71.2		26 - 109	
	MSD	1107512-96	ND	30.933	50.000	ug/L	14.0	61.9	30	26 - 109	
Hexachloroethane	MS	1107512-96	ND	35.842	50.000	ug/L		71.7		33 - 121	
	MSD	1107512-96	ND	32.363	50.000	ug/L	10.2	64.7	30	33 - 121	
Nitrobenzene	MS	1107512-96	ND	42.363	50.000	ug/L		84.7		30 - 133	
	MSD	1107512-96	ND	40.214	50.000	ug/L	5.2	80.4	30	30 - 133	
N-Nitrosodi-N-propylamine	MS	1107512-96	ND	42.228	50.000	ug/L		84.5		56 - 126	
	MSD	1107512-96	ND	40.723	50.000	ug/L	3.6	81.4	30	56 - 126	
Pyrene	MS	1107512-96	ND	59.681	50.000	ug/L		119		30 - 156	
	MSD	1107512-96	ND	63.909	50.000	ug/L	6.8	128	30	30 - 156	
1,2,4-Trichlorobenzene	MS	1107512-96	ND	44.156	50.000	ug/L		88.3		43 - 117	
	MSD	1107512-96	ND	40.730	50.000	ug/L	8.1	81.5	25	43 - 117	
4-Chloro-3-methylphenol	MS	1107512-96	ND	49.820	50.000	ug/L		99.6		50 - 120	
	MSD	1107512-96	ND	43.875	50.000	ug/L	12.7	87.8	30	50 - 120	
2-Chlorophenol	MS	1107512-96	ND	38.702	50.000	ug/L		77.4		48 - 109	
	MSD	1107512-96	ND	37.937	50.000	ug/L	2.0	75.9	30	48 - 109	
2-Methylphenol	MS	1107512-96	ND	36.850	50.000	ug/L		73.7		40 - 104	
	MSD	1107512-96	ND	36.094	50.000	ug/L	2.1	72.2	30	40 - 104	
3- & 4-Methylphenol	MS	1107512-96	ND	67.881	100.00	ug/L		67.9		32 - 110	
	MSD	1107512-96	ND	64.219	100.00	ug/L	5.5	64.2	27	32 - 110	
4-Nitrophenol	MS	1107512-96	ND	20.809	50.000	ug/L		41.6		19 - 68	
	MSD	1107512-96	ND	20.444	50.000	ug/L	1.8	40.9	30	19 - 68	
Pentachlorophenol	MS	1107512-96	ND	42.070	50.000	ug/L		84.1		39 - 125	
	MSD	1107512-96	ND	39.192	50.000	ug/L	7.1	78.4	24	39 - 125	
Phenol	MS	1107512-96	ND	18.138	50.000	ug/L		36.3		19 - 59	
	MSD	1107512-96	ND	18.402	50.000	ug/L	1.4	36.8	30	19 - 59	
2,4,6-Trichlorophenol	MS	1107512-96	ND	51.674	50.000	ug/L		103		40 - 120	
	MSD	1107512-96	ND	50.329	50.000	ug/L	2.6	101	30	40 - 120	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1466	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1107512-96	ND	48.850	80.000	ug/L		61.1		20 - 129	
	MSD	1107512-96	ND	48.060	80.000	ug/L	1.6	60.1		20 - 129	
Phenol-d5 (Surrogate)	MS	1107512-96	ND	32.110	80.000	ug/L		40.1		10 - 110	
	MSD	1107512-96	ND	32.470	80.000	ug/L	1.1	40.6		10 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1107512-96	ND	71.070	80.000	ug/L		88.8		42 - 152	
	MSD	1107512-96	ND	69.080	80.000	ug/L	2.8	86.4		42 - 152	
2-Fluorobiphenyl (Surrogate)	MS	1107512-96	ND	70.830	80.000	ug/L		88.5		51 - 130	
	MSD	1107512-96	ND	72.020	80.000	ug/L	1.7	90.0		51 - 130	
2,4,6-Tribromophenol (Surrogate)	MS	1107512-96	ND	87.240	80.000	ug/L		109		29 - 158	
	MSD	1107512-96	ND	82.470	80.000	ug/L	5.6	103		29 - 158	
p-Terphenyl-d14 (Surrogate)	MS	1107512-96	ND	48.270	40.000	ug/L		121		24 - 181	
	MSD	1107512-96	ND	49.300	40.000	ug/L	2.1	123		24 - 181	

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Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG0728						
Total Cyanide	BUG0728-BLK1	ND	mg/L	0.0050	0.0016	

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Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BUG0728										
Total Cyanide	BUG0728-BS1	LCS	0.14859	0.15000	mg/L	99.1		90 - 110		

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Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG0728	Used client sample: N										
Total Cyanide	DUP	1110803-03	ND	ND		mg/L			10		
	MS	1110803-03	ND	0.10051	0.10000	mg/L		101		90 - 110	
	MSD	1110803-03	ND	0.10157	0.10000	mg/L	1.1	102	10	90 - 110	

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (Metals)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUG1039						
Total Mercury	BUG1039-BLK1	0.092500	ug/L	0.20	0.030	J
QC Batch ID: BUG1093						
Total Antimony	BUG1093-BLK1	ND	ug/L	100	13	
Total Beryllium	BUG1093-BLK1	ND	ug/L	10	1.0	
Total Cadmium	BUG1093-BLK1	ND	ug/L	10	1.0	
Total Chromium	BUG1093-BLK1	ND	ug/L	10	1.0	
Total Copper	BUG1093-BLK1	ND	ug/L	10	2.3	
Total Nickel	BUG1093-BLK1	ND	ug/L	10	1.2	
Total Silver	BUG1093-BLK1	ND	ug/L	10	1.0	
Total Zinc	BUG1093-BLK1	ND	ug/L	50	2.9	
QC Batch ID: BUG1104						
Total Recoverable Arsenic	BUG1104-BLK1	ND	ug/L	2.0	0.61	
Total Recoverable Lead	BUG1104-BLK1	ND	ug/L	1.0	0.12	
Total Recoverable Selenium	BUG1104-BLK1	ND	ug/L	2.0	0.36	
Total Recoverable Thallium	BUG1104-BLK1	ND	ug/L	1.0	0.081	

Marine Research Specialists
3140 Telegraph Road, Suite A
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Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (Metals)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BUG1039										
Total Mercury	BUG1039-BS1	LCS	0.94500	1.0000	ug/L	94.5		85 - 115		
QC Batch ID: BUG1093										
Total Antimony	BUG1093-BS1	LCS	423.80	400.00	ug/L	106		85 - 115		
Total Beryllium	BUG1093-BS1	LCS	215.54	200.00	ug/L	108		85 - 115		
Total Cadmium	BUG1093-BS1	LCS	216.13	200.00	ug/L	108		85 - 115		
Total Chromium	BUG1093-BS1	LCS	216.08	200.00	ug/L	108		85 - 115		
Total Copper	BUG1093-BS1	LCS	426.93	400.00	ug/L	107		85 - 115		
Total Nickel	BUG1093-BS1	LCS	448.51	400.00	ug/L	112		85 - 115		
Total Silver	BUG1093-BS1	LCS	103.69	100.00	ug/L	104		85 - 115		
Total Zinc	BUG1093-BS1	LCS	556.53	500.00	ug/L	111		85 - 115		
QC Batch ID: BUG1104										
Total Recoverable Arsenic	BUG1104-BS1	LCS	96.732	100.00	ug/L	96.7		85 - 115		
Total Recoverable Lead	BUG1104-BS1	LCS	98.535	100.00	ug/L	98.5		85 - 115		
Total Recoverable Selenium	BUG1104-BS1	LCS	97.883	100.00	ug/L	97.9		85 - 115		
Total Recoverable Thallium	BUG1104-BS1	LCS	39.359	40.000	ug/L	98.4		85 - 115		

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (Metals)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1039	Used client sample: Y - Description: COMP EFF A.R.S BC2, 07/13/2011 00:00										
Total Mercury	DUP	1111025-02	0.087500	ND		ug/L			20		
	MS	1111025-02	0.087500	1.0125	1.0000	ug/L		92.5		70 - 130	
	MSD	1111025-02	0.087500	0.93250	1.0000	ug/L	8.2	84.5	20	70 - 130	
QC Batch ID: BUG1093	Used client sample: Y - Description: COMP EFF A.R.S BC2, 07/13/2011 00:00										
Total Antimony	DUP	1111025-02	ND	ND		ug/L			20		
	MS	1111025-02	ND	395.35	400.00	ug/L		98.8		75 - 125	
	MSD	1111025-02	ND	409.95	400.00	ug/L	3.6	102	20	75 - 125	
Total Beryllium	DUP	1111025-02	ND	ND		ug/L			20		
	MS	1111025-02	ND	203.19	200.00	ug/L		102		75 - 125	
	MSD	1111025-02	ND	208.08	200.00	ug/L	2.4	104	20	75 - 125	
Total Cadmium	DUP	1111025-02	ND	ND		ug/L			20		
	MS	1111025-02	ND	203.20	200.00	ug/L		102		75 - 125	
	MSD	1111025-02	ND	207.69	200.00	ug/L	2.2	104	20	75 - 125	
Total Chromium	DUP	1111025-02	1.6662	1.9119		ug/L	13.7		20		J
	MS	1111025-02	1.6662	202.82	200.00	ug/L		101		75 - 125	
	MSD	1111025-02	1.6662	207.22	200.00	ug/L	2.1	103	20	75 - 125	
Total Copper	DUP	1111025-02	13.809	13.785		ug/L	0.2		20		
	MS	1111025-02	13.809	429.70	400.00	ug/L		104		75 - 125	
	MSD	1111025-02	13.809	440.10	400.00	ug/L	2.4	107	20	75 - 125	
Total Nickel	DUP	1111025-02	3.7512	3.4098		ug/L	9.5		20		J
	MS	1111025-02	3.7512	416.93	400.00	ug/L		103		75 - 125	
	MSD	1111025-02	3.7512	425.18	400.00	ug/L	2.0	105	20	75 - 125	
Total Silver	DUP	1111025-02	ND	ND		ug/L			20		
	MS	1111025-02	ND	98.436	100.00	ug/L		98.4		75 - 125	
	MSD	1111025-02	ND	101.49	100.00	ug/L	3.1	101	20	75 - 125	
Total Zinc	DUP	1111025-02	47.537	46.883		ug/L	1.4		20		J
	MS	1111025-02	47.537	567.80	500.00	ug/L		104		75 - 125	
	MSD	1111025-02	47.537	580.89	500.00	ug/L	2.3	107	20	75 - 125	
QC Batch ID: BUG1104	Used client sample: N										
Total Recoverable Arsenic	DUP	1111157-01	3.4440	3.8360		ug/L	10.8		20		
	MS	1111157-01	3.4440	98.057	100.00	ug/L		94.6		70 - 130	
	MSD	1111157-01	3.4440	97.682	100.00	ug/L	0.4	94.2	20	70 - 130	
Total Recoverable Lead	DUP	1111157-01	1.7350	1.6760		ug/L	3.5		20		
	MS	1111157-01	1.7350	93.951	100.00	ug/L		92.2		70 - 130	
	MSD	1111157-01	1.7350	95.241	100.00	ug/L	1.4	93.5	20	70 - 130	
Total Recoverable Selenium	DUP	1111157-01	2.3850	2.4180		ug/L	1.4		20		
	MS	1111157-01	2.3850	95.638	100.00	ug/L		93.3		70 - 130	
	MSD	1111157-01	2.3850	95.239	100.00	ug/L	0.4	92.9	20	70 - 130	

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (Metals)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BUG1104	Used client sample: N										
Total Recoverable Thallium	DUP	1111157-01	0.10500	ND		ug/L			20		
	MS	1111157-01	0.10500	36.661	40.000	ug/L		91.4		70 - 130	
	MSD	1111157-01	0.10500	37.132	40.000	ug/L	1.3	92.6	20	70 - 130	

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/26/2011 11:52
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.

Dr. Doug Coats/Bonnie Luke
Marine Research Specialists
3140 Telegraph Road Suite A
Ventura CA, 93003
805.772.6272

MBAS
MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

 Wednesday, July 27, 2011

Lab Number: AA78143

Collection Date/Time:	7/13/2011	8:00	Sample Collector:	ASCHENBRENER
Submittal Date/Time:	7/14/2011	8:30	Sample ID	MBCSD SEMI ANN

Sample Description: Grab Eff A.R.S. M1

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed
Nitrate as NO3	EPA300.0	mg/L	**0**		1	7/22/2011
Nitrate as NO3-N	EPA300.0	mg/L	**0.06**		0.05	7/15/2011
o-Phosphate-P	EPA300.0	mg/L	**1.56**		0.05	7/15/2011
Silica as SiO2, Dissolved	EPA200.7	mg/L	**14**		0.5	7/19/2011

Sample Comments:

Lab Number: AA78144

Collection Date/Time:	7/13/2011	8:00	Sample Collector:	ASCHENBRENER
Submittal Date/Time:	7/14/2011	8:30	Sample ID	MBCSD SEMI ANN

Sample Description: Grab Eff A.R.S. M2

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed
Urea-N	Mulvenna&Savid	ug/L	**85**		10	7/26/2011

Sample Comments:

Report Approved by:

David Holland
Laboratory Director

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (=ppb) PQL : Practical Quantitation Limit
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.
D = Method deviates from standard method due to insufficient sample for MS/MSD J = Result is less than PQL

LABORATORY REPORT

Aquatic Testing Laboratories
"dedicated to providing quality aquatic toxicity testing"
4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: July 18, 2011

Client: Marine Research Specialists
3140 Telegraph Road, Suite A
Ventura, CA 93003
Attn: Doug Coats

Laboratory No.: A-11071301-001
Sample I.D.: Morro Bay Effluent

Sample Control: The sample was received by ATL within the recommended hold time, in a chilled state, and with the chain of custody records attached.

Date Sampled:	07/12/11 (composite)
Date Received:	07/13/11
Temp. Received:	2.4°C
Chlorine (TRC):	0.0 mg/l
Dates Tested:	07/13/11 to 07/15/11

Sample Analysis: The following analyses were performed on your sample:

Abalone Larval Development Short-Term Toxicity Test (EPA 600/R-95/136).

Attached are the test data generated from the analysis of your sample.

Result Summary:

Test	NOEC	TUc
Abalone Development:	5.6%	17.9

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

ABALONE LARVAL DEVELOPMENT SHORT-TERM TOXICITY TEST

Lab No.: A-11071301-001
Client/ID: Morro Bay WWTP

Date tested: 07/13/11 - 07/15/11

TEST SUMMARY

Species: *Haliotis rufescens*.
Protocol: EPA/600/R-95/136.
Test type: Static.
Test chamber: glass beakers.
Temperature: 15 +/- 1°C.
Number of embryos per chamber: 1600 (approx.).
QA/QC Batch No.: RT-110713 (ran concurrently)

Source: The Cultured Abalone.
Dilution water: Lab seawater.
Endpoints: NOEC.
Test volume: 200 ml.
Aeration: None.
Number of replicates: 5.

RESULTS SUMMARY

Sample Concentration	Percent Normal Development	
Control (Brine)	96.3%	
Control (Dilution)	96.1%	
3.2%	96.4%	
5.6%	96.5%	
10.0%	9.4%	*
18.0%	0%	*
32.0%	0%	*
* Statistically significantly less than control at P = 0.05 level		

CHRONIC TOXICITY

NOEC	5.6%
TUc	17.9

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥80%	PASSED (96.3%)
%MSD <20% relative to control	PASSED (%MSD = 3.7%)
Please see RT-110713 report for additional test acceptability criteria.	

Abalone Larval Development Test-Proportion Normal

Start Date:	7/13/2011 13:30	Test ID:	11071301ab	Sample ID:	CA0047881-Morro Bay SD
End Date:	7/15/2011 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF1-POTW
Sample Date:	7/12/2011 09:30	Protocol:	WCCH-EPA-600-R-95-136	Test Species:	HR-Haliotis rufescens
Comments:					

Conc-%	1	2	3	4	5
B-Control	0.9810	0.9450	0.9810	0.9626	0.9459
D-Control	0.9519	0.9459	0.9537	0.9808	0.9709
3.2	0.9423	0.9810	0.9455	0.9815	0.9709
5.6	0.9802	0.9626	0.9808	0.9450	0.9550
10	0.1404	0.0734	0.0381	0.1495	0.0708
18	0.0000	0.0000	0.0000	0.0000	0.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000

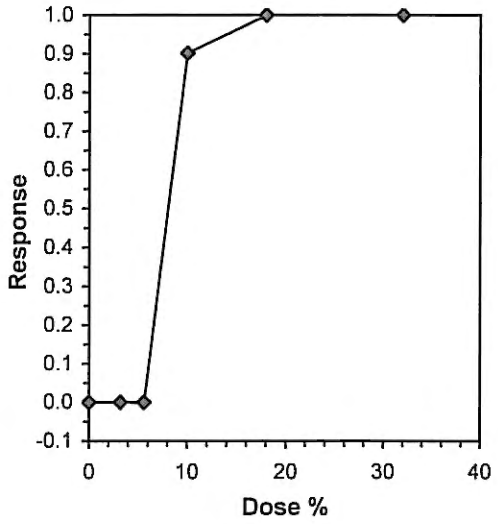
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
B-Control	0.9631	1.0025	1.3822	1.3340	1.4323	3.528	5	*			0.9637	1.0000
D-Control	0.9606	1.0000	1.3742	1.3362	1.4317	2.908	5					
3.2	0.9642	1.0037	1.3858	1.3282	1.4343	3.712	5	-0.097	2.230	0.0838	0.9637	1.0000
5.6	0.9647	1.0042	1.3857	1.3340	1.4317	3.153	5	-0.093	2.230	0.0838	0.9637	1.0000
*10	0.0944	0.0983	0.3042	0.1964	0.3970	27.847	5	28.697	2.230	0.0838	0.0949	0.0985
18	0.0000	0.0000	0.0500	0.0500	0.0500	0.000	5				0.0000	0.0000
32	0.0000	0.0000	0.0500	0.0500	0.0500	0.000	5				0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.93859	0.905	-0.0212	-0.9323
Bartlett's Test indicates equal variances (p = 0.55)	2.12165	11.3449		
The control means are not significantly different (p = 0.78)	0.28544	2.30601		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs B-Control	5.6	10	7.48331	17.8571	0.03722	0.03857	1.45895	0.00353	2.3E-15	3, 16

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	5.8440	0.0249	5.7456	5.8577	-0.9906
IC10	6.0881	0.0260	5.9886	6.1154	-0.7686
IC15	6.3321	0.0281	6.2266	6.3732	-0.5043
IC20	6.5761	0.0310	6.4687	6.6309	-0.2751
IC25	6.8201	0.0345	6.7109	6.8886	-0.1067
IC40	7.5522	0.0474	7.4286	7.6618	0.1300
IC50	8.0403	0.0570	7.8941	8.1772	0.1815



ABALONE CHRONIC BIOASSAY

Aquatic Testing Laboratories

Lab No.: A-11071301-001
Client ID: MRS - Morro Bay Effluent

Start Date: 07/13/2011

WATER QUALITY READINGS

	Initial Readings				24 Hrs		Final Readings			
Sample	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)	Temp (°C)	pH	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)
Control (brine)	15.5	7.6	8.3	34	15.1	8.2	15.7	7.4	8.2	34
Control (lab)	15.5	7.6	8.2	34	15.0	8.2	15.6	7.6	8.1	34
3.2%	14.7	7.5	8.2	34	15.4	8.2	15.5	7.5	8.2	34
5.6%	15.6	7.5	8.2	34	14.7	8.2	15.7	7.5	8.2	34
10%	15.8	7.4	8.2	34	14.6	8.2	15.5	7.4	8.2	34
18%	15.7	7.5	8.3	34	15.2	8.2	15.4	7.4	8.2	34
32%	15.8	7.3	8.3	34	15.1	8.2	15.7	7.3	8.2	34

Sample as received: Chlorine: 0 mg/l; pH: 7.8 ; Salinity: 0 ppt; Temp: 21 °C; DO: 4.2 mg/l. NH_4N 44 mg/L

Initial readings: [signature] Date/Time: 7-13-11 1330 Final readings: [signature] Date/Time: 7-15-11 1400

MICROSCOPIC EXAMINATION

Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal
1	10	16	98	13	3.2	103	2	25	32	0	100
2	CL	99	5	14	18	0	100	26	18	0	100
3	18	0	100	15	10	4	101	27	3.2	106	2
4	3.2	98	6	16	CB	103	2	28	10	16	91
5	32	0	100	17	32	0	100	29	5.6	106	5
6	CB	103	2	18	5.6	102	2	30	CB	105	6
7	5.6	99	2	19	CL	103	5	31	32	0	100
8	CB	103	6	20	3.2	104	6	32	18	0	100
9	10	8	101	21	18	0	100	33	3.2	100	3
10	32	0	100	22	CL	102	2	34	10	8	105
11	5.6	103	4	23	5.6	103	6	35	CL	100	3
12	CL	105	6	24	CB	103	4				

Microscopic examination: Analyst: [signature] Date: 7-16-11 Time: 0800

Aquatic Testing Laboratories

ABALONE CHRONIC BIOASSAY

Lab No.: A-11071301-001
Client ID: MRS - Morro Bay Effluent

Start Date: 07/13/2011

RANDOMIZATION WORKSHEET

Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Notes
1	10	13	3.2	25	32	
2	CL	14	18	26	18	
3	18	15	10	27	3.2	
4	3.2	16	CB	28	10	
5	32	17	32	29	5.6	
6	CB	18	5.6	30	CB	Add 1600 fertilized eggs per 200 ml test volume.
7	5.6	19	CL	31	32	
8	CB	20	3.2	32	18	
9	10	21	18	33	3.2	
10	32	22	CL	34	10	
11	5.6	23	5.6	35	CL	
12	CL	24	CB			

Analyst: JL Date: 7-13-11 Time: 1000

Aquatic
Testing
Laboratories

CHAIN OF CUSTODY

CHAIN OF CUSTODY

Client: City of Morro Bay

Address: Wastewater Treatment Plant
160 Atascadero Road
Morro Bay, CA 93442

Project Manager: Doug Coats - MRS

Phone: (805) 644-1180

Fax: (805) 289-3935

Purchase Order No:

Aquatic Testing Laboratories

4350 Transport St., Unit 107
Ventura, CA 93003
(805) 650-0546 Fax (805) 650-0756

Sample ID	Sample Date	Sample Time	Sample Type *	Chlorine (TRC)**	Number of Containers	Testing Requested
Comp. Eff.	12 July 11	0930	E	⊖	1 (one gallon)	Abalone Chronic

Special Instructions:

**** Note: Total residual chlorine must be taken immediately after sample collection if sample is a chlorinated effluent.**

* L - Liquid, S - Solid, SS - Semi-Solid/sludge, RW - Receiving Water, GW - Ground Water, E - Effluent

CUSTODY TRANSFERS

Relinquished by (signature)	Received by (signature)	Date (mm/dd/yy)	Time (hh:mm)	Seals Intact? (Yes, No, NA)	Temperature Received (°C)
Steven R. Aadhenbon	Fed Ex	12 July 11	1430	YES	—
Fed Ex		7-13-11	1010	NA	2.4

Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

ABALONE LARVAL DEVELOPMENT
SHORT-TERM TOXICITY TEST
* REFERENCE TOXICANT *

Aquatic Testing Laboratories

QA/QC Batch No.: RT-110713

Date tested: 07/13/11 - 07/15/11

TEST SUMMARY

Species: *Haliotis rufescens*.
Protocol: EPA/600/R-95/136.
Test type: Static.
Test chamber: Plastic beakers.
Temperature: 15 +/- 1°C.
Number of embryos per chamber: 1600 (approx.).
Reference Toxicant: $ZnSO_4(7H_2O)$.

Source: The Cultured Abalone.
Dilution water: Lab seawater.
Endpoints: NOEC, IC25 at 48 hrs.
Test volume: 200 ml.
Aeration: None.
Number of replicates: 5.
Ref. Tox. source: Mallinckrodt.
Lot No.: 8872 KCXG

RESULTS SUMMARY

SAMPLE CONCENTRATION	PERCENT NORMAL DEVELOPMENT
Control	96.2%
10 µg/l	96.0%
18 µg/l	95.7%
32 µg/l	14.6% *
56 µg/l	0% *
100 µg/l	0% *

* Statistically significantly less than control at P = 0.05 level

CHRONIC TOXICITY

NOEC	18 µg/l
IC25	22.1 µg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥80%	Yes (96.2%)
56 µg/l treatment response significantly less than control response	Yes (NOEC = 18 µg/l)
%MSD <20% relative to control	Yes (%MSD = 2.6%)

Abalone Larval Development Test-Proportion Normal

Start Date:	7/13/2011 13:30	Test ID:	RT110713ab	Sample ID:	REF-Ref Toxicant
End Date:	7/15/2011 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	ZNSO-Zinc sulfate
Sample Date:	7/13/2011	Protocol:	WCCH-EPA-600-R-95-136	Test Species:	HR-Haliotis rufescens
Comments:					

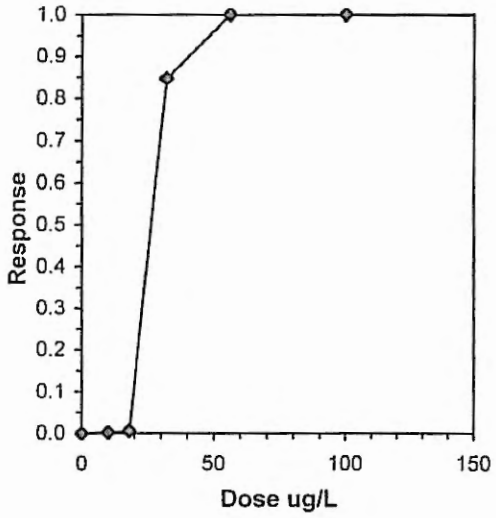
Conc-ug/L	1	2	3	4	5
D-Control	0.9712	0.9810	0.9720	0.9450	0.9429
10	0.9528	0.9806	0.9619	0.9528	0.9519
18	0.9537	0.9623	0.9608	0.9459	0.9615
32	0.1667	0.2054	0.1143	0.1455	0.0990
56	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-ug/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9624	1.0000	1.3797	1.3294	1.4323	3.308	5				0.9623	1.0000
10	0.9600	0.9975	1.3718	1.3497	1.4310	2.523	5	0.296	2.230	0.0596	0.9599	0.9976
18	0.9568	0.9943	1.3620	1.3362	1.3753	1.234	5	0.660	2.230	0.0596	0.9567	0.9942
*32	0.1462	0.1519	0.3894	0.3201	0.4703	15.358	5	37.061	2.230	0.0596	0.1474	0.1532
56	0.0000	0.0000	0.0500	0.0500	0.0500	0.000	5				0.0000	0.0000
100	0.0000	0.0000	0.0500	0.0500	0.0500	0.000	5				0.0000	0.0000

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)					0.98241		0.905		0.25082	-0.2443
Bartlett's Test indicates equal variances (p = 0.17)					5.04842		11.3449			
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Dunnett's Test	18	32	24		0.02546	0.02642	1.20504	0.00178	4.7E-17	3, 16
Treatments vs D-Control										

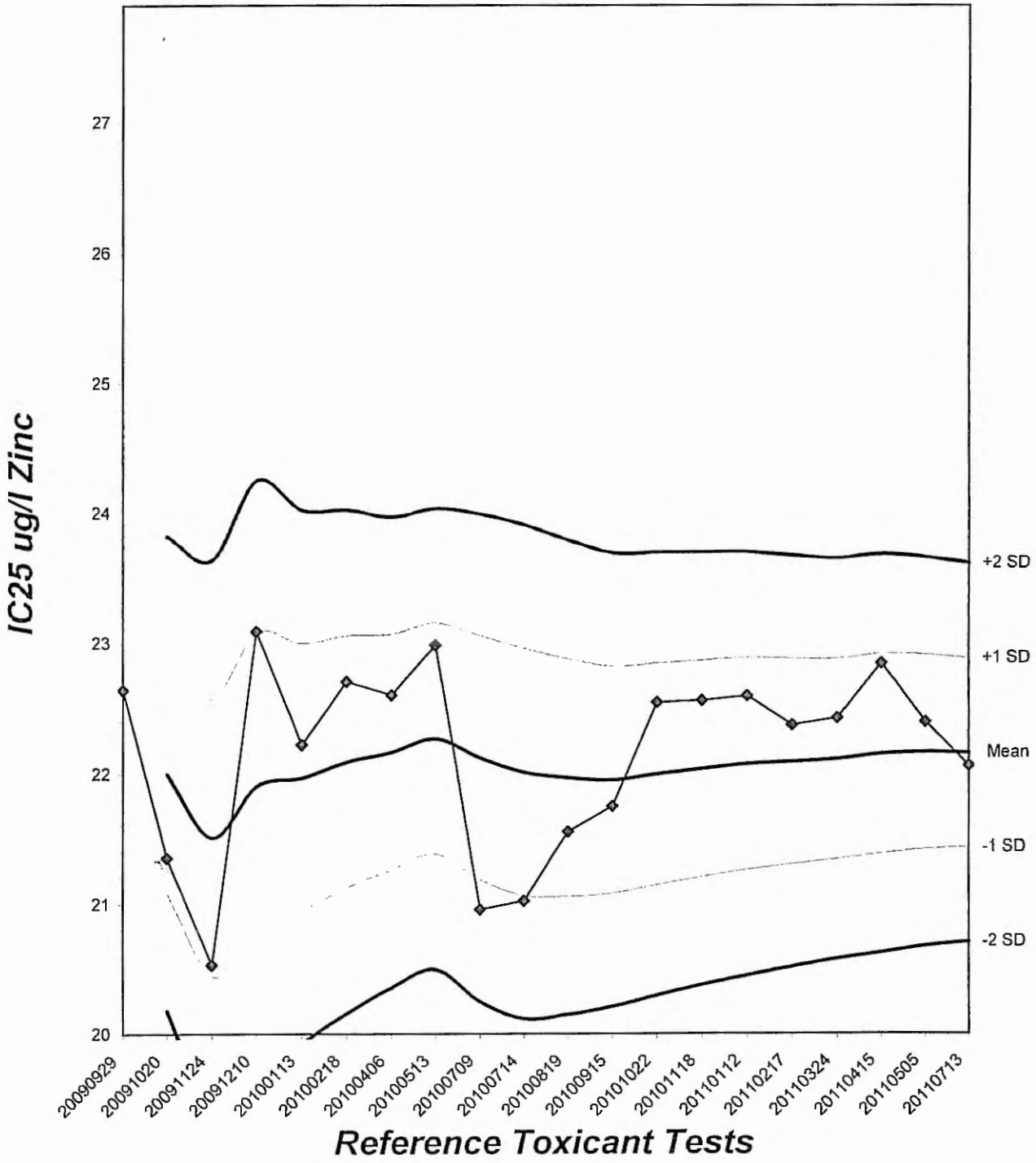
Linear Interpolation (200 Resamples)

Point	ug/L	SD	95% CL(Exp)		Skew
IC05	18.736	0.105	18.333	18.893	-0.7152
IC10	19.568	0.104	19.193	19.754	-0.6206
IC15	20.400	0.107	20.026	20.614	-0.4644
IC20	21.233	0.113	20.855	21.485	-0.2816
IC25	22.065	0.121	21.689	22.344	-0.1075
IC40	24.562	0.154	24.133	25.011	0.2315
IC50	26.227	0.182	25.759	26.804	0.3302



Abalone Larval Development Laboratory Control Chart

CV% = 3.27



ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate

Aquatic Testing Laboratories

QA/QC No.: RT-110713

Start Date: 07/13/2011

WATER QUALITY READINGS

	Initial Readings				24 Hr		Final Readings			
Sample	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)	Temp (°C)	pH	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)
Control	15.1	7.5	8.2	34	15.2	8.2	15.9	7.7	8.1	34
10 µg/l Zn	15.0	7.6	8.1	34	15.0	8.2	15.7	7.5	8.1	34
18 µg/l Zn	15.0	7.5	8.2	34	14.6	8.2	15.4	7.6	8.2	34
32 µg/l Zn	15.0	7.6	8.2	34	14.9	8.2	15.2	7.5	8.1	34
56 µg/l Zn	14.7	7.5	8.2	34	15.1	8.2	15.4	7.5	8.2	34
100 µg/l Zn	14.2	7.5	8.2	34	15.2	8.2	15.6	7.6	8.1	34

Control and dilutions made with laboratory reference seawater filtered to 0.2 µm.

Initial readings: [signature] Date/Time: 7-13-11 1330 Final readings: [signature] Date/Time: 7-15-11 1400

MICROSCOPIC EXAMINATION

Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal
1	32	18	90	11	C	103	2	21	32	16	94
2	10	101	5	12	18	102	4	22	56	0	100
3	56	0	100	13	100	0	100	23	C	103	6
4	C	101	3	14	32	17	93	24	10	101	5
5	100	0	100	15	10	101	4	25	18	100	4
6	18	103	5	16	56	0	100	26	32	10	91
7	56	0	100	17	C	104	3	27	56	0	100
8	32	23	89	18	18	98	4	28	100	0	100
9	100	0	100	19	100	0	100	29	10	99	5
10	10	101	2	20	18	105	6	30	C	99	6

Microscopic examination: Analyst: [signature] Date: 7-16-11 Time: 0800

ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate

Aquatic Testing Laboratories

QA/QC No.: RT-110713

Start Date: 07/13/11

RANDOMIZATION WORKSHEET

Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Notes
1	32	11	C	21	32	Number Males used: 4
2	10	12	16	22	56	Number females used: 6
3	56	13	100	23	C	Time H_2O_2 added: 10:30
4	C	14	32	24	10	Time water changed: 13:00
5	100	15	10	25	16	Time spawned: 6 13:30 & 1400
6	16	16	56	26	32	Time placed in test: 14:30
7	56	17	C	27	56	Add 1600 fertilized eggs per 200 ml..
8	32	18	16	28	100	
9	100	19	100	29	10	
10	10	20	16	30	C	Time glutaraldehyde added: 14:30

Analyst: _____ Date: 7-13-11 Time: 1000

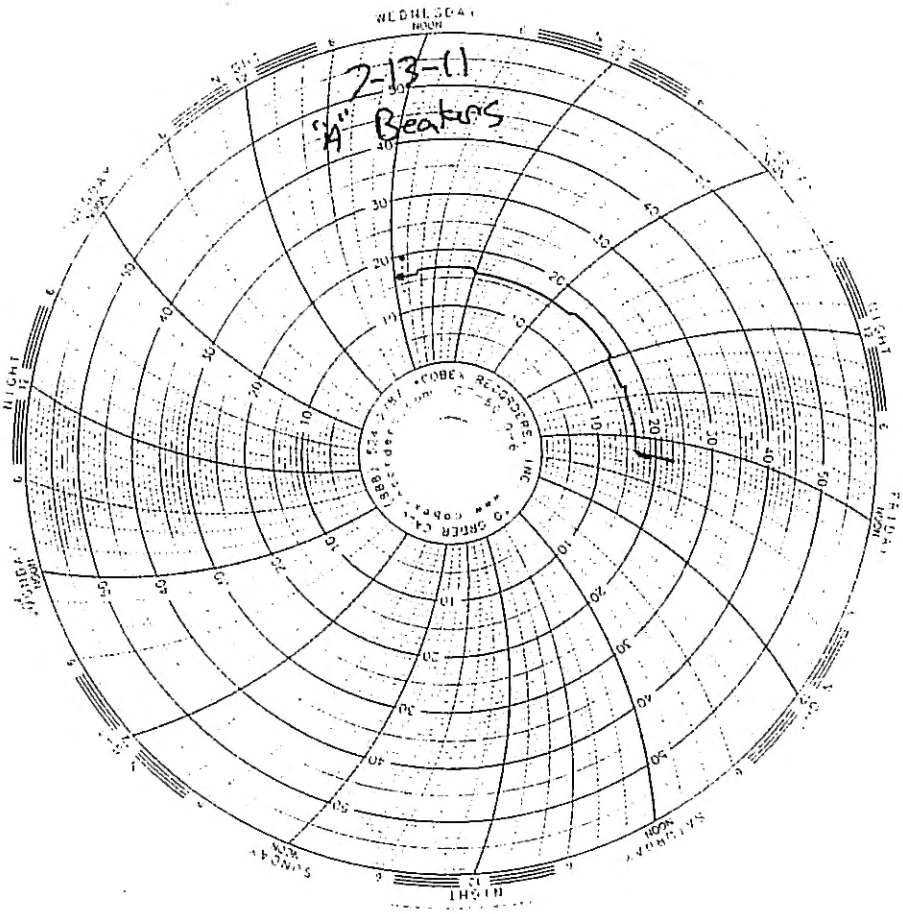
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-110713

Date Tested: 07/13/11 to 07/15/11

Acceptable Range: 15+/- 1°C



Certificate of Analysis

Report Date: Friday, July 29, 2011
Received Date: Thursday, July 14, 2011
Received Time: 9:05 am
Turnaround Time: Normal

Client: Marine Research Specialties
3140 Telegraph Road, Suite A
Ventura, CA 93003-3223

Phones: (805) 644-1180
Fax:

Attn: Bonnie Luke
Project: MBCSD SemiAnnual Effluent

P.O. #:

Lab Sample ID: 1G14004-01 **Sample ID: COMP EFF A.R.S. W1** **Matrix:** Water
Sampled by: Steve Aschenbrener **Sampled: 07/13/11 08:00**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Tri-n-butyltin	ND	0.030	0.050	ug/l	1	GC/MS	7/22/11	7/27/11 15:12	W1G0921	
Surrogate: Tripentyltin	*77 %*		*23-146*	%		Concentration:*0.146*				

Lab Sample ID: 1G14004-02 **Sample ID: COMP EFF A.R.S. W2** **Matrix:** Water
Sampled by: Steve Aschenbrener **Sampled: 07/13/11 08:00**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Gross Beta	**7.2**			pCi/L	1	EPA 900.0	7/26/11	7/28/11 15:30	W1G1059	
Counting Error (+/-): 2.491	MDA: 3.935									
Gross Alpha	**3.79**	0.00	0.00	pCi/L	1	SM7110C	7/14/11	7/19/11 10:52	W1G0518	
Counting Error (+/-): 0.321	MDA: 0.016									

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Quality Control Section

Organo Tin by GC/MS - Quality Control

Batch W1G0921 - GC/MS

Blank (W1G0921-BLK1) **Prepared: 07/22/11 Analyzed: 07/27/11 14:06**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Surrogate: Tripentyltin		*0.160*		ug/l	*0.200*	*80*	*23-146*		
Tri-n-butyltin		ND		ug/l				NR	

LCS (W1G0921-BS1) **Prepared: 07/22/11 Analyzed: 07/27/11 14:28**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Surrogate: Tripentyltin		*0.161*		ug/l	*0.200*	*80*	*23-146*		
Tri-n-butyltin		0.131		ug/l	0.200	65	53-154	NR	

LCS Dup (W1G0921-BSD1) **Prepared: 07/22/11 Analyzed: 07/27/11 14:50**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Surrogate: Tripentyltin		*0.176*		ug/l	*0.200*	*88*	*23-146*		
Tri-n-butyltin		0.132		ug/l	0.200	66	53-154	0.9	30

Radiological Parameters by APHA/EPA Methods - Quality Control

Batch W1G0518 - SM7110C

Blank (W1G0518-BLK1) **Prepared: 07/14/11 Analyzed: 07/18/11 11:38**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Alpha		ND		pCi/L					
Counting Error (+/-): 0.12	MDA: 0.016								

LCS (W1G0518-BS1) **Prepared: 07/14/11 Analyzed: 07/18/11 11:38**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Alpha		13.5		pCi/L	18.0	75	70-130	NR	

Matrix Spike (W1G0518-MS1) **Source: 1G06019-04** **Prepared: 07/14/11 Analyzed: 07/19/11 10:51**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Alpha	5.24	22.5		pCi/L	18.0	96	70-130	NR	

Matrix Spike Dup (W1G0518-MSD1) **Source: 1G06019-04** **Prepared: 07/14/11 Analyzed: 07/19/11 10:51**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Alpha	5.24	17.2	MS-07	pCi/L	18.0	67	70-130	27	30

Batch W1G1059 - EPA 900.0

Blank (W1G1059-BLK1) **Prepared: 07/26/11 Analyzed: 07/28/11 15:30**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Beta		0.22		pCi/L				NR	
Counting Error (+/-): 0.483	MDA: 0.823								

LCS (W1G1059-BS1) **Prepared: 07/26/11 Analyzed: 07/28/11 15:30**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Beta		35		pCi/L	30.0	118	70-130	NR	

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Radiological Parameters by APHA/EPA Methods - Quality Control

Batch W1G1059 - EPA 900.0

LCS Dup (W1G1059-BSD1) **Prepared: 07/26/11 Analyzed: 07/28/11 15:30**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Gross Beta		32		pCi/L	30.0	108	70-130	8	30

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature

Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

MS-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity

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1G14004

STANDARD

Page 1 Of 1

CLIENT NAME:	PROJECT:
Marine Research Specialists	MBCSD SemiAnnual Effluent
ADDRESS:	PHONE: 805-289-3926
3140 Telegraph Rd. Suite A	FAX: 805-289-3935
Ventura, CA 93003	EMAIL: bonnie.luke@mrsenv.com
PROJECT MANAGER	SAMPLER Steve Aschenbrener (SRA)
Bonnie Luke	

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	Tributyltin by GC/MS	SM 7110C & EPA 900.0
	07/13/11	0800	ww	COMP EFF A.R.S. W1	1		
	07/13/11	0800	ww	COMP EFF A.R.S. W2	1		

SPECIAL HANDLING

- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 48-72 Hour Rush 75%
- ☐ 4 - 5 Day Rush 30%
- ☐ Rush Extractions 50%
- ☑ 10 - 15 Business Days
- ☐ QA/QC Data Package

Charges will apply for weekends/holidays

Method of Shipment: fed ex

COMMENTS

tributyltin by GC/MS

radioactivity- gross alpha and beta

RELINQUISHED BY	DATE / TIME	RECEIVED BY
Steve Aschenbrener	13 July 11 1930	07/14/11 09:05
RELINQUISHED BY	DATE / TIME	RECEIVED BY
RELINQUISHED BY	DATE / TIME	RECEIVED BY

SAMPLE CONDITION:

Actual Temperature:	1.6C Fedex
Received On Ice	(Y) / N
Preserved	Y / N
Evidence Seals Present	Y / (N)
Container Attacked	Y / (N)
Preserved at Lab	Y / N

SAMPLE TYPE CODE:

- AQ=Aqueous
- NA= Non Aqueous
- SL = Sludge
- DW = Drinking Water
- WW = Waste Water
- RW = Rain Water
- GW = Ground Water
- SO = Soil
- SW = Solid Waste
- OL = Oil
- OT = Other Matrix

PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY OVER UNSCHEDULED RUSH REQUESTS
Client agrees to Terms & Conditions at: www.wecklabs.com

SPECIAL REQUIREMENTS / BILLING INFORMATIOI :for any questions, please call 805-289-3926

COC version 042707

Vista
Analytical Laboratory

August 01, 2011

Vista Project I.D.: 33265

Ms. Bonnie Luke
Marine Research Specialists
3140 Telegraph Road, Suite A
Ventura, CA 93003-3238

Dear Ms. Luke,

Enclosed are the results for one of the two aqueous samples received at Vista Analytical Laboratory on July 14, 2011 under your Project Name "MBCSD SemiAnnual Effluent". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work. As requested, the Travel Blank was placed on hold.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha M. Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.

Table of Contents

Section I: Sample Inventory Report

Date Received: **7/14/2011**

Vista Lab. ID	Client Sample ID
33265-001	COMP EFF V1
33265-002	TRAVEL BLANK

ANALYTICAL RESULTS

Method Blank **EPA Method 1613**

Matrix: Effluent QC Batch No.: 3893

Sample Size: 1.00 L Date Extracted: 17-Jul-11

Lab Sample: 0-MB001

Date Analyzed DB-5: 23-Jul-11 Date Analyzed DB-225: NA

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	MDL [c]	Qualifiers
2,3,7,8-TCDD	ND	1.26		0.926	
1,2,3,7,8-PeCDD	ND	0.550		1.77	
1,2,3,4,7,8-HxCDD	ND	0.497		1.05	
1,2,3,6,7,8-HxCDD	ND	0.518		1.13	
1,2,3,7,8,9-HxCDD	ND	0.509		2.22	
1,2,3,4,6,7,8-HpCDD	ND	1.26		1.93	
OCDD	1.32			1.65	J
2,3,7,8-TCDF	ND	0.141		0.260	
1,2,3,7,8-PeCDF	ND	0.259		1.92	
2,3,4,7,8-PeCDF	ND	0.245		0.970	
1,2,3,4,7,8-HxCDF	ND	0.105		1.22	
1,2,3,6,7,8-HxCDF	ND	0.125		1.15	
2,3,4,6,7,8-HxCDF	ND	0.722		1.41	
1,2,3,7,8,9-HxCDF	ND	0.173		1.18	
1,2,3,4,6,7,8-HpCDF	ND	0.243		0.852	
1,2,3,4,7,8,9-HpCDF	ND	0.258		2.24	
OCDF	ND	0.867		1.34	

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	91.8	20 - 175	
	13C-1,2,3,7,8-PeCDD	88.6	21 - 227	
	13C-1,2,3,4,7,8-HxCDD	84.8	21 - 193	
	13C-1,2,3,6,7,8-HxCDD	82.0	25 - 163	
	13C-1,2,3,7,8,9-HxCDD	83.9	21 - 193	
	13C-1,2,3,4,6,7,8-HpCDD	79.4	26 - 166	
	13C-OCDD	69.4	13 - 198.5	
	13C-2,3,7,8-TCDF	92.4	22 - 152	
	13C-1,2,3,7,8-PeCDF	88.2	21 - 192	
	13C-2,3,4,7,8-PeCDF	94.2	13 - 328	
	13C-1,2,3,4,7,8-HxCDF	86.3	19 - 202	
	13C-1,2,3,6,7,8-HxCDF	81.6	21 - 159	
	13C-2,3,4,6,7,8-HxCDF	84.9	22 - 176	
	13C-1,2,3,7,8,9-HxCDF	85.9	17 - 205	
	13C-1,2,3,4,6,7,8-HpCDF	74.4	21 - 158	
	13C-1,2,3,4,7,8,9-HpCDF	80.8	20 - 186	
	13C-OCDF	71.1	13 - 198.5	
CRS	37Cl-2,3,7,8-TCDD	119	31 - 191	

Totals

Total TCDD	ND	1.26
Total PeCDD	ND	0.552
Total HxCDD	ND	0.508
Total HpCDD	ND	1.25
Total TCDF	ND	0.141
Total PeCDF	ND	0.251
Total HxCDF	ND	0.729
Total HpCDF	ND	0.250

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0.000395

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: DMS

Approved By: Martha M. Maier 01-Aug-2011 14:57

OPR Results **EPA Method 1613**

Matrix:	Effluent	QC Batch No.:	3893	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	17-Jul-11	Date Analyzed DB-5:	23-Jul-11	Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits		Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	10.9	6.7 - 15.8	IS	13C-2,3,7,8-TCDD	78.2	20 - 175	
1,2,3,7,8-PeCDD	50.0	56.9	35 - 71		13C-1,2,3,7,8-PeCDD	76.5	21 - 227	
1,2,3,4,7,8-HxCDD	50.0	54.7	35 - 82		13C-1,2,3,4,7,8-HxCDD	73.3	21 - 193	
1,2,3,6,7,8-HxCDD	50.0	52.8	38 - 67		13C-1,2,3,6,7,8-HxCDD	71.7	25 - 163	
1,2,3,7,8,9-HxCDD	50.0	54.3	32 - 81		13C-1,2,3,7,8,9-HxCDD	72.8	21 - 193	
1,2,3,4,6,7,8-HpCDD	50.0	53.4	35 - 70		13C-1,2,3,4,6,7,8-HpCDD	70.9	26 - 166	
OCDD	100	111	78 - 144		13C-OCDD	63.1	13 - 198.5	
2,3,7,8-TCDF	10.0	10.4	7.5 - 15.8		13C-2,3,7,8-TCDF	78.7	22 - 152	
1,2,3,7,8-PeCDF	50.0	54.0	40 - 67		13C-1,2,3,7,8-PeCDF	74.7	21 - 192	
2,3,4,7,8-PeCDF	50.0	53.9	34 - 80		13C-2,3,4,7,8-PeCDF	80.2	13 - 328	
1,2,3,4,7,8-HxCDF	50.0	54.7	36 - 67		13C-1,2,3,4,7,8-HxCDF	74.5	19 - 202	
1,2,3,6,7,8-HxCDF	50.0	53.8	42 - 65		13C-1,2,3,6,7,8-HxCDF	72.3	21 - 159	
2,3,4,6,7,8-HxCDF	50.0	54.2	35 - 78		13C-2,3,4,6,7,8-HxCDF	73.7	22 - 176	
1,2,3,7,8,9-HxCDF	50.0	54.0	39 - 65		13C-1,2,3,7,8,9-HxCDF	74.1	17 - 205	
1,2,3,4,6,7,8-HpCDF	50.0	55.2	41 - 61		13C-1,2,3,4,6,7,8-HpCDF	66.5	21 - 158	
1,2,3,4,7,8,9-HpCDF	50.0	54.5	39 - 69		13C-1,2,3,4,7,8,9-HpCDF	72.9	20 - 186	
OCDF	100	109	63 - 170		13C-OCDF	65.6	13 - 198.5	
				CRS	37Cl-2,3,7,8-TCDD	117	31 - 191	

Analyst: DMS

Approved By: Martha M. Maier 01-Aug-2011 14:57

Sample ID: **COMP EFF V1** **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Marine Research Specialists	Matrix:	Effluent	Lab Sample:	33265-001	Date Received:	14-Jul-11
Project:	MBCSD SemiAnnual Effluent	Sample Size:	0.990 L	QC Batch No.:	3893	Date Extracted:	17-Jul-11
Date Collected:	13-Jul-11			Date Analyzed DB-5:	23-Jul-11	Date Analyzed DB-225:	NA
Time Collected:	0800						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	MDL [c]	Qualifiers
2,3,7,8-TCDD	ND	1.31		0.926	
1,2,3,7,8-PeCDD	ND	1.19		1.77	
1,2,3,4,7,8-HxCDD	ND	1.03		1.05	
1,2,3,6,7,8-HxCDD	ND	1.17		1.13	
1,2,3,7,8,9-HxCDD	ND	1.06		2.22	
1,2,3,4,6,7,8-HpCDD	6.04			1.93	J
OCDD	60.2			1.65	B
2,3,7,8-TCDF	ND	0.827		0.260	
1,2,3,7,8-PeCDF	ND	0.539		1.92	
2,3,4,7,8-PeCDF	ND	0.525		0.970	
1,2,3,4,7,8-HxCDF	ND	0.407		1.22	
1,2,3,6,7,8-HxCDF	ND	0.452		1.15	
2,3,4,6,7,8-HxCDF	ND	0.488		1.41	
1,2,3,7,8,9-HxCDF	ND	0.644		1.18	
1,2,3,4,6,7,8-HpCDF	ND		0.966	0.852	
1,2,3,4,7,8,9-HpCDF	ND	0.609		2.24	
OCDF	2.17			1.34	J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	76.5	25 - 164	
	13C-1,2,3,7,8-PeCDD	67.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	66.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	63.8	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	65.0	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	61.6	23 - 140	
	13C-OCDD	59.5	17 - 157	
	13C-2,3,7,8-TCDF	81.7	24 - 169	
	13C-1,2,3,7,8-PeCDF	69.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	74.9	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	67.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	65.3	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	66.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	66.8	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	58.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	63.1	26 - 138	
	13C-OCDF	60.7	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	116	35 - 197	

Totals			
Total TCDD	5.38		
Total PeCDD	2.69		4.02
Total HxCDD	ND	1.08	
Total HpCDD	12.3		
Total TCDF	0.394		
Total PeCDF	0.499		1.37
Total HxCDF	ND		0.413
Total HpCDF	ND		1.75

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): **0.0792**

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: Martha M. Maier 01-Aug-2011 14:57

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The amount detected is above the High Calibration Limit.**
P	**The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.**
H	**Recovery was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Low Calibration Limit.**
*	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 33265 Temp -0.4 °C
Storage ID: WR-2 B3 Storage Secured: Yes ☑ No ☐

TAT: (Check One)
Standard ◉ 21 days
Rush (surcharge may apply)
◯ 14 days ◯ 7 days Specify:

Project I.D.: **MBCSD SemiAnnual Effluent** P.O. #: Sampler: Steve Aschenbrener (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Bonnie Luke	**Marine Research Specialists**	**3140 Telegraph Rd., #A**	**Ventura**	**CA**	**93003**	**805-289-3926**	**805-289-3935**

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Steven R Aschenbrener	13 JUL 11	1430	FED EX	7/13/11	
FED EX	7/14/11	0854	BLAKE BROWN	7/14/11	0854

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916) 673-0106

Method of Shipment: **fed ex**

Tracking No.:

ATTN:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613: 2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	EPA8290: 2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	EPA8280: 2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	EPA1668: TOTALS	COPLANAR PCBs	209 CONGENERS	EPA1614: PBDE	PAH	CARB429: WHO-39
COMP EFF V1	7/13/11	0800	24 hr COMP EFF A.R.S	1		ww															
TRAVEL BLANK	7/13/11			1																	

Special Instructions/Comments: **for any questions, please call 805-289-3926.**
Extract and analyze using EPA 1613B for tetra-through-octa chlorinated dioxins and furans.

SEND DOCUMENTATION AND RESULTS TO:

Name: **Bonnie Luke**
Company: **Marine Research Specialists**
Address: **3140 Telegraph Rd. Suite A**
City: **Ventura** State: **CA** Zip: **93003**
Phone: **805-289-3926** Fax: **805-289-3935**
Email: **bonnie.luke@mrsenv.com**

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O = Other

***Bottle Preservative Type:** ☐ T = Thiosulfate,
☐ O = Other

Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B=Blood/Serum
O = Other

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33265 **TAT** STANDARD

Samples Arrival:	**Date/Time** 7/14/11 0854	**Initials:** BB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 7/14/11 0900	**Initials:** BB	**Location:** WR-2 **Shelf/Rack:** B3

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice	Dry Ice	None		
Temp °C −0.4°C	**Time:** 0855	**Thermometer ID:** IR-2				

	YES	NO	NA
Adequate Sample Volume Received? 1 bottle each	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 8717 4467 1962	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		(COC)	Sample Container	(None)	
Shipping Container	Vista	(Client)	(Retain)	(Return)	Dispose

BB 7/14/11

Comments:

Sample ID's	Date	Time
COMP EFF V1	7/13/11	0800
DI H_2O	6/22/11	—