City of Morro Bay and
Cayucos Sanitary District

OFFSHORE MONITORING AND REPORTING PROGRAM

SEMI-ANNUAL EFFLUENT SAMPLING

CHEMICAL AND BIOASSAY ANALYSIS RESULTS

JULY 2014

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 2014

Prepared by

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Marine Research Specialists

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July 2014

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.

Bruce Keogh

Mr. Bruce Keogh
Wastewater Division Manager
City of Morro Bay

Date July 28, 2014

marine research specialists
3140 Telegraph Road, Suite A • Ventura, CA 93003 • (805) 644-1180

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

28 July 2014

Reference: Annual Effluent Self-Monitoring Report for 2014
Semiannual Effluent Self-Monitoring Report for July through December 2014

Dear Mr. Keogh:

This self-monitoring report documents the chemical and bioassay analysis results for effluent samples collected in July 2014 as required by NPDES discharge permit CA0047881.[1] Analyses of effluent samples collected on 2 and 15 July were conducted in accordance with the monitoring requirements specified in the permit, including:

- Chemical and radionuclide analyses conducted on a composite sample collected on 2 July 2014;
- Phenolic and nutrient compounds measured in a grab sample collected on 2 July 2014; and
- Chronic bioassays conducted on a composite sample collected on 15 July 2014.

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 2014 augment data collected over the past two decades 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 78 chemical compounds are limited under the current permit.[3] In July 2014, only 11 of these compounds were detected, and of those, only seven had concentrations high enough to be reliably quantified above their respective MLs: arsenic, copper, lead, selenium, zinc, dioxin, and a non-chlorinated phenolic compound. The concentrations of the chemical compounds detected in the July 2014 samples were typical of wastewater derived from domestic sources, and were considerably below the limits specified in the NPDES discharge permit.

Copper, lead, and zinc are commonly occurring metals that enter the wastewater collection system through erosion of natural mineral deposits along the central California coast. They may also enter the system through corrosion of household plumbing systems. Nevertheless, the concentrations of these compounds that were detected in the July 2014 effluent were well below the levels 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.

Small but quantifiable concentrations of arsenic and selenium were also detected within the July 2014 effluent sample. Arsenic and selenium are similar to the commonly occurring metals because they occur naturally in the mineralogy of the central California coast. Their concentrations in the July effluent samples were two orders of magnitude below levels deemed deleterious to marine organisms.

Similarly, the concentration of dioxin that was quantified within the effluent samples were also well below the permit limitation. Dioxin congeners are ubiquitous compounds that have been consistently detected at low levels within effluent and biosolid samples collected over the past decade. As in the past, dioxin concentrations in the July 2014 sample were well below 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. Once produced, these chemically stable compounds do not readily decompose and may persist in the environment for long periods. Extremely small concentrations of various dioxin congeners are also formed during the chlorination process and are commonly found at low levels in effluent discharged from publicly owned treatment works. 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.

Lastly, the non-chlorinated phenolic compound, 3-&4-methylphenol, that was detected at low levels in the July 2014 effluent is typically a precursor or synthetic intermediate to other compounds and materials, including plastics, pesticides, pharmaceuticals, and dyes. It is also a component of human sweat.

Chronic toxicity tests conducted on the July 2014 composite effluent sample measured the effluent's potential to impact the development of larval red abalone (*Haliotis rufescens*) by exposing those organisms to a range of effluent dilutions in the laboratory. Although the larval abalone are 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

ATTACHMENT A

MINIMUM LEVEL REPORTING

ATTACHMENT A
Analytical Results for Effluent Samples Collected during July 2014

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	—	1.	—[e]	—[e]	ND
Urea (as N)	mg/L	Mulvenna & Savid	—	0.01	—	—	0.077 as measured
Ortho-Phosphate (as P)	mg/L	300.0	—	0.10	—	—	1.9 as measured
Dissolved Silica (Si02)	mg/L	200.7	—	0.5	—	—	11. as measured
Objectives for the Protection of Marine Aquatic Life							
Arsenic	mg/L	200.8	0.0007	0.002	0.002	0.67	0.0022 as measured
Cadmium	mg/L	200.7	0.0011	0.01	0.01	0.13	ND
Chromium VI	mg/L	200.7	0.0012	0.01	0.01	0.27	ND
Copper	mg/L	200.7	0.0012	0.01	0.01	0.14	0.02 as measured
Lead	mg/L	200.8	0.0001	0.001	0.0005	0.27	0.002 as measured
Mercury	µg/L	245.1	0.024	0.2	0.2	5.29	ND
Nickel	mg/L	200.7	0.0023	0.01	0.02	0.67	DNQ 0.0044 Est. Conc.
Selenium	mg/L	200.8	0.00019	0.002	0.002	2.01	0.0026 as measured
Silver	mg/L	200.7	0.0013	0.01	0.01	0.07	ND
Zinc	mg/L	200.7	0.0013	0.05	0.02	1.62	0.067 as measured
Cyanide	mg/L	335.4	0.0026	0.005	0.005	0.13	ND
Toxicity-Chronic: *H. Rufescens*	TUc	600/R-95/136	—	—	—	134.	17.9 as measured

[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 minimum levels or permit limits have been established for nutrients.

Analytical Results for Effluent Samples Collected during July 2014

Chemical Compound or Parameter	Units	Method	Detection Limit[a]	Practical[b] Quantification Limit	Minimum Level[c]	Permit[d] Limit	Reported Value
Nonchlorinated Phenolics	mg/L	625	0.0016	0.002	0.005	4.02	0.0057 as measured
Chlorinated Phenolics	mg/L	625	0.00031	0.002	0.005	0.13	ND
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	SM-7110C	0.063	±0.139	—	15.	-2.27 as measured
Radioactivity Gross β	pCi/L	900	1.517	±1.357	—	50.	22. 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	0.005	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	0.0000012	0.00001	0.00001	25.5	ND
Di-n-butyl phthalate	mg/L	625	0.00039	0.002	0.01	469.	ND
Dichlorobenzene	mg/L	624	0.000072	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	0.0001	0.001	0.001	0.27	ND
Toluene	g/L	624	0.000000067	0.0000005	0.000002	11.4	DNQ 0.00000017 Est. Conc.
Tributyltin	µg/L	GC/MS	0.005	—	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 2014

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	0.77	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 3.1 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 0.00075 Est. Conc.[g]
DDT (Sum)	ng/L	608	0.76	5.	10.	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] The reported concentration was above the PQL and accordingly, was not flagged "as estimated" by the chemistry laboratory (See Attachment C). However, in accordance with the guidance from the COP, the reported value is listed here as an estimated concentration ("Est. Conc.") because the measured value was below the minimum limit (ML).

[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 2014

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	45.	200.	500.	2.55	ND
Dioxin (TCDD equivalents)	pg/L	1613B	—	—	—	0.52	0.0813 as measured[i]
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

[i] The Toxic Equivalent Quotient (TEQ) reported by the laboratory of 0.123 pg/L (See Attachment C) is higher than the TEQ reported here because they included an estimated concentration of 9.87 pg/L for the 2,3,7,8 hepta CDD isomer that was "*below the Low Calibration Limit*" (see Data Qualifier J in the laboratory report). However, the 2005 Ocean Plan (Page 17) and the MBCSD NPDES discharge permit (Page E-7) state that "*At no time is the discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve*," and consequently, the estimated concentration for that isomer was excluded from the TEQ computation used herein.

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 DIS

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

PERMIT NUMBER	DISCHARGE NUMBER
CA0047881	001-S

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
07/01/2014	12/31/2014

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	******	******	******	******	******	NODI(B)	mg/L	0	Semi-annual	Grab
00620 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB
Cyanide, total [as CN]	SAMPLE MEASUREMENT	******	******	******	NODI(B)	NODI(B)	NODI(B)	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		Twice Per Year	COMP24
Silica, dissolved [as SiO2]	SAMPLE MEASUREMENT	******	******	******	******	******	11.	mg/L	0	Semi-annual	Grab
00955 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB
Arsenic, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.0022	0.0022	0.0022	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		Twice Per Year	COMP24
Selenium, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.0026	0.0026	0.0026	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		Twice Per Year	COMP24
Chromium, hexavalent [as Cr]	SAMPLE MEASUREMENT	******	******	******	NODI(B)	NODI(B)	NODI(B)	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		Twice Per Year	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		Twice Per Year	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		07/28/2014
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 DIS

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**
07/01/2014	12/31/2014

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)	NODI(B)	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		Twice Per Year	COMP24
Zinc, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.067	0.067	0.067	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		Twice Per Year	COMP24
Cadmium, total recoverable	SAMPLE MEASUREMENT	******	******	******	NODI(B)	NODI(B)	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		Twice Per Year	COMP24
Lead, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.002	0.002	0.002	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		Twice Per Year	COMP24
Copper, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.02	0.02	0.02	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		Twice Per Year	COMP24
Phosphate, ortho [as P]	SAMPLE MEASUREMENT	******	******	******	******	******	1.9	mg/L	0	Semi-annual	Grab
04175 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB
Urea	SAMPLE MEASUREMENT	******	******	******	******	******	0.077	mg/L	0	Semi-annual	Grab
71800 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Twice Per Year	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		07/28/2014
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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MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

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

MONITORING PERIOD	
MM/DD/YYYY	**MM/DD/YYYY**
07/01/2014	12/31/2014

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(B)	NODI(B)	NODI(B)	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		Twice Per Year	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		Twice Per Year	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		Twice Per Year	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.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	(805)772-6272		07/28/2014
TYPED OR PRINTED			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 DIS

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**
01/01/2014	12/31/2014

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	******	******	******	******	******	*22.*	*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(B)*	******	*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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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)

Gross beta activity is reported above for "Radioactivity." Gross alpha activity was -2.27 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)

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FACILITY: MORRO BAY/CAYUCOS WWTP

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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**
01/01/2014	12/31/2014

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 [PAHs]	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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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)

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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**
01/01/2014	12/31/2014

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)

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CA0047881	001-Y
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01/01/2014	12/31/2014

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

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Form Approved
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FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
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ATTN: BRUCE KEOGH

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

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01/01/2014	12/31/2014

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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01/01/2014	12/31/2014

DMR Mailing ZIP CODE: 93442
MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
External Outfall

No Discharge ☐

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		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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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		07/28/2014
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 DIS

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**
01/01/2014	12/31/2014

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.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	(805)772-6272		07/28/2014
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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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**
01/01/2014	12/31/2014

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		07/28/2014
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**
01/01/2014	12/31/2014

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

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

The heptachlor and heptachlor epoxide limits pre-printed on this form 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)

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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**
01/01/2014	12/31/2014

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	******	******	******	*0.0057*	*0.0057*	*0.0057*	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	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	******	******	******	******	*0.0813*	******	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		07/28/2014
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

Date of Report: 07/23/2014

Doug Coats

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

Client Project:	[none]
BCL Project:	Semi-Annual Eff
BCL Work Order:	1414797
Invoice ID:	B178895

Enclosed are the results of analyses for samples received by the laboratory on 7/2/2014. 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		Steve Aschenbrener
Email Address:	bonnie.luke@mrsenv.com		
Work Order#	14-14797		

Analysis Requested

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	7/02/14	0900	✓													✓			Please see/read page 2 for
-2	COMP EFF A.R.S. BC2	7/02/14	0900		✓	✓	✓	✓	✓	✓							✓			additional instructions!!

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!

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

CHK BY [signature] DISTRIBUTION ☐
SUB-OUT ☐

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. [signature]	7/2/14	11:18	1. [signature]	7-2-14	1118
2. [signature]	7-2-14	1950	2. [signature]	7-2-14	1950
3.			3.		

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

Page 1 of 2

14.14797

Analysis Effluent Samples to be collected from the Morro Bay Wastewater Treatment Plant on Wednesday, July 2, 2014

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 1414797 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 17 06/05/14 Page 1 Of 1

Submission #: 1414797

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

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

FREE LIQUID
YES ☐ NO ☐

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: Amber Thermometer ID: 207

Temperature: (A) 1.9 °C / (C) 2.0 °C

Date/Time 7/2/14 1950

Analyst Init MM

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS		B								
PT CYANIDE		C								
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK			A1							
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		D								
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER 625	AB	EF								
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: MM Date/Time: 7-2-14 1150 [S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC16

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

Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1414797-01	**COC Number:**	---	**Receive Date:**	07/02/2014 19:50
	Project Number:	---	**Sampling Date:**	07/02/2014 09:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GRAB EFF A.R.S. BC1	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Wastewater
1414797-02	**COC Number:**	---	**Receive Date:**	07/02/2014 19:50
	Project Number:	---	**Sampling Date:**	07/02/2014 09:00
	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: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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

BCL Sample ID: 1414797-01 | **Client Sample Name:** GRAB EFF A.R.S. BC1, 7/2/2014 9:00:00AM

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	**5.7**	**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)	43.2	%	30 - 120 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	45.5	%	12 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	97.4	%	60 - 130 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	77.6	%	55 - 125 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	69.8	%	40 - 150 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	97.8	%	40 - 150 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/09/14	07/18/14 23:09	VH1	MS-B2	1	BXG1314

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Aldrin	ND	ug/L	0.0050	0.0013	EPA-608	ND		1
alpha-BHC	ND	ug/L	0.0050	0.0011	EPA-608	ND		1
beta-BHC	ND	ug/L	0.0050	0.0021	EPA-608	ND		1
delta-BHC	ND	ug/L	0.0050	0.0014	EPA-608	ND		1
gamma-BHC (Lindane)	ND	ug/L	0.0050	0.00094	EPA-608	ND		1
Chlordane (Technical)	ND	ug/L	0.50	0.38	EPA-608	ND		1
4,4'-DDD	ND	ug/L	0.0050	0.0017	EPA-608	ND		1
4,4'-DDE	ND	ug/L	0.0050	0.0019	EPA-608	ND		1
4,4'-DDT	ND	ug/L	0.0050	0.00076	EPA-608	ND		1
Dieldrin	ND	ug/L	0.0050	0.0012	EPA-608	ND		1
Endosulfan I	ND	ug/L	0.0050	0.0016	EPA-608	ND		1
Endosulfan II	ND	ug/L	0.0050	0.0014	EPA-608	ND		1
Endosulfan sulfate	ND	ug/L	0.0050	0.0026	EPA-608	ND		1
Endrin	ND	ug/L	0.0050	0.00082	EPA-608	ND		1
Endrin aldehyde	ND	ug/L	0.010	0.0032	EPA-608	ND		1
Heptachlor	ND	ug/L	0.0050	0.0012	EPA-608	ND		1
Heptachlor epoxide	ND	ug/L	0.0050	0.00099	EPA-608	ND		1
Methoxychlor	ND	ug/L	0.0050	0.0011	EPA-608	ND		1
Toxaphene	ND	ug/L	2.0	0.42	EPA-608	ND		1
PCB-1016	ND	ug/L	0.20	0.045	EPA-608	ND		1
PCB-1221	ND	ug/L	0.20	0.070	EPA-608	ND		1
PCB-1232	ND	ug/L	0.20	0.081	EPA-608	ND		1
PCB-1242	ND	ug/L	0.20	0.065	EPA-608	ND		1
PCB-1248	ND	ug/L	0.20	0.085	EPA-608	ND		1
PCB-1254	ND	ug/L	0.20	0.077	EPA-608	ND		1
PCB-1260	ND	ug/L	0.20	0.060	EPA-608	ND		1
Total PCB's (Summation)	ND	ug/L	0.20	0.10	EPA-608	ND		1
TCMX (Surrogate)	144	%	40 - 140 (LCL - UCL)		EPA-608		S09	1
Decachlorobiphenyl (Surrogate)	50.1	%	50 - 130 (LCL - UCL)		EPA-608			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-608	07/08/14	07/19/14 02:31	VH1	GC-14	1	BXG1099

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Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

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	**0.75**	**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	**0.17**	**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	ND	ug/L	0.50	0.22	EPA-624	ND		1

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Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acrolein	ND	ug/L	20	7.9	EPA-624	ND	V11	1
Acrylonitrile	ND	ug/L	5.0	0.75	EPA-624	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.17	EPA-624	ND		1
o-Xylene	ND	ug/L	0.50	0.050	EPA-624	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.2	%	75 - 125 (LCL - UCL)		EPA-624			1
Toluene-d8 (Surrogate)	96.0	%	80 - 120 (LCL - UCL)		EPA-624			1
4-Bromofluorobenzene (Surrogate)	93.3	%	80 - 120 (LCL - UCL)		EPA-624			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-624	07/07/14	07/07/14 15:39	MGC	MS-V7	1	BXG0487

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Project Number: [none]
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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

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		1
Anthracene	ND	ug/L	2.0	0.30	EPA-625	ND		1
Benzidine	ND	ug/L	20	7.1	EPA-625	ND		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		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		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	**3.1**	**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		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		1
4,4'-DDE	ND	ug/L	3.0	0.41	EPA-625	ND		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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Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

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

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

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

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)	38.7	%	30 - 120 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	41.8	%	12 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	84.8	%	60 - 130 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	72.2	%	55 - 125 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	65.0	%	40 - 150 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	101	%	40 - 150 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/09/14	07/18/14 23:35	VH1	MS-B2	1	BXG1314

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (General Chemistry)

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	ND	mg/L	0.0050	0.0026	EPA-335.4	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-335.4	07/08/14	07/08/14 13:37	TDC	KONE-1	1	BXG0581

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

BCL Sample ID: 1414797-02 | **Client Sample Name:** COMP EFF A.R.S. BC2, 7/2/2014 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Mercury	ND	ug/L	0.20	0.024	EPA-245.1	ND		1
Total Recoverable Antimony	ND	ug/L	100	5.0	EPA-200.7	ND		2
Total Recoverable Arsenic	**2.2**	**ug/L**	**2.0**	**0.70**	**EPA-200.8**	ND		3
Total Recoverable Beryllium	ND	ug/L	10	0.77	EPA-200.7	ND		2
Total Recoverable Cadmium	ND	ug/L	10	1.1	EPA-200.7	ND		2
Total Recoverable Chromium	ND	ug/L	10	1.2	EPA-200.7	ND		2
Total Recoverable Copper	**20**	**ug/L**	**10**	**1.2**	**EPA-200.7**	ND		2
Total Recoverable Lead	**2.0**	**ug/L**	**1.0**	**0.10**	**EPA-200.8**	ND		3
Total Recoverable Nickel	**4.4**	**ug/L**	**10**	**2.3**	**EPA-200.7**	ND	**J**	2
Total Recoverable Selenium	**2.6**	**ug/L**	**2.0**	**0.19**	**EPA-200.8**	ND		3
Total Recoverable Silver	ND	ug/L	10	1.3	EPA-200.7	ND		2
Total Recoverable Thallium	ND	ug/L	1.0	0.10	EPA-200.8	ND		3
Total Recoverable Zinc	**67**	**ug/L**	**50**	**1.3**	**EPA-200.7**	5.0		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-245.1	07/10/14	07/11/14 11:55	MEV	CETAC1	1	BXG0863
2	EPA-200.7	07/09/14	07/09/14 18:30	ICP	PE-OP2	1	BXG0726
3	EPA-200.8	07/08/14	07/08/14 16:34	SRM	PE-EL2	1	BXG0579

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Reported: 07/23/2014 16:37
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: BXG1099						
Aldrin	BXG1099-BLK1	ND	ug/L	0.0050	0.0013	
alpha-BHC	BXG1099-BLK1	ND	ug/L	0.0050	0.0011	
beta-BHC	BXG1099-BLK1	ND	ug/L	0.0050	0.0021	
delta-BHC	BXG1099-BLK1	ND	ug/L	0.0050	0.0014	
gamma-BHC (Lindane)	BXG1099-BLK1	ND	ug/L	0.0050	0.00094	
Chlordane (Technical)	BXG1099-BLK1	ND	ug/L	0.50	0.38	
4,4'-DDD	BXG1099-BLK1	ND	ug/L	0.0050	0.0017	
4,4'-DDE	BXG1099-BLK1	ND	ug/L	0.0050	0.0019	
4,4'-DDT	BXG1099-BLK1	ND	ug/L	0.0050	0.00076	
Dieldrin	BXG1099-BLK1	ND	ug/L	0.0050	0.0012	
Endosulfan I	BXG1099-BLK1	ND	ug/L	0.0050	0.0016	
Endosulfan II	BXG1099-BLK1	ND	ug/L	0.0050	0.0014	
Endosulfan sulfate	BXG1099-BLK1	ND	ug/L	0.0050	0.0026	
Endrin	BXG1099-BLK1	ND	ug/L	0.0050	0.00082	
Endrin aldehyde	BXG1099-BLK1	ND	ug/L	0.010	0.0032	
Heptachlor	BXG1099-BLK1	ND	ug/L	0.0050	0.0012	
Heptachlor epoxide	BXG1099-BLK1	ND	ug/L	0.0050	0.00099	
Methoxychlor	BXG1099-BLK1	ND	ug/L	0.0050	0.0011	
Toxaphene	BXG1099-BLK1	ND	ug/L	2.0	0.42	
PCB-1016	BXG1099-BLK1	ND	ug/L	0.20	0.045	
PCB-1221	BXG1099-BLK1	ND	ug/L	0.20	0.070	
PCB-1232	BXG1099-BLK1	ND	ug/L	0.20	0.081	
PCB-1242	BXG1099-BLK1	ND	ug/L	0.20	0.065	
PCB-1248	BXG1099-BLK1	ND	ug/L	0.20	0.085	
PCB-1254	BXG1099-BLK1	ND	ug/L	0.20	0.077	
PCB-1260	BXG1099-BLK1	ND	ug/L	0.20	0.060	
Total PCB's (Summation)	BXG1099-BLK1	ND	ug/L	0.20	0.10	
TCMX (Surrogate)	**BXG1099-BLK1**	**97.6**	%	**40 - 140 (LCL - UCL)**		
Decachlorobiphenyl (Surrogate)	**BXG1099-BLK1**	**105**	%	**50 - 130 (LCL - UCL)**		

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3140 Telegraph Road, Suite A
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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BXG1099										
Aldrin	BXG1099-BS1	LCS	0.10627	0.15000	ug/L	70.8		60 - 130		
gamma-BHC (Lindane)	BXG1099-BS1	LCS	0.15706	0.15000	ug/L	105		60 - 130		
4,4'-DDT	BXG1099-BS1	LCS	0.19709	0.15000	ug/L	131		60 - 130		L01
Dieldrin	BXG1099-BS1	LCS	0.17910	0.15000	ug/L	119		60 - 130		
Endrin	BXG1099-BS1	LCS	0.19304	0.15000	ug/L	129		60 - 130		
Heptachlor	BXG1099-BS1	LCS	0.14658	0.15000	ug/L	97.7		60 - 130		
TCMX (Surrogate)	BXG1099-BS1	LCS	0.28429	0.30000	ug/L	94.8		40 - 140		
Decachlorobiphenyl (Surrogate)	BXG1099-BS1	LCS	0.74025	0.75000	ug/L	98.7		50 - 130		

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3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BXG1099	Used client sample: N										
Aldrin	MS	1411671-81	ND	0.16308	0.15000	ug/L		109		60 - 130	
	MSD	1411671-81	ND	0.13581	0.15000	ug/L	18.2	90.5	30	60 - 130	
gamma-BHC (Lindane)	MS	1411671-81	ND	0.16773	0.15000	ug/L		112		60 - 130	
	MSD	1411671-81	ND	0.14457	0.15000	ug/L	14.8	96.4	30	60 - 130	
4,4'-DDT	MS	1411671-81	ND	0.19234	0.15000	ug/L		128		60 - 130	
	MSD	1411671-81	ND	0.16275	0.15000	ug/L	16.7	108	30	60 - 130	
Dieldrin	MS	1411671-81	ND	0.18572	0.15000	ug/L		124		65 - 130	
	MSD	1411671-81	ND	0.15432	0.15000	ug/L	18.5	103	30	65 - 130	
Endrin	MS	**1411671-81**	**ND**	**0.19758**	**0.15000**	**ug/L**		**132**		**60 - 130**	**Q03**
	MSD	**1411671-81**	**ND**	**0.16760**	**0.15000**	**ug/L**	**16.4**	**112**	**30**	**60 - 130**	
Heptachlor	MS	1411671-81	ND	0.17008	0.15000	ug/L		113		60 - 130	
	MSD	1411671-81	ND	0.14499	0.15000	ug/L	15.9	96.7	30	60 - 130	
TCMX (Surrogate)	MS	1411671-81	ND	0.31698	0.30000	ug/L		106		40 - 140	
	MSD	1411671-81	ND	0.26853	0.30000	ug/L	16.5	89.5		40 - 140	
Decachlorobiphenyl (Surrogate)	MS	1411671-81	ND	0.76610	0.75000	ug/L		102		50 - 130	
	MSD	1411671-81	ND	0.67609	0.75000	ug/L	12.5	90.1		50 - 130	

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3140 Telegraph Road, Suite A
Suite A
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Reported: 07/23/2014 16:37
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Project Number: [none]
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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: BXG0487						
Benzene	BXG0487-BLK1	ND	ug/L	0.50	0.083	
Bromodichloromethane	BXG0487-BLK1	ND	ug/L	0.50	0.24	
Bromoform	BXG0487-BLK1	ND	ug/L	0.50	0.26	
Bromomethane	BXG0487-BLK1	ND	ug/L	1.0	0.12	
Carbon tetrachloride	BXG0487-BLK1	ND	ug/L	0.50	0.12	
Chlorobenzene	BXG0487-BLK1	ND	ug/L	0.50	0.063	
Chloroethane	BXG0487-BLK1	ND	ug/L	0.50	0.12	
Chloroform	BXG0487-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BXG0487-BLK1	ND	ug/L	0.50	0.13	
Dibromochloromethane	BXG0487-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichlorobenzene	BXG0487-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BXG0487-BLK1	ND	ug/L	0.50	0.11	
1,4-Dichlorobenzene	BXG0487-BLK1	ND	ug/L	0.50	0.059	
1,1-Dichloroethane	BXG0487-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BXG0487-BLK1	ND	ug/L	0.50	0.092	
1,1-Dichloroethene	BXG0487-BLK1	ND	ug/L	0.50	0.070	
trans-1,2-Dichloroethene	BXG0487-BLK1	ND	ug/L	0.50	0.14	
1,2-Dichloropropane	BXG0487-BLK1	ND	ug/L	0.50	0.13	
cis-1,3-Dichloropropene	BXG0487-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	BXG0487-BLK1	ND	ug/L	0.50	0.071	
Ethylbenzene	BXG0487-BLK1	ND	ug/L	0.50	0.077	
Methylene chloride	BXG0487-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BXG0487-BLK1	ND	ug/L	0.50	0.11	
1,1,2,2-Tetrachloroethane	BXG0487-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BXG0487-BLK1	ND	ug/L	0.50	0.095	
Toluene	BXG0487-BLK1	ND	ug/L	0.50	0.067	
1,1,1-Trichloroethane	BXG0487-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BXG0487-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BXG0487-BLK1	ND	ug/L	0.50	0.072	
Trichlorofluoromethane	BXG0487-BLK1	ND	ug/L	0.50	0.079	
1,1,2-Trichloro-1,2,2-trifluoroethane	BXG0487-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BXG0487-BLK1	ND	ug/L	0.50	0.11	
Total Xylenes	BXG0487-BLK1	ND	ug/L	0.50	0.22	
Acrolein	BXG0487-BLK1	ND	ug/L	20	7.9	

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
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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: BXG0487						
Acrylonitrile	BXG0487-BLK1	ND	ug/L	5.0	0.75	
p- & m-Xylenes	BXG0487-BLK1	ND	ug/L	0.50	0.17	
o-Xylene	BXG0487-BLK1	ND	ug/L	0.50	0.050	
1,2-Dichloroethane-d4 (Surrogate)	**BXG0487-BLK1**	**97.3**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXG0487-BLK1**	**97.0**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXG0487-BLK1**	**93.7**	%	**80 - 120 (LCL - UCL)**		

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3140 Telegraph Road, Suite A
Suite A
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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: BXG0487										
Benzene	BXG0487-BS1	LCS	24.430	25.000	ug/L	97.7		70 - 130		
Bromodichloromethane	BXG0487-BS1	LCS	24.690	25.000	ug/L	98.8		70 - 130		
Bromoform	BXG0487-BS1	LCS	24.970	25.000	ug/L	99.9		70 - 130		
Bromomethane	BXG0487-BS1	LCS	19.880	25.000	ug/L	79.5		70 - 130		
Carbon tetrachloride	BXG0487-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
Chlorobenzene	BXG0487-BS1	LCS	25.020	25.000	ug/L	100		70 - 130		
Chloroethane	BXG0487-BS1	LCS	24.070	25.000	ug/L	96.3		70 - 130		
Chloroform	BXG0487-BS1	LCS	24.680	25.000	ug/L	98.7		70 - 130		
Chloromethane	BXG0487-BS1	LCS	21.870	25.000	ug/L	87.5		70 - 130		
Dibromochloromethane	BXG0487-BS1	LCS	26.420	25.000	ug/L	106		70 - 130		
1,2-Dichlorobenzene	BXG0487-BS1	LCS	24.560	25.000	ug/L	98.2		70 - 130		
1,3-Dichlorobenzene	BXG0487-BS1	LCS	25.110	25.000	ug/L	100		70 - 130		
1,4-Dichlorobenzene	BXG0487-BS1	LCS	24.340	25.000	ug/L	97.4		70 - 130		
1,1-Dichloroethane	BXG0487-BS1	LCS	23.960	25.000	ug/L	95.8		70 - 130		
1,2-Dichloroethane	BXG0487-BS1	LCS	23.970	25.000	ug/L	95.9		70 - 130		
1,1-Dichloroethene	BXG0487-BS1	LCS	25.640	25.000	ug/L	103		70 - 130		
trans-1,2-Dichloroethene	BXG0487-BS1	LCS	25.690	25.000	ug/L	103		70 - 130		
1,2-Dichloropropane	BXG0487-BS1	LCS	24.060	25.000	ug/L	96.2		70 - 130		
cis-1,3-Dichloropropene	BXG0487-BS1	LCS	23.750	25.000	ug/L	95.0		70 - 130		
trans-1,3-Dichloropropene	BXG0487-BS1	LCS	24.460	25.000	ug/L	97.8		70 - 130		
Ethylbenzene	BXG0487-BS1	LCS	24.510	25.000	ug/L	98.0		70 - 130		
Methylene chloride	BXG0487-BS1	LCS	23.290	25.000	ug/L	93.2		70 - 130		
Methyl t-butyl ether	BXG0487-BS1	LCS	24.450	25.000	ug/L	97.8		70 - 130		
1,1,2,2-Tetrachloroethane	BXG0487-BS1	LCS	23.020	25.000	ug/L	92.1		70 - 130		
Tetrachloroethene	BXG0487-BS1	LCS	26.390	25.000	ug/L	106		70 - 130		
Toluene	BXG0487-BS1	LCS	24.710	25.000	ug/L	98.8		70 - 130		
1,1,1-Trichloroethane	BXG0487-BS1	LCS	26.070	25.000	ug/L	104		70 - 130		
1,1,2-Trichloroethane	BXG0487-BS1	LCS	23.430	25.000	ug/L	93.7		70 - 130		
Trichloroethene	BXG0487-BS1	LCS	25.330	25.000	ug/L	101		70 - 130		
Trichlorofluoromethane	BXG0487-BS1	LCS	27.370	25.000	ug/L	109		70 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	BXG0487-BS1	LCS	26.870	25.000	ug/L	107		70 - 130		
Vinyl chloride	BXG0487-BS1	LCS	24.830	25.000	ug/L	99.3		70 - 130		
Total Xylenes	BXG0487-BS1	LCS	75.210	75.000	ug/L	100		70 - 130		

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Suite A
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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
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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: BXG0487										
p- & m-Xylenes	BXG0487-BS1	LCS	50.720	50.000	ug/L	101		70 - 130		
o-Xylene	BXG0487-BS1	LCS	24.490	25.000	ug/L	98.0		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXG0487-BS1	LCS	9.5800	10.000	ug/L	95.8		75 - 125		
Toluene-d8 (Surrogate)	BXG0487-BS1	LCS	9.8300	10.000	ug/L	98.3		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXG0487-BS1	LCS	9.4900	10.000	ug/L	94.9		80 - 120		

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

Reported: 07/23/2014 16:37
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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: BXG0487	Used client sample: N										
Benzene	MS	1414956-02	ND	22.360	25.000	ug/L		89.4		70 - 130	
	MSD	1414956-02	ND	24.370	25.000	ug/L	8.6	97.5	20	70 - 130	
Bromodichloromethane	MS	1414956-02	ND	23.260	25.000	ug/L		93.0		70 - 130	
	MSD	1414956-02	ND	24.350	25.000	ug/L	4.6	97.4	20	70 - 130	
Bromoform	MS	1414956-02	ND	25.020	25.000	ug/L		100		70 - 130	
	MSD	1414956-02	ND	25.020	25.000	ug/L	0	100	20	70 - 130	
Bromomethane	MS	**1414956-02**	**ND**	**16.000**	**25.000**	**ug/L**		**64.0**		**70 - 130**	**Q03**
	MSD	**1414956-02**	**ND**	**20.450**	**25.000**	**ug/L**	**24.4**	**81.8**	**20**	**70 - 130**	**Q02**
Carbon tetrachloride	MS	1414956-02	ND	27.160	25.000	ug/L		109		70 - 130	
	MSD	1414956-02	ND	27.650	25.000	ug/L	1.8	111	20	70 - 130	
Chlorobenzene	MS	1414956-02	ND	24.100	25.000	ug/L		96.4		70 - 130	
	MSD	1414956-02	ND	25.510	25.000	ug/L	5.7	102	20	70 - 130	
Chloroethane	MS	1414956-02	ND	21.830	25.000	ug/L		87.3		70 - 130	
	MSD	1414956-02	ND	24.020	25.000	ug/L	9.6	96.1	20	70 - 130	
Chloroform	MS	1414956-02	ND	23.360	25.000	ug/L		93.4		70 - 130	
	MSD	1414956-02	ND	25.100	25.000	ug/L	7.2	100	20	70 - 130	
Chloromethane	MS	1414956-02	ND	18.700	25.000	ug/L		74.8		70 - 130	
	MSD	1414956-02	ND	21.980	25.000	ug/L	16.1	87.9	20	70 - 130	
Dibromochloromethane	MS	1414956-02	ND	26.010	25.000	ug/L		104		70 - 130	
	MSD	1414956-02	ND	26.480	25.000	ug/L	1.8	106	20	70 - 130	
1,2-Dichlorobenzene	MS	1414956-02	ND	24.310	25.000	ug/L		97.2		70 - 130	
	MSD	1414956-02	ND	24.740	25.000	ug/L	1.8	99.0	20	70 - 130	
1,3-Dichlorobenzene	MS	1414956-02	ND	24.820	25.000	ug/L		99.3		70 - 130	
	MSD	1414956-02	ND	25.230	25.000	ug/L	1.6	101	20	70 - 130	
1,4-Dichlorobenzene	MS	1414956-02	ND	23.960	25.000	ug/L		95.8		70 - 130	
	MSD	1414956-02	ND	24.280	25.000	ug/L	1.3	97.1	20	70 - 130	
1,1-Dichloroethane	MS	1414956-02	ND	21.590	25.000	ug/L		86.4		70 - 130	
	MSD	1414956-02	ND	24.030	25.000	ug/L	10.7	96.1	20	70 - 130	
1,2-Dichloroethane	MS	1414956-02	ND	22.700	25.000	ug/L		90.8		70 - 130	
	MSD	1414956-02	ND	24.500	25.000	ug/L	7.6	98.0	20	70 - 130	
1,1-Dichloroethene	MS	1414956-02	ND	24.450	25.000	ug/L		97.8		70 - 130	
	MSD	1414956-02	ND	26.250	25.000	ug/L	7.1	105	20	70 - 130	
trans-1,2-Dichloroethene	MS	1414956-02	ND	23.850	25.000	ug/L		95.4		70 - 130	
	MSD	1414956-02	ND	25.800	25.000	ug/L	7.9	103	20	70 - 130	
1,2-Dichloropropane	MS	1414956-02	ND	21.220	25.000	ug/L		84.9		70 - 130	
	MSD	1414956-02	ND	23.420	25.000	ug/L	9.9	93.7	20	70 - 130	

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
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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: BXG0487	Used client sample: N										
cis-1,3-Dichloropropene	MS	1414956-02	ND	21.690	25.000	ug/L		86.8		70 - 130	
	MSD	1414956-02	ND	23.720	25.000	ug/L	8.9	94.9	20	70 - 130	
trans-1,3-Dichloropropene	MS	1414956-02	ND	22.650	25.000	ug/L		90.6		70 - 130	
	MSD	1414956-02	ND	24.140	25.000	ug/L	6.4	96.6	20	70 - 130	
Ethylbenzene	MS	1414956-02	ND	23.310	25.000	ug/L		93.2		70 - 130	
	MSD	1414956-02	ND	24.740	25.000	ug/L	6.0	99.0	20	70 - 130	
Methylene chloride	MS	1414956-02	ND	21.750	25.000	ug/L		87.0		70 - 130	
	MSD	1414956-02	ND	23.730	25.000	ug/L	8.7	94.9	20	70 - 130	
Methyl t-butyl ether	MS	1414956-02	ND	21.540	25.000	ug/L		86.2		70 - 130	
	MSD	1414956-02	ND	23.840	25.000	ug/L	10.1	95.4	20	70 - 130	
1,1,2,2-Tetrachloroethane	MS	1414956-02	ND	22.300	25.000	ug/L		89.2		70 - 130	
	MSD	1414956-02	ND	22.960	25.000	ug/L	2.9	91.8	20	70 - 130	
Tetrachloroethene	MS	1414956-02	ND	26.160	25.000	ug/L		105		70 - 130	
	MSD	1414956-02	ND	26.520	25.000	ug/L	1.4	106	20	70 - 130	
Toluene	MS	1414956-02	ND	23.320	25.000	ug/L		93.3		70 - 130	
	MSD	1414956-02	ND	24.620	25.000	ug/L	5.4	98.5	20	70 - 130	
1,1,1-Trichloroethane	MS	1414956-02	ND	25.750	25.000	ug/L		103		70 - 130	
	MSD	1414956-02	ND	26.670	25.000	ug/L	3.5	107	20	70 - 130	
1,1,2-Trichloroethane	MS	1414956-02	ND	21.990	25.000	ug/L		88.0		70 - 130	
	MSD	1414956-02	ND	23.200	25.000	ug/L	5.4	92.8	20	70 - 130	
Trichloroethene	MS	1414956-02	ND	24.010	25.000	ug/L		96.0		70 - 130	
	MSD	1414956-02	ND	25.120	25.000	ug/L	4.5	100	20	70 - 130	
Trichlorofluoromethane	MS	1414956-02	ND	27.650	25.000	ug/L		111		70 - 130	
	MSD	1414956-02	ND	28.310	25.000	ug/L	2.4	113	20	70 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	MS	1414956-02	ND	26.060	25.000	ug/L		104		70 - 130	
	MSD	1414956-02	ND	27.170	25.000	ug/L	4.2	109	20	70 - 130	
Vinyl chloride	MS	1414956-02	ND	21.420	25.000	ug/L		85.7		70 - 130	
	MSD	1414956-02	ND	24.880	25.000	ug/L	14.9	99.5	20	70 - 130	
Total Xylenes	MS	1414956-02	ND	72.050	75.000	ug/L		96.1		70 - 130	
	MSD	1414956-02	ND	75.110	75.000	ug/L	4.2	100	20	70 - 130	
p- & m-Xylenes	MS	1414956-02	ND	48.830	50.000	ug/L		97.7		70 - 130	
	MSD	1414956-02	ND	50.490	50.000	ug/L	3.3	101	20	70 - 130	
o-Xylene	MS	1414956-02	ND	23.220	25.000	ug/L		92.9		70 - 130	
	MSD	1414956-02	ND	24.620	25.000	ug/L	5.9	98.5	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1414956-02	ND	9.4600	10.000	ug/L		94.6		75 - 125	
	MSD	1414956-02	ND	9.5400	10.000	ug/L	0.8	95.4		75 - 125	

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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: BXG0487	Used client sample: N										
Toluene-d8 (Surrogate)	MS	1414956-02	ND	9.4800	10.000	ug/L		94.8		80 - 120	
	MSD	1414956-02	ND	9.6200	10.000	ug/L	1.5	96.2		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1414956-02	ND	9.4600	10.000	ug/L		94.6		80 - 120	
	MSD	1414956-02	ND	9.6900	10.000	ug/L	2.4	96.9		80 - 120	

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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: BXG1314						
Acenaphthene	BXG1314-BLK1	ND	ug/L	2.0	0.24	
Acenaphthylene	BXG1314-BLK1	ND	ug/L	2.0	0.28	
Aldrin	BXG1314-BLK1	ND	ug/L	2.0	0.35	
Aniline	BXG1314-BLK1	ND	ug/L	5.0	0.69	
Anthracene	BXG1314-BLK1	ND	ug/L	2.0	0.30	
Benzidine	BXG1314-BLK1	ND	ug/L	20	7.1	
Benzo[a]anthracene	BXG1314-BLK1	ND	ug/L	2.0	0.38	
Benzo[b]fluoranthene	BXG1314-BLK1	ND	ug/L	2.0	0.41	
Benzo[k]fluoranthene	BXG1314-BLK1	ND	ug/L	2.0	0.31	
Benzo[a]pyrene	BXG1314-BLK1	ND	ug/L	2.0	0.20	
Benzo[g,h,i]perylene	BXG1314-BLK1	ND	ug/L	2.0	0.22	
Benzoic acid	BXG1314-BLK1	ND	ug/L	10	5.8	
Benzyl alcohol	BXG1314-BLK1	ND	ug/L	2.0	0.34	
Benzyl butyl phthalate	BXG1314-BLK1	ND	ug/L	2.0	0.47	
alpha-BHC	BXG1314-BLK1	ND	ug/L	2.0	0.27	
beta-BHC	BXG1314-BLK1	ND	ug/L	2.0	0.27	
delta-BHC	BXG1314-BLK1	ND	ug/L	2.0	0.30	
gamma-BHC (Lindane)	BXG1314-BLK1	ND	ug/L	2.0	0.22	
bis(2-Chloroethoxy)methane	BXG1314-BLK1	ND	ug/L	2.0	0.27	
bis(2-Chloroethyl) ether	BXG1314-BLK1	ND	ug/L	2.0	0.68	
bis(2-Chloroisopropyl)ether	BXG1314-BLK1	ND	ug/L	2.0	0.30	
bis(2-Ethylhexyl)phthalate	BXG1314-BLK1	ND	ug/L	5.0	3.0	
4-Bromophenyl phenyl ether	BXG1314-BLK1	ND	ug/L	2.0	0.23	
4-Chloroaniline	BXG1314-BLK1	ND	ug/L	2.0	0.69	
2-Chloronaphthalene	BXG1314-BLK1	ND	ug/L	2.0	0.34	
4-Chlorophenyl phenyl ether	BXG1314-BLK1	ND	ug/L	2.0	0.23	
Chrysene	BXG1314-BLK1	ND	ug/L	2.0	0.63	
4,4'-DDD	BXG1314-BLK1	ND	ug/L	2.0	0.48	
4,4'-DDE	BXG1314-BLK1	ND	ug/L	3.0	0.41	
4,4'-DDT	BXG1314-BLK1	ND	ug/L	2.0	0.43	
Dibenzo[a,h]anthracene	BXG1314-BLK1	ND	ug/L	3.0	0.26	
Dibenzofuran	BXG1314-BLK1	ND	ug/L	2.0	0.21	
1,2-Dichlorobenzene	BXG1314-BLK1	ND	ug/L	2.0	0.37	
1,3-Dichlorobenzene	BXG1314-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: BXG1314						
1,4-Dichlorobenzene	BXG1314-BLK1	ND	ug/L	2.0	0.31	
3,3-Dichlorobenzidine	BXG1314-BLK1	ND	ug/L	10	8.2	
Dieldrin	BXG1314-BLK1	ND	ug/L	3.0	0.41	
Diethyl phthalate	BXG1314-BLK1	ND	ug/L	2.0	0.33	
Dimethyl phthalate	BXG1314-BLK1	ND	ug/L	2.0	0.39	
Di-n-butyl phthalate	BXG1314-BLK1	ND	ug/L	2.0	0.39	
2,4-Dinitrotoluene	BXG1314-BLK1	ND	ug/L	2.0	0.26	
2,6-Dinitrotoluene	BXG1314-BLK1	ND	ug/L	2.0	0.41	
Di-n-octyl phthalate	BXG1314-BLK1	ND	ug/L	2.0	0.46	
1,2-Diphenylhydrazine	BXG1314-BLK1	ND	ug/L	2.0	0.34	
Endosulfan I	BXG1314-BLK1	ND	ug/L	10	1.7	
Endosulfan II	BXG1314-BLK1	ND	ug/L	10	1.2	
Endosulfan sulfate	BXG1314-BLK1	ND	ug/L	3.0	0.58	
Endrin	BXG1314-BLK1	ND	ug/L	2.0	1.1	
Endrin aldehyde	BXG1314-BLK1	ND	ug/L	10	0.52	
Fluoranthene	BXG1314-BLK1	ND	ug/L	2.0	0.20	
Fluorene	BXG1314-BLK1	ND	ug/L	2.0	0.28	
Heptachlor	BXG1314-BLK1	ND	ug/L	2.0	0.32	
Heptachlor epoxide	BXG1314-BLK1	ND	ug/L	2.0	0.27	
Hexachlorobenzene	BXG1314-BLK1	ND	ug/L	2.0	0.20	
Hexachlorobutadiene	BXG1314-BLK1	ND	ug/L	2.0	0.24	
Hexachlorocyclopentadiene	BXG1314-BLK1	ND	ug/L	2.0	0.30	
Hexachloroethane	BXG1314-BLK1	ND	ug/L	2.0	0.32	
Indeno[1,2,3-cd]pyrene	BXG1314-BLK1	ND	ug/L	2.0	0.26	
Isophorone	BXG1314-BLK1	ND	ug/L	2.0	0.31	
2-Methylnaphthalene	BXG1314-BLK1	ND	ug/L	2.0	0.28	
Naphthalene	BXG1314-BLK1	ND	ug/L	2.0	0.21	
2-Naphthylamine	BXG1314-BLK1	ND	ug/L	20	4.8	
2-Nitroaniline	BXG1314-BLK1	ND	ug/L	2.0	0.33	
3-Nitroaniline	BXG1314-BLK1	ND	ug/L	2.0	0.66	
4-Nitroaniline	BXG1314-BLK1	ND	ug/L	5.0	0.87	
Nitrobenzene	BXG1314-BLK1	ND	ug/L	2.0	0.26	
N-Nitrosodimethylamine	BXG1314-BLK1	ND	ug/L	2.0	0.61	
N-Nitrosodi-N-propylamine	BXG1314-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: BXG1314						
N-Nitrosodiphenylamine	BXG1314-BLK1	ND	ug/L	2.0	0.44	
Phenanthrene	BXG1314-BLK1	ND	ug/L	2.0	0.20	
Pyrene	BXG1314-BLK1	ND	ug/L	2.0	0.26	
1,2,4-Trichlorobenzene	BXG1314-BLK1	ND	ug/L	2.0	0.27	
4-Chloro-3-methylphenol	BXG1314-BLK1	ND	ug/L	5.0	0.40	
2-Chlorophenol	BXG1314-BLK1	ND	ug/L	2.0	0.37	
2,4-Dichlorophenol	BXG1314-BLK1	ND	ug/L	2.0	0.43	
2,4-Dimethylphenol	BXG1314-BLK1	ND	ug/L	2.0	0.20	
4,6-Dinitro-2-methylphenol	BXG1314-BLK1	ND	ug/L	10	0.34	
2,4-Dinitrophenol	BXG1314-BLK1	ND	ug/L	10	0.20	
2-Methylphenol	BXG1314-BLK1	ND	ug/L	2.0	1.0	
3- & 4-Methylphenol	BXG1314-BLK1	ND	ug/L	2.0	1.6	
2-Nitrophenol	BXG1314-BLK1	ND	ug/L	2.0	0.28	
4-Nitrophenol	BXG1314-BLK1	ND	ug/L	2.0	0.73	
Pentachlorophenol	BXG1314-BLK1	ND	ug/L	10	0.79	
Phenol	BXG1314-BLK1	ND	ug/L	2.0	0.20	
2,4,5-Trichlorophenol	BXG1314-BLK1	ND	ug/L	5.0	0.31	
2,4,6-Trichlorophenol	BXG1314-BLK1	ND	ug/L	5.0	0.60	
2-Fluorophenol (Surrogate)	**BXG1314-BLK1**	**48.0**	%	**30 - 120 (LCL - UCL)**		
Phenol-d5 (Surrogate)	**BXG1314-BLK1**	**35.3**	%	**12 - 110 (LCL - UCL)**		
Nitrobenzene-d5 (Surrogate)	**BXG1314-BLK1**	**89.8**	%	**60 - 130 (LCL - UCL)**		
2-Fluorobiphenyl (Surrogate)	**BXG1314-BLK1**	**70.3**	%	**55 - 125 (LCL - UCL)**		
2,4,6-Tribromophenol (Surrogate)	**BXG1314-BLK1**	**75.5**	%	**40 - 150 (LCL - UCL)**		
p-Terphenyl-d14 (Surrogate)	**BXG1314-BLK1**	**91.4**	%	**40 - 150 (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: BXG1314										
Acenaphthene	BXG1314-BS1	LCS	39.266	50.000	ug/L	78.5		50 - 120		
1,4-Dichlorobenzene	BXG1314-BS1	LCS	38.548	50.000	ug/L	77.1		50 - 120		
2,4-Dinitrotoluene	BXG1314-BS1	LCS	60.819	50.000	ug/L	122		50 - 120		L01
Hexachlorobenzene	BXG1314-BS1	LCS	19.720	50.000	ug/L	39.4		60 - 120		L01
Hexachlorobutadiene	BXG1314-BS1	LCS	29.071	50.000	ug/L	58.1		40 - 110		
Hexachloroethane	BXG1314-BS1	LCS	37.539	50.000	ug/L	75.1		40 - 120		
Nitrobenzene	BXG1314-BS1	LCS	44.184	50.000	ug/L	88.4		50 - 120		
N-Nitrosodi-N-propylamine	BXG1314-BS1	LCS	48.151	50.000	ug/L	96.3		50 - 120		
Pyrene	BXG1314-BS1	LCS	44.804	50.000	ug/L	89.6		40 - 140		
1,2,4-Trichlorobenzene	BXG1314-BS1	LCS	37.083	50.000	ug/L	74.2		45 - 120		
4-Chloro-3-methylphenol	BXG1314-BS1	LCS	56.279	50.000	ug/L	113		50 - 120		
2-Chlorophenol	BXG1314-BS1	LCS	45.154	50.000	ug/L	90.3		50 - 120		
2-Methylphenol	BXG1314-BS1	LCS	40.400	50.000	ug/L	80.8		40 - 110		
3- & 4-Methylphenol	BXG1314-BS1	LCS	81.528	100.00	ug/L	81.5		40 - 110		
4-Nitrophenol	BXG1314-BS1	LCS	26.093	50.000	ug/L	52.2		10 - 110		
Pentachlorophenol	BXG1314-BS1	LCS	46.337	50.000	ug/L	92.7		30 - 120		
Phenol	BXG1314-BS1	LCS	25.133	50.000	ug/L	50.3		20 - 110		
2,4,6-Trichlorophenol	BXG1314-BS1	LCS	44.116	50.000	ug/L	88.2		54 - 120		
2-Fluorophenol (Surrogate)	BXG1314-BS1	LCS	48.345	80.000	ug/L	60.4		30 - 120		
Phenol-d5 (Surrogate)	BXG1314-BS1	LCS	34.435	80.000	ug/L	43.0		12 - 110		
Nitrobenzene-d5 (Surrogate)	BXG1314-BS1	LCS	81.305	80.000	ug/L	102		60 - 130		
2-Fluorobiphenyl (Surrogate)	BXG1314-BS1	LCS	57.560	80.000	ug/L	72.0		55 - 125		
2,4,6-Tribromophenol (Surrogate)	BXG1314-BS1	LCS	70.441	80.000	ug/L	88.1		40 - 150		
p-Terphenyl-d14 (Surrogate)	BXG1314-BS1	LCS	37.200	40.000	ug/L	93.0		40 - 150		

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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: BXG1314	Used client sample: N										
Acenaphthene	MS	1411671-76	ND	33.523	50.000	ug/L		67.0		50 - 120	
	MSD	1411671-76	ND	36.066	50.000	ug/L	7.3	72.1	30	50 - 120	
1,4-Dichlorobenzene	MS	1411671-76	ND	30.768	50.000	ug/L		61.5		47 - 120	
	MSD	1411671-76	ND	35.096	50.000	ug/L	13.1	70.2	30	47 - 120	
2,4-Dinitrotoluene	MS	1411671-76	ND	54.346	50.000	ug/L		109		50 - 130	
	MSD	1411671-76	ND	58.172	50.000	ug/L	6.8	116	30	50 - 130	
Hexachlorobenzene	MS	**1411671-76**	**ND**	**18.048**	**50.000**	**ug/L**		**36.1**		**62 - 120**	**Q03**
	MSD	**1411671-76**	**ND**	**18.998**	**50.000**	**ug/L**	**5.1**	**38.0**	**30**	**62 - 120**	**Q03**
Hexachlorobutadiene	MS	1411671-76	ND	21.264	50.000	ug/L		42.5		40 - 110	
	MSD	1411671-76	ND	25.750	50.000	ug/L	19.1	51.5	30	40 - 110	
Hexachloroethane	MS	1411671-76	ND	29.126	50.000	ug/L		58.3		40 - 120	
	MSD	1411671-76	ND	33.116	50.000	ug/L	12.8	66.2	30	40 - 120	
Nitrobenzene	MS	1411671-76	ND	34.522	50.000	ug/L		69.0		50 - 120	
	MSD	1411671-76	ND	37.333	50.000	ug/L	7.8	74.7	30	50 - 120	
N-Nitrosodi-N-propylamine	MS	1411671-76	ND	36.547	50.000	ug/L		73.1		50 - 120	
	MSD	1411671-76	ND	35.808	50.000	ug/L	2.0	71.6	30	50 - 120	
Pyrene	MS	1411671-76	ND	43.546	50.000	ug/L		87.1		40 - 140	
	MSD	1411671-76	ND	41.481	50.000	ug/L	4.9	83.0	30	40 - 140	
1,2,4-Trichlorobenzene	MS	1411671-76	ND	29.232	50.000	ug/L		58.5		43 - 120	
	MSD	1411671-76	ND	32.373	50.000	ug/L	10.2	64.7	30	43 - 120	
4-Chloro-3-methylphenol	MS	1411671-76	ND	49.574	50.000	ug/L		99.1		50 - 120	
	MSD	1411671-76	ND	47.164	50.000	ug/L	5.0	94.3	30	50 - 120	
2-Chlorophenol	MS	1411671-76	ND	34.992	50.000	ug/L		70.0		50 - 120	
	MSD	1411671-76	ND	36.580	50.000	ug/L	4.4	73.2	30	50 - 120	
2-Methylphenol	MS	1411671-76	ND	35.040	50.000	ug/L		70.1		40 - 110	
	MSD	1411671-76	ND	32.066	50.000	ug/L	8.9	64.1	30	40 - 110	
3- & 4-Methylphenol	MS	1411671-76	ND	67.517	100.00	ug/L		67.5		40 - 110	
	MSD	1411671-76	ND	62.974	100.00	ug/L	7.0	63.0	30	40 - 110	
4-Nitrophenol	MS	1411671-76	ND	18.576	50.000	ug/L		37.2		10 - 110	
	MSD	1411671-76	ND	19.533	50.000	ug/L	5.0	39.1	30	10 - 110	
Pentachlorophenol	MS	1411671-76	ND	42.922	50.000	ug/L		85.8		30 - 120	
	MSD	1411671-76	ND	44.708	50.000	ug/L	4.1	89.4	30	30 - 120	
Phenol	MS	1411671-76	ND	20.179	50.000	ug/L		40.4		20 - 110	
	MSD	1411671-76	ND	21.097	50.000	ug/L	4.4	42.2	30	20 - 110	
2,4,6-Trichlorophenol	MS	1411671-76	ND	37.354	50.000	ug/L		74.7		50 - 120	
	MSD	1411671-76	ND	39.323	50.000	ug/L	5.1	78.6	30	50 - 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: BXG1314	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1411671-76	ND	39.782	80.000	ug/L		49.7		30 - 120	
	MSD	1411671-76	ND	42.560	80.000	ug/L	6.7	53.2		30 - 120	
Phenol-d5 (Surrogate)	MS	1411671-76	ND	26.717	80.000	ug/L		33.4		12 - 110	
	MSD	1411671-76	ND	27.661	80.000	ug/L	3.5	34.6		12 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1411671-76	ND	63.706	80.000	ug/L		79.6		60 - 130	
	MSD	1411671-76	ND	66.568	80.000	ug/L	4.4	83.2		60 - 130	
2-Fluorobiphenyl (Surrogate)	MS	1411671-76	ND	49.075	80.000	ug/L		61.3		55 - 125	
	MSD	1411671-76	ND	53.935	80.000	ug/L	9.4	67.4		55 - 125	
2,4,6-Tribromophenol (Surrogate)	MS	1411671-76	ND	66.643	80.000	ug/L		83.3		40 - 150	
	MSD	1411671-76	ND	66.182	80.000	ug/L	0.7	82.7		40 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1411671-76	ND	36.739	40.000	ug/L		91.8		40 - 150	
	MSD	1411671-76	ND	35.828	40.000	ug/L	2.5	89.6		40 - 150	

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

Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXG0581						
Total Cyanide	BXG0581-BLK1	ND	mg/L	0.0050	0.0026	

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BXG0581										
Total Cyanide	BXG0581-BS1	LCS	0.15448	0.15000	mg/L	103		90 - 110		

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BXG0581	Used client sample: Y - Description: COMP EFF A.R.S. BC2, 07/02/2014 09:00										
Total Cyanide	DUP	1414797-02	ND	ND		mg/L			10		
	MS	1414797-02	ND	0.10156	0.10000	mg/L		102		90 - 110	
	MSD	1414797-02	ND	0.098783	0.10000	mg/L	2.8	98.8	10	90 - 110	

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXG0579						
Total Recoverable Arsenic	BXG0579-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Lead	BXG0579-BLK1	ND	ug/L	1.0	0.10	
Total Recoverable Selenium	BXG0579-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Thallium	BXG0579-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: BXG0726						
Total Recoverable Antimony	BXG0726-BLK1	ND	ug/L	100	5.0	
Total Recoverable Beryllium	BXG0726-BLK1	ND	ug/L	10	0.77	
Total Recoverable Cadmium	BXG0726-BLK1	ND	ug/L	10	1.1	
Total Recoverable Chromium	BXG0726-BLK1	ND	ug/L	10	1.2	
Total Recoverable Copper	BXG0726-BLK1	ND	ug/L	10	1.2	
Total Recoverable Nickel	BXG0726-BLK1	ND	ug/L	10	2.3	
Total Recoverable Silver	BXG0726-BLK1	ND	ug/L	10	1.3	
Total Recoverable Zinc	**BXG0726-BLK1**	**4.9614**	**ug/L**	**50**	**1.3**	**J**
QC Batch ID: BXG0863						
Total Mercury	BXG0863-BLK1	ND	ug/L	0.20	0.024	

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

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: BXG0579										
Total Recoverable Arsenic	BXG0579-BS1	LCS	98.975	100.00	ug/L	99.0		85 - 115		
Total Recoverable Lead	BXG0579-BS1	LCS	100.01	100.00	ug/L	100		85 - 115		
Total Recoverable Selenium	BXG0579-BS1	LCS	97.340	100.00	ug/L	97.3		85 - 115		
Total Recoverable Thallium	BXG0579-BS1	LCS	39.899	40.000	ug/L	99.7		85 - 115		
QC Batch ID: BXG0726										
Total Recoverable Antimony	BXG0726-BS1	LCS	388.60	400.00	ug/L	97.1		85 - 115		
Total Recoverable Beryllium	BXG0726-BS1	LCS	203.50	200.00	ug/L	102		85 - 115		
Total Recoverable Cadmium	BXG0726-BS1	LCS	203.09	200.00	ug/L	102		85 - 115		
Total Recoverable Chromium	BXG0726-BS1	LCS	198.13	200.00	ug/L	99.1		85 - 115		
Total Recoverable Copper	BXG0726-BS1	LCS	393.95	400.00	ug/L	98.5		85 - 115		
Total Recoverable Nickel	BXG0726-BS1	LCS	423.97	400.00	ug/L	106		85 - 115		
Total Recoverable Silver	BXG0726-BS1	LCS	98.761	100.00	ug/L	98.8		85 - 115		
Total Recoverable Zinc	BXG0726-BS1	LCS	536.75	500.00	ug/L	107		85 - 115		
QC Batch ID: BXG0863										
Total Mercury	BXG0863-BS1	LCS	1.0025	1.0000	ug/L	100		85 - 115		

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

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: BXG0579	Used client sample: N										
Total Recoverable Arsenic	DUP	1414926-01	17.028	17.667		ug/L	3.7		20		
	MS	1414926-01	17.028	115.42	100.00	ug/L		98.4		70 - 130	
	MSD	1414926-01	17.028	113.43	100.00	ug/L	1.7	96.4	20	70 - 130	
Total Recoverable Lead	DUP	1414926-01	0.79700	0.81700		ug/L	2.5		20		J
	MS	1414926-01	0.79700	100.76	100.00	ug/L		100		70 - 130	
	MSD	1414926-01	0.79700	96.308	100.00	ug/L	4.5	95.5	20	70 - 130	
Total Recoverable Selenium	DUP	1414926-01	ND	ND		ug/L			20		
	MS	1414926-01	ND	94.173	100.00	ug/L		94.2		70 - 130	
	MSD	1414926-01	ND	92.646	100.00	ug/L	1.6	92.6	20	70 - 130	
Total Recoverable Thallium	DUP	1414926-01	ND	ND		ug/L			20		
	MS	1414926-01	ND	39.657	40.000	ug/L		99.1		70 - 130	
	MSD	1414926-01	ND	37.985	40.000	ug/L	4.3	95.0	20	70 - 130	
QC Batch ID: BXG0726	Used client sample: N										
Total Recoverable Antimony	DUP	1414710-01	ND	ND		ug/L			20		
	MS	1414710-01	ND	394.84	400.00	ug/L		98.7		75 - 125	
	MSD	1414710-01	ND	396.62	400.00	ug/L	0.5	99.2	20	75 - 125	
Total Recoverable Beryllium	DUP	1414710-01	ND	ND		ug/L			20		
	MS	1414710-01	ND	214.01	200.00	ug/L		107		75 - 125	
	MSD	1414710-01	ND	212.75	200.00	ug/L	0.6	106	20	75 - 125	
Total Recoverable Cadmium	DUP	1414710-01	ND	ND		ug/L			20		
	MS	1414710-01	ND	214.51	200.00	ug/L		107		75 - 125	
	MSD	1414710-01	ND	214.79	200.00	ug/L	0.1	107	20	75 - 125	
Total Recoverable Chromium	DUP	1414710-01	ND	1.9071		ug/L			20		J
	MS	1414710-01	ND	211.40	200.00	ug/L		106		75 - 125	
	MSD	1414710-01	ND	211.42	200.00	ug/L	0.0	106	20	75 - 125	
Total Recoverable Copper	DUP	1414710-01	ND	ND		ug/L			20		
	MS	1414710-01	ND	421.62	400.00	ug/L		105		75 - 125	
	MSD	1414710-01	ND	417.63	400.00	ug/L	1.0	104	20	75 - 125	
Total Recoverable Nickel	DUP	1414710-01	ND	ND		ug/L			20		
	MS	1414710-01	ND	438.88	400.00	ug/L		110		75 - 125	
	MSD	1414710-01	ND	439.03	400.00	ug/L	0.0	110	20	75 - 125	
Total Recoverable Silver	DUP	1414710-01	ND	ND		ug/L			20		
	MS	1414710-01	ND	106.29	100.00	ug/L		106		75 - 125	
	MSD	1414710-01	ND	105.55	100.00	ug/L	0.7	106	20	75 - 125	
Total Recoverable Zinc	DUP	1414710-01	7.5585	7.0822		ug/L	6.5		20		J
	MS	1414710-01	7.5585	566.50	500.00	ug/L		112		75 - 125	
	MSD	1414710-01	7.5585	565.70	500.00	ug/L	0.1	112	20	75 - 125	
QC Batch ID: BXG0863	Used client sample: N										

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

Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

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: BXG0863	Used client sample: N										
Total Mercury	DUP	1414942-01	ND	ND		ug/L			20		
	MS	1414942-01	ND	0.98250	1.0000	ug/L		98.2		70 - 130	
	MSD	1414942-01	ND	0.96000	1.0000	ug/L	2.3	96.0	20	70 - 130	

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Reported: 07/23/2014 16:37
Project: Semi-Annual Eff
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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
L01	The Laboratory Control Sample Water (LCSW) recovery is not within laboratory established control limits.
Q02	Matrix spike precision is not within the control limits.
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
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Monday, July 21, 2014

Lab Number: **AB17442**

Collection Date/Time:	7/2/2014	10:10	Sample Collector:	STEVEN A
Submittal Date/Time:	7/3/2014	9:43	Sample ID	MBCSD SEMI ANN

Sample Description: Grab Eff A.R.S. M1-M3

Analyte	Method	Unit	**Result**	Qual	PQL	Date Analyzed	Analyst:
Nitrate as NO3	EPA300.0	mg/L	**Not Detected**		1	7/4/2014	MW
o-Phosphate-P	EPA300.0	mg/L	**1.9**		0.1	7/4/2014	MW
Silica as SiO2, Total	EPA200.7	mg/L	**11**		0.5	7/11/2014	DC
Urea-N	Mulvenna&Savid	ug/L	**77**		10	7/18/2014	MW

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 J = Result is less than PQL
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.
D = Method deviates from standard method due to insufficient sample for MS/MSD

Chain of Custody / Analysis Request

MBAS
MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY

4 Justin Court, Suite D
Monterey, CA 93940
831-375-MBAS (6227)
831-641-0734 Fax
montereybayanalytical@usa.net

Client / Company Name: **Marine Research Specialists**		email address to sent report & invoice: **bonnie.luke@mrsenv.com**	
Attn: Bonnie Luke		Drinking water [ ] Wastewater [X] Monitoring Well [ ] Soil [ ] Sludge [ ]	
Mailing Address: 3140 Telegraph Rd. Suite A, Ventura, CA 93003		For State or Local Health Department reporting, the System # is _____	
Billing Address: same as above		Phone # **805-289-3926**	Fax # **805-289-3935**

MBAS Lab #	Project ID or #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sampling Date	Sampling Time	Receiving Temp	Coliform Analysis: CL2 Residual	Coliform Analysis: Routine	Coliform Analysis: Other	Coliform Analysis: Repeat	# Cont.	Container Type	Container Size	Analysis Requested: Nitrate as NO3/EPA 300.0	O-Phosphate-P/EPA 300.0	Silica as SiO2/EPA 4500-SI-E	Urea/Mulvenna & Savid		
17442	MBCSD Semi ann	Grab Eff A.R.S. M1	7/02 2014	1010	0.4					1			X	X				
↓	MBCSD Semi ann	Grab Eff A.R.S. M2	7/02 2014	↓	↓					1						X		
	MBCSD Semi ann	Grab Eff A.R.S. M3	7/02 2014	↓	↓					1					X			

	Printed Name	Signature	Date	Time	Comment
Sampled by:	Aschenbrener Steven	Steven R. Aschenbrener	25JUN14	1430	Is sample for regulatory purposes? Yes / No
Relinquished by:					
Received by:	M. Holland	M. Holland	7/3/14	0943	*pour off 50 ml & freeze to hold for Urea test
Relinquished by:					
Received by:					

[ ] Payment received | Check # | Amount: | Receipt # | Date:

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 21, 2014

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

Laboratory No.: A-14071508-001
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:	07/15/14 (composite)
Date Received:	07/15/14
Temp. Received:	2.2°C
Chlorine (TRC):	0.0 mg/l
Dates Tested:	07/16/14 to 07/18/14

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-14071508-001
Client/ID: Morro Bay WWTP

Date tested: 07/16/14 - 07/18/14

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-140716 (ran concurrently)

Source: Cultured Abalone Farms.
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)	92.0%	
Control (Dilution)	92.4%	
3.2%	93.4%	
5.6%	89.9%	
10.0%	0%	*
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 (92.4%)
%MSD <20% relative to control	PASSED (%MSD = 5.5%)
Please see RT-140716 report for additional test acceptability criteria.	

Abalone Larval Development Test-Proportion Normal

Start Date:	7/16/2014 14:15	Test ID:	A14071508a	Sample ID:	Morro Bay
End Date:	7/18/2014 14:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF1-POTW
Sample Date:	7/15/2014 09:00	Protocol:	EPAW 95-EPA/600/R-95/136	Test Species:	HR-Haliotis rufescens

Comments:

Conc-%	1	2	3	4	5
B-Control	0.9391	0.9153	0.9636	0.9196	0.8632
D-Control	0.9720	0.9145	0.9550	0.8992	0.8770
3.2	0.9714	0.8783	0.9633	0.9279	0.9292
5.6	0.9068	0.8824	0.8780	0.9279	0.9000
10	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000

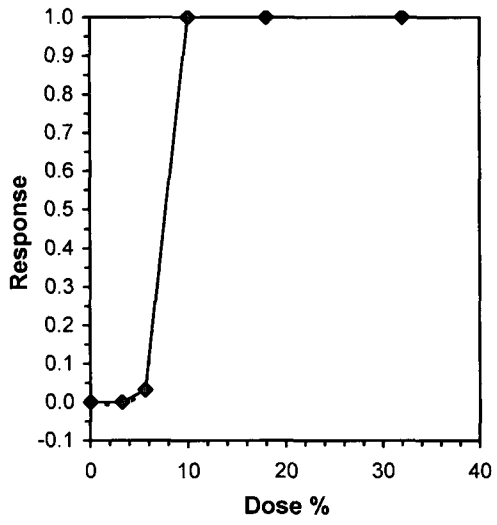
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
B-Control	0.9202	0.9964	1.2902	1.1920	1.3789	5.308	5					
D-Control	0.9235	1.0000	1.2988	1.2125	1.4026	6.064	5	*			0.9275	1.0000
3.2	0.9340	1.0114	1.3188	1.2144	1.4010	5.605	5	-0.484	2.110	0.0873	0.9275	1.0000
5.6	0.8990	0.9735	1.2487	1.2141	1.2990	2.732	5	1.211	2.110	0.0873	0.8985	0.9687
10	0.0000	0.0000	0.0500	0.0500	0.0500	0.000	5				0.0000	0.0000
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)	0.96495	0.881	0.07604	-0.6991
Bartlett's Test indicates equal variances (p = 0.29)	2.46573	9.21034		
The control means are not significantly different (p = 0.86)	0.18237	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	5.6	10	7.48331	17.8571	0.05144	0.05545	0.00652	0.00428	0.25702	2, 12

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	5.6851	0.2971	4.8307	5.8174	-4.6693
IC10	5.9122	0.0657	5.7283	6.0376	-0.0874
IC15	6.1393	0.0620	5.9656	6.2577	-0.0874
IC20	6.3664	0.0584	6.2029	6.4778	-0.0874
IC25	6.5935	0.0547	6.4402	6.6980	-0.0874
IC40	7.2748	0.0438	7.1522	7.3584	-0.0874
IC50	7.7290	0.0365	7.6268	7.7986	-0.0874



ABALONE CHRONIC BIOASSAY

Aquatic Testing Laboratories

Lab No.: A-14071508-001
Client ID: MRS - Morro Bay Effluent

Start Date: 07/16/2014

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)	15.4	7.6	8.3	34	15.4	8.2	15.5	8.3	8.2	34
Control (lab)	15.4	7.6	8.2	34	15.4	8.2	15.3	8.2	8.2	34
3.2%	15.2	7.7	8.2	34	15.4	8.2	15.5	8.1	8.2	34
5.6%	15.5	7.7	8.3	34	15.6	8.2	15.5	8.2	8.2	34
10%	15.4	7.6	8.3	34	15.3	8.2	15.9	8.1	8.3	34
18%	15.2	7.5	8.3	34	15.6	8.3	15.8	8.1	8.3	34
32%	15.4	7.5	8.3	34	15.3	8.3	15.7	8.0	8.2	34

Sample as received: Chlorine: 0 mg/l; pH: 8.0; Salinity: 0 ppt; Temp: 2.2 °C; DO: 2.5 mg/l.

Initial readings: [signature] Date/Time: 7-16-14 14:15 Final readings: [signature] Date/Time: 7-18-14 14:30

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	3.2	0	100	13	10	0	100	25	B	103	9
2	18	0	100	14	5.6	108	15	26	3.2	105	8
3	10	0	100	15	3.2	101	14	27	C	107	12
4	5.6	107	11	16	3.2	0	100	28	B	101	16
5	C	104	3	17	18	0	100	29	10	0	100
6	10	0	100	18	3.2	105	4	30	5.6	103	8
7	5.6	105	14	19	B	106	4	31	10	0	100
8	3.2	102	3	20	3.2	0	100	32	5.6	108	12
9	C	107	10	21	3.2	0	100	33	C	107	15
10	B	108	7	22	18	0	100	34	3.2	0	100
11	B	108	10	23	3.2	103	8	35	18	0	100
12	18	0	100	24	C	106	5				

Microscopic examination: Analyst: [signature] Date: 7-21-14 Time: 0800

Aquatic Testing Laboratories

ABALONE CHRONIC BIOASSAY

Lab No.: A-14071508-001
Client ID: MRS - Morro Bay Effluent

Start Date: 07/16/2014

RANDOMIZATION WORKSHEET

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

Analyst: 7-16-14 Date: [signature] 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 Street, 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.	15 July 14	0900	E	<.05	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 Aschalon	Doug Coats	15 July 14	11:27	NA	—
Doug A. Coats	[signature]	7-15-14	14:20	NA	2.2°

Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

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

Aquatic Testing Laboratories

QA/QC Batch No.: RT-140716

Date tested: 07/16/14 - 07/18/14

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: Cultured Abalone Farm.
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	93.5%
10 µg/l	92.0%
18 µg/l	91.3%
32 µg/l	7.2% *
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	21.6 µg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥80%	Yes (93.5%)
56 µg/l treatment response significantly less than control response	Yes (NOEC = 18 µg/l)
%MSD <20% relative to control	Yes (%MSD = 7.1%)

Abalone Larval Development Test-Proportion Normal

Start Date:	7/16/2014 14:15	Test ID:	RT140716ab	Sample ID:	REF-Ref Toxicant
End Date:	7/18/2014 14:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	ZNSO-Zinc sulfate
Sample Date:	7/16/2014	Protocol:	EPAW 95-EPA/600/R-95/136	Test Species:	HR-Haliotis rufescens
Comments:					

Conc-ug/L	1	2	3	4	5
D-Control	0.9810	0.9043	0.9381	0.8699	0.9811
10	0.9717	0.8852	0.8696	0.9459	0.9292
18	0.9474	0.9083	0.9304	0.8783	0.9027
32	0.1368	0.0708	0.0189	0.0877	0.0463
56	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

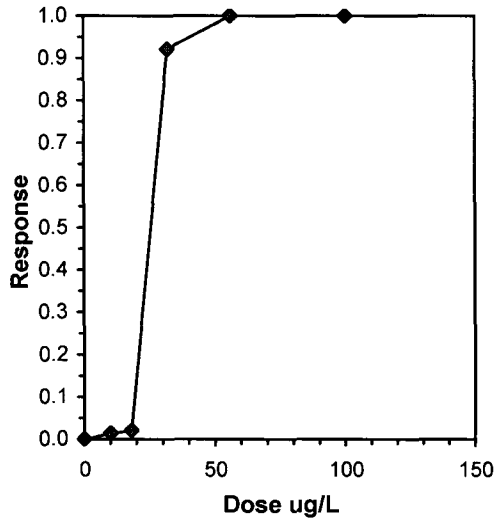
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-ug/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9349	1.0000	1.3286	1.2018	1.4330	7.808	5				0.9324	1.0000
10	0.9203	0.9844	1.2932	1.2013	1.4018	6.326	5	0.669	2.230	0.1178	0.9189	0.9855
18	0.9134	0.9770	1.2749	1.2144	1.3393	3.771	5	1.016	2.230	0.1178	0.9133	0.9796
*32	0.0721	0.0771	0.2607	0.1378	0.3788	34.655	5	20.207	2.230	0.1178	0.0735	0.0788
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)	0.95486	0.905	-0.007	-0.9983
Bartlett's Test indicates equal variances (p = 0.57)	2.02438	11.3449		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	18	32	24		0.06661	0.07068	1.34974	0.00698	8.9E-13	3, 16

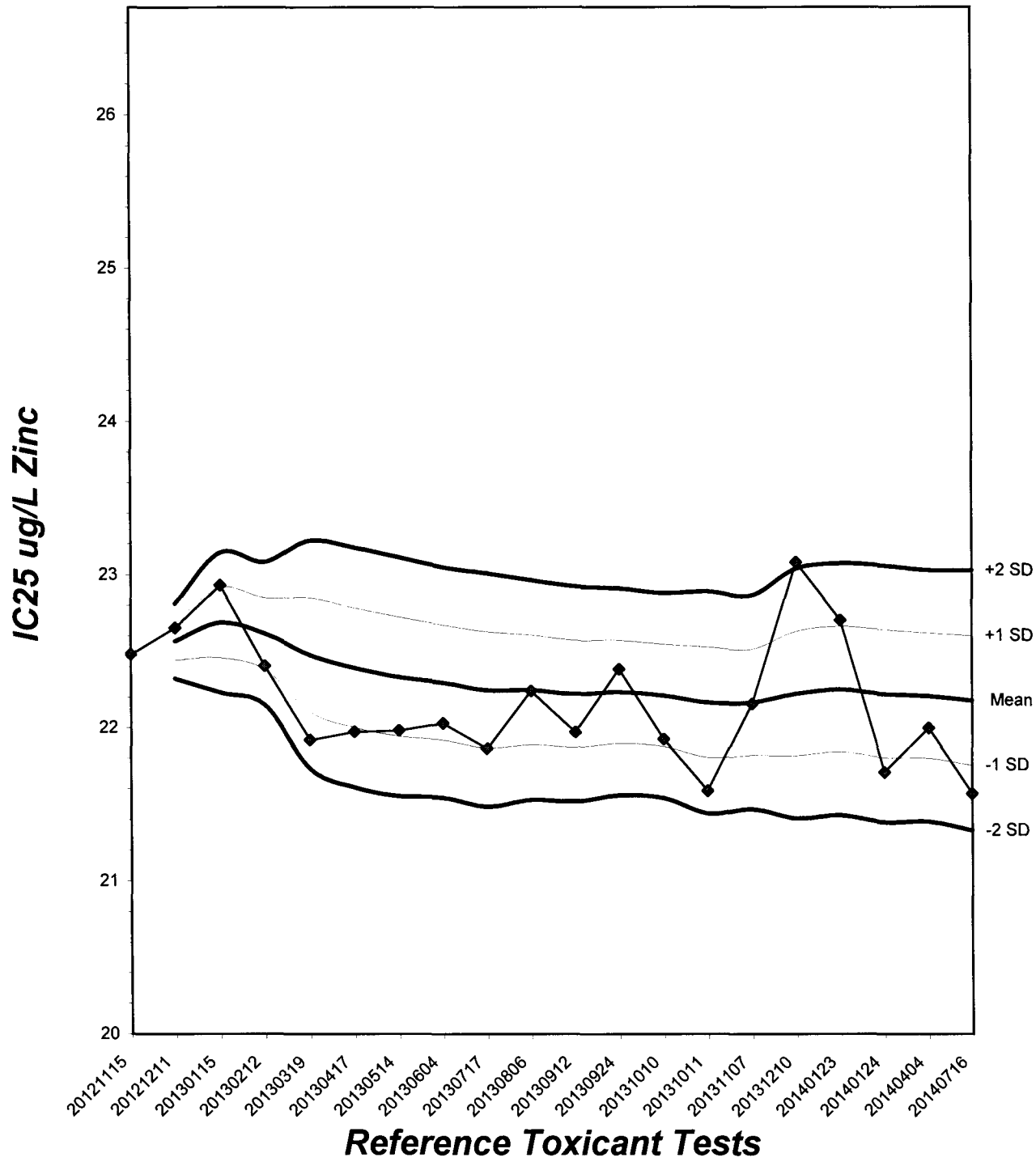
Linear Interpolation (200 Resamples)

Point	ug/L	SD	95% CL(Exp)		Skew
IC05	18.460	2.223	3.658	18.916	-3.6051
IC10	19.237	0.265	18.253	19.682	-0.3186
IC15	20.014	0.254	19.128	20.459	-0.3216
IC20	20.791	0.244	19.966	21.226	-0.3222
IC25	21.568	0.236	20.747	22.002	-0.3186
IC40	23.899	0.221	23.125	24.345	-0.2626
IC50	25.454	0.221	24.706	25.925	-0.1766



Abalone Larval Development Laboratory Control Chart

CV% = 1.91



ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate

Aquatic Testing Laboratories

QA/QC No.: RT-140716

Start Date: 07/16/2014

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	15.6	7.6	8.2	34	15.8	8.1	15.6	8.2	8.1	34
10 µg/l Zn	15.8	7.6	8.2	34	15.5	8.2	15.5	8.0	8.1	34
18 µg/l Zn	15.6	7.7	8.2	34	15.6	8.2	15.8	8.0	8.2	34
32 µg/l Zn	15.7	7.7	8.2	34	15.3	8.2	15.8	7.9	8.2	34
56 µg/l Zn	15.6	7.6	8.2	34	15.4	8.2	15.6	7.8	8.2	34
100 µg/l Zn	15.0	7.7	8.2	34	15.3	8.2	15.7	7.8	8.2	34

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

Initial readings: [signature] Date/Time: 7-16-14 14:35 Final readings: [signature] Date/Time: 7-18-14 1430

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	C	103	2	11	32	2	104	21	18	102	11
2	32	16	101	12	56	0	100	22	10	100	15
3	100	0	100	13	C	106	7	23	100	0	100
4	18	108	6	14	18	107	8	24	10	105	6
5	10	103	3	15	10	108	14	25	56	0	100
6	32	8	105	16	18	101	14	26	32	5	103
7	56	0	100	17	32	10	104	27	100	0	100
8	18	109	11	18	56	0	100	28	C	104	2
9	56	0	100	19	100	0	100	29	100	0	100
10	C	104	11	20	C	107	16	30	100	105	8

Microscopic examination: Analyst: [signature] Date: 7-21-14 Time: 0700

ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate

Aquatic Testing Laboratories

QA/QC No.: RT-140716

Start Date: 07/16/2014

RANDOMIZATION WORKSHEET

Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Beaker No.	Sample Conc.
1	C	11	32	21	18
2	32	12	56	22	10
3	100	13	C	23	100
4	18	14	18	24	10
5	10	15	10	25	56
6	32	16	18	26	32
7	56	17	32	27	100
8	18	18	56	28	C
9	56	19	100	29	100
10	C	20	C	30	10

Notes

Number Males used: 5

Number females used: 6

Time H_2O_2 added: 10:30

Time water changed: 13:00

Time spawned: 13:15 13:30 ♀

Time placed in test: 14:14

Add 1600 fertilized eggs per 200 ml..

Time glutaraldehyde added: 14:30

Analyst: [signature] Date: 7-16-14 Time: 1000

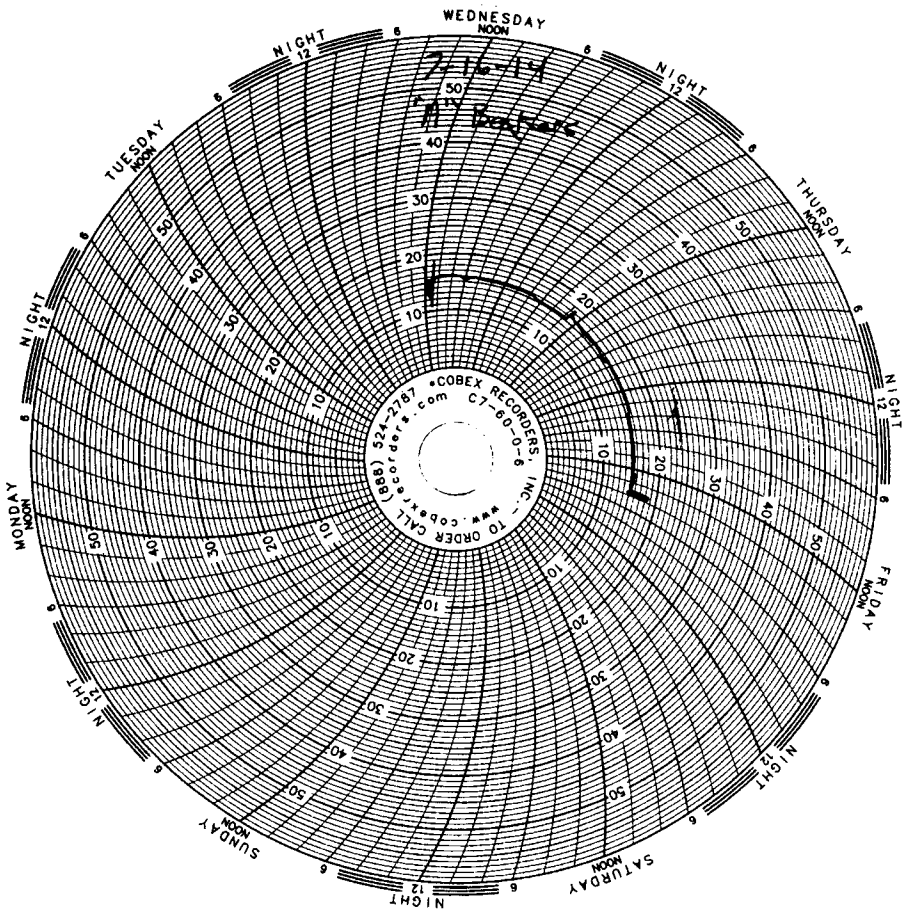
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-140716

Date Tested: 07/16/14 to 07/18/14

Acceptable Range: 15 +/- 1°C



CERTIFICATE OF ANALYSIS

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

Attention: Bonnie Luke

Phone: (805) 644-1180

Fax:

Work Order(s): 4G03051

Report Date: 07/18/14 14:53

Received Date: 07/03/14 10:45

Turn Around: Normal

Client Project: MBCSD Semi annual Effluent

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

Dear Bonnie Luke :

Enclosed are the results of analyses for samples received 07/03/14 10:45 with the Chain of Custody document. The samples were received in good condition, at 9.8 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Kim G Tu
Project Manager

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

Date Received: 07/03/14 10:45
Date Reported: 07/18/14 14:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
COMP EFF A.R.S. W1	Steve Aschenbrene		4G03051-01	Water	07/02/14 09:50
COMP EFF A.R.S. W2	Steve Aschenbrene		4G03051-02	Water	07/02/14 09:50

ANALYSES

Organo Tin by GC/MS

Radiological Parameters by APHA/EPA Methods

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

Date Received: 07/03/14 10:45
Date Reported: 07/18/14 14:53

4G03051-01 COMP EFF A.R.S. W1

Sampled: 07/02/14 09:50 **Sampled By:** Steve Aschenbrener **Matrix:** Water

Organo Tin by GC/MS

Method: GC/MS Batch: W4G0394 Prepared: 07/09/14 08:45 Analyst: Chris Samatmanakit

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Tri-n-butyltin	ND		0.0050	ug/l	1	07/15/14 15:27	
Surr: Tripentyltin	*69 %*	Conc:*0.144*	*43-179*	%			

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

Date Received: 07/03/14 10:45
Date Reported: 07/18/14 14:53

4G03051-02 COMP EFF A.R.S. W2

Sampled: 07/02/14 09:50 **Sampled By:** Steve Aschenbrener **Matrix:** Water

Radiological Parameters by APHA/EPA Methods

Method: EPA 900.0 Batch: W4G0376 Prepared: 07/09/14 09:00 Analyst: Shivangi Panchal

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Gross Beta	**22**		pCi/L	1	07/14/14 14:41	
Counting Error (+/-): 1.357	MDA: 1.517					

Method: SM 7110C Batch: W4G0508 Prepared: 07/10/14 11:05 Analyst: Shivangi Panchal

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Gross Alpha	**-2.27**		pCi/L	1	07/14/14 18:02	
Counting Error (+/-): 0.139	MDA: 0.063					

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

Date Received: 07/03/14 10:45
Date Reported: 07/18/14 14:53

QUALITY CONTROL SECTION

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

Date Received: 07/03/14 10:45
Date Reported: 07/18/14 14:53

Organo Tin by GC/MS - Quality Control

Batch W4G0394 - GC/MS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4G0394-BLK1)				Analyzed: 07/15/14 12:49						
Tri-n-butyltin	ND	0.0050	ug/l							
Surr: Tripentyltin	*0.182*		*ug/l*	*0.200*		*91*	*43-179*			
LCS (W4G0394-BS1)				Analyzed: 07/15/14 13:15						
Tri-n-butyltin	0.0628	0.0050	ug/l	0.0500		126	40-181			
Surr: Tripentyltin	*0.278*		*ug/l*	*0.200*		*139*	*43-179*			
LCS Dup (W4G0394-BSD1)				Analyzed: 07/15/14 13:42						
Tri-n-butyltin	0.0690	0.0050	ug/l	0.0500		138	40-181	9	30	
Surr: Tripentyltin	*0.329*		*ug/l*	*0.200*		*165*	*43-179*			

Radiological Parameters by APHA/EPA Methods - Quality Control

Batch W4G0376 - EPA 900.0

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4G0376-BLK1)				Analyzed: 07/10/14 18:16						
Gross Beta	-0.22		pCi/L							
Counting Error (+/-): 0.449	MDA: 0.763									
LCS (W4G0376-BS1)				Analyzed: 07/10/14 18:16						
Gross Beta	14		pCi/L	16.0		89	77-138			
Counting Error (+/-): 0.729	MDA: 0.683									
Duplicate (W4G0376-DUP1)	**Source: 4F27020-02**			Analyzed: 07/14/14 14:41						
Gross Beta	0.790		pCi/L		1.24			44	200	
Counting Error (+/-): 0.515	MDA: 0.85									

Batch W4G0508 - SM 7110C

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4G0508-BLK1)				Analyzed: 07/15/14 14:24						
Gross Alpha	-0.785		pCi/L							
Counting Error (+/-): 0.152	MDA: 0.016									
LCS (W4G0508-BS1)				Analyzed: 07/14/14 14:16						
Gross Alpha	5.15		pCi/L	4.80		107	55-149			
Counting Error (+/-): 0.366	MDA: 0.016									
Duplicate (W4G0508-DUP1)	**Source: 4F27012-01**			Analyzed: 07/15/14 11:16						**Q-R-01**
Gross Alpha	-0.522		pCi/L		ND			NR	30	Q-R-01
Counting Error (+/-): 0.161	MDA: 0.016									

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

Date Received: 07/03/14 10:45
Date Reported: 07/18/14 14:53

Notes and Definitions

Q-R-01	Analyses are not controlled on RPD values from sample concentrations less than the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

W L
Weck Laboratories, Inc.
Analytical Laboratory Services - Since 1964
14859 East Clark Avenue : Industry : CA 91745
Tel 626-336-2139 ♦ Fax 626-336-2634 ♦ www.wecklabs.com

CHAIN OF CUSTODY RECORD

4603051

STANDARD

CLIENT NAME: Marine Research Specialists

PROJECT: MBCSD SemiAnnual Effluent

ADDRESS: 3140 Telegraph Rd. Suite A, Ventura, CA 93003

PHONE: 805-289-3926

FAX: 805-289-3935

EMAIL: bonnie.luke@mrsenv.com

PROJECT MANAGER: Bonnie Luke

SAMPLER: Steve Aschenbrener

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

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								COMMENTS
	07/02/14	0950	ww	COMP EFF A.R.S. W1	1	X									tributyltin by GC/MS
	07/02/14	0950	ww	COMP EFF A.R.S. W2	1		X								radioactivity- gross alpha and beta

RELINQUISHED BY	DATE / TIME	RECEIVED BY
Steve Aschenbrener	2 July 14 1430	[signature] 7-3-14 1045
RELINQUISHED BY	DATE / TIME	RECEIVED BY
RELINQUISHED BY	DATE / TIME	RECEIVED BY

SAMPLE CONDITION:

Actual Temperature: 9.8
Received On Ice: Y
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 INFORMATIO :for any questions, please call 805-289-3926

COC version 042707

Vista
Analytical Laboratory

July 11, 2014

Vista Project I.D.: 1400496

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

Dear Ms. Luke,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 03, 2014. This sample set was analyzed on a standard turn-around time, under your Project Name 'MBCSD Semi-Annual EFF 2014'.

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 Maier

Martha Maier
Laboratory Director

ACCREDITED IN ACCORDANCE WITH nelac

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.

Vista Work Order No. 1400496
Case Narrative

Sample Condition on Receipt:

One wastewater sample and one trip blank sample were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. As requested, the trip blank was placed on hold.

Analytical Notes:

EPA Method 1613

The sample was extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/ Containers
1400496-01	COMP EFF A.R.S. V1	02-Jul-14 00:00	03-Jul-14 09:02	Amber Glass NM Bottle, 1L
1400496-02	TRAVEL BLANK	02-Jul-14 00:00	03-Jul-14 09:02	Amber Glass NM Bottle, 1L

Vista Project: 1400496

Client Project: MBCSD Semi-Annual EFF 2

ANALYTICAL RESULTS

Sample ID: Method Blank

EPA Method 1613B

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B4G0024
Date Extracted: 08-Jul-2014 8:15

Lab Sample: B4G0024-BLK1
Date Analyzed : 09-Jul-14 21:04 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	MDL	Qualifiers
2,3,7,8-TCDD	ND	0.866		0.474	
1,2,3,7,8-PeCDD	ND	1.19		1.69	
1,2,3,4,7,8-HxCDD	ND	2.43		2.19	
1,2,3,6,7,8-HxCDD	ND	2.21		2.75	
1,2,3,7,8,9-HxCDD	ND	2.47		1.39	
1,2,3,4,6,7,8-HpCDD	ND	1.65		3.06	
OCDD	ND	3.96		10.6	
2,3,7,8-TCDF	ND	1.17		0.651	
1,2,3,7,8-PeCDF	ND	0.947		1.92	
2,3,4,7,8-PeCDF	ND	1.25		2.40	
1,2,3,4,7,8-HxCDF	ND	0.440		1.79	
1,2,3,6,7,8-HxCDF	ND	0.846		2.94	
2,3,4,6,7,8-HxCDF	ND	0.573		0.934	
1,2,3,7,8,9-HxCDF	ND	0.754		1.22	
1,2,3,4,6,7,8-HpCDF	ND	0.808		1.39	
1,2,3,4,7,8,9-HpCDF	ND	0.491		2.73	
OCDF	ND	1.27		3.12	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	80.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	83.2	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	74.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	76.7	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	72.4	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	73.3	23 - 140	
	13C-OCDD	75.1	17 - 157	
	13C-2,3,7,8-TCDF	82.2	24 - 169	
	13C-1,2,3,7,8-PeCDF	77.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	99.7	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	90.4	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	69.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	78.0	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	90.8	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	92.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	89.0	26 - 138	
	13C-OCDF	85.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	89.4	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

TOTALS

Total TCDD	ND	0.866
Total PeCDD	ND	1.19
Total HxCDD	ND	3.20
Total HpCDD	ND	3.17
Total TCDF	ND	1.17
Total PeCDF	ND	1.38
Total HxCDF	ND	0.954
Total HpCDF	ND	0.903

DL - Sample specifc estimated detection limit
MDL - Method detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR **EPA Method 1613B**

Matrix:	Aqueous	QC Batch:	B4G0024	Lab Sample:	B4G0024-BS1
Sample Size:	1.00 L	Date Extracted:	08-Jul-2014 8:15	Date Analyzed:	09-Jul-14 17:51 Column: ZB-5MS Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	175	200	87.6	67 - 158	IS	13C-2,3,7,8-TCDD	65.9	20 - 175
1,2,3,7,8-PeCDD	1030	1000	103	70 - 142		13C-1,2,3,7,8-PeCDD	74.8	21 - 227
1,2,3,4,7,8-HxCDD	1020	1000	102	70 - 164		13C-1,2,3,4,7,8-HxCDD	61.4	21 - 193
1,2,3,6,7,8-HxCDD	1060	1000	106	76 - 134		13C-1,2,3,6,7,8-HxCDD	59.6	25 - 163
1,2,3,7,8,9-HxCDD	1020	1000	102	64 - 162		13C-1,2,3,7,8,9-HxCDD	60.7	21 - 193
1,2,3,4,6,7,8-HpCDD	1020	1000	102	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	59.9	26 - 166
OCDD	2030	2000	101	78 - 144		13C-OCDD	62.3	13 - 199
2,3,7,8-TCDF	210	200	105	75 - 158		13C-2,3,7,8-TCDF	67.7	22 - 152
1,2,3,7,8-PeCDF	1080	1000	108	80 - 134		13C-1,2,3,7,8-PeCDF	59.4	21 - 192
2,3,4,7,8-PeCDF	1080	1000	108	68 - 160		13C-2,3,4,7,8-PeCDF	73.4	13 - 328
1,2,3,4,7,8-HxCDF	1080	1000	108	72 - 134		13C-1,2,3,4,7,8-HxCDF	65.9	19 - 202
1,2,3,6,7,8-HxCDF	1110	1000	111	84 - 130		13C-1,2,3,6,7,8-HxCDF	56.3	21 - 159
2,3,4,6,7,8-HxCDF	1100	1000	110	70 - 156		13C-2,3,4,6,7,8-HxCDF	63.2	22 - 176
1,2,3,7,8,9-HxCDF	1130	1000	113	78 - 130		13C-1,2,3,7,8,9-HxCDF	65.8	17 - 205
1,2,3,4,6,7,8-HpCDF	987	1000	98.7	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	77.8	21 - 158
1,2,3,4,7,8,9-HpCDF	1010	1000	101	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	70.5	20 - 186
OCDF	2140	2000	107	63 - 170		13C-OCDF	64.4	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	79.9	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: COMP EFF A.R.S. V1

EPA Method 1613B

Client Data
Name: Marine Research Specialists
Project: MBCSD Semi-Annual EFF 2014
Date Collected: 02-Jul-2014 0:00

Sample Data
Matrix: Wastewater
Sample Size: 0.997 L

Laboratory Data
Lab Sample: 1400496-01 Date Received: 03-Jul-2014 9:02
QC Batch: B4G0024 Date Extracted: 08-Jul-2014 8:15
Date Analyzed : 10-Jul-14 00:16 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	MDL	Qualifiers
2,3,7,8-TCDD	ND	0.863		0.474	
1,2,3,7,8-PeCDD	ND	3.00		1.69	
1,2,3,4,7,8-HxCDD	ND	2.65		2.19	
1,2,3,6,7,8-HxCDD	ND	2.70		2.75	
1,2,3,7,8,9-HxCDD	ND	2.55		1.39	
1,2,3,4,6,7,8-HpCDD	9.87			3.06	J
OCDD	81.3			10.6	
2,3,7,8-TCDF	ND		0.975	0.651	
1,2,3,7,8-PeCDF	ND	1.39		1.92	
2,3,4,7,8-PeCDF	ND	0.988		2.40	
1,2,3,4,7,8-HxCDF	ND	0.887		1.79	
1,2,3,6,7,8-HxCDF	ND	0.888		2.94	
2,3,4,6,7,8-HxCDF	ND	0.478		0.934	
1,2,3,7,8,9-HxCDF	ND	0.676		1.22	
1,2,3,4,6,7,8-HpCDF	ND	3.09		1.39	
1,2,3,4,7,8,9-HpCDF	ND	2.01		2.73	
OCDF	ND		2.11	3.12	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	70.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	70.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	59.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	59.5	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	59.0	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	61.9	23 - 140	
	13C-OCDD	68.0	17 - 157	
	13C-2,3,7,8-TCDF	78.8	24 - 169	
	13C-1,2,3,7,8-PeCDF	68.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	94.3	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	66.4	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	56.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	62.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	65.1	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	84.9	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	73.1	26 - 138	
	13C-OCDF	70.3	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	82.5	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.123

TOTALS					
Total TCDD	4.23				
Total PeCDD	ND		6.30		
Total HxCDD	ND	5.76			
Total HpCDD	20.8				
Total TCDF	ND		0.975		
Total PeCDF	ND	2.23			
Total HxCDF	ND	1.08			
Total HpCDF	ND	3.71			

DL - Sample specifc estimated detection limit
MDL - Method detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

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.**
H	**Recovery was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Low Calibration Limit.**
P	**The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**Method Detection Limit as determined by 40 CFR 136, Appendix B.**
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
Alabama Department of Environmental Management	41610
California Department of Health – ELAP	2892
Connecticut Department of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2012010
Michigan Department of Natural Resources	9932
Nevada Division of Environmental Protection	CA004132013-2
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Department of Health & Human Services	06700
Oregon Laboratory Accreditation Program	4042-001
Pennsylvania Department of Environmental Protection	011
South Carolina Department of Health	87002001
Tennessee Department of Environment & Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-14-5
Utah Department of Health	CA164002012-2
Virginia Department of General Services	3138
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1400496 Temp 2.2 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

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

Project I.D.: MBCSD Semi-Annual Effluent 2014 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:
Steve Aschenbrener	2JUN14	1430	Bettie B. Benedict B. Benedict	07/03/14	0907
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

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

ATTN:

Method of Shipment: Fedex

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Container(s) Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1668 PBDE	EPA1668 PAH	EPA1614 WHO-29	CARB429
COMP EFF A.R.S. V1	7/02/14		A.R.S. / 24 hr. COMP EFF	1		ww																
TRAVEL BLANK	7/02/14			1																		

Special Instructions/Comments: Extract and analyze using EPA 1613 for tetra-through-octa chlorinated dioxins and furans.
For any questions, please call Bonnie Luke or Doug Coats at 805-289-3920.

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 #: 1400496 **TAT** Std

Samples Arrival:	**Date/Time** 07/03/14 0902	**Initials:** BLB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 07/03/14 1306	**Initials:** BLB	**Location:** WR-2 **Shelf/Rack:** B 2

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	(Blue Ice)	Dry Ice	None		
Temp °C: 2.2 (uncorrected) **Temp °C:** 2.2 (corrected)	**Time:** 0906		**Thermometer ID:** IR-1			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill — Trk # 7704 9710 3685	✓		
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

Comments:

Sample Login 11/2013 ckt

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client:	Marine Research Specialists	Workorder Number:	1400496
Contact:	Bonnie Luke	Date Received:	03-Jul-14 09:02
Email:	bonnie.luke@mrsenv.com	Documented by/date:	B.Benedict 07/03/2014
Phone:	805-2893926		

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

[X]	Complete Chain-of-Custody	[ ]	Preservative	[ ]	Collector's Name
[X]	Test Method Requested	[ ]	Sample Identification	[ ]	Sample Type
[ ]	Analyte List Requested	[ ]	Sample Collection Date and/or Time	[ ]	Sample Location
[ ]	Other:				

The following anomalies were noted. Authorization is needed to proceed with analysis.

[ ] Temperature outside < 6°C Range Samples Affected: _____

Temperature _____°C Ice Present? Yes No Melted

[ ]	Sample ID Discrepancy	[ ]	Insufficient Sample Size
[ ]	Sample Holding Time Missed	[ ]	Sample Container(s) Broken
[ ]	Custody Seals Broken	[ ]	Incorrect Container Type

Comments:

Client Authorization

Proceed with Analysis: (YES) NO Signature and Date Bonnie Luke 7/3/2014

Client Comments/Instructions travel blank is on HOLD