

**City of Morro Bay and
Cayucos Sanitary District**

**OFFSHORE MONITORING
AND REPORTING PROGRAM**

SEMI-ANNUAL EFFLUENT SAMPLING

**CHEMICAL AND BIOASSAY
ANALYSIS RESULTS**

JULY 2013



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 2013

Prepared by
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Marine Research Specialists

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August 2013

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.



Mr. Bruce Keogh
Wastewater Division Manager
City of Morro Bay

Date 8-15-2013

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

15 August 2013

**Reference: Annual Effluent Self-Monitoring Report for 2013
Semiannual Effluent Self-Monitoring Report for July through December 2013**

Dear Mr. Keogh:

This self-monitoring report documents the chemical and bioassay analysis results for effluent samples collected in July 2013 as required by NPDES discharge permit CA0047881.¹ Analyses of effluent samples collected on 16 and 17 July 2013 were conducted in accordance with the monitoring requirements specified in the permit, including:

- Chemical and radionuclide analyses conducted on a composite sample collected on 17 July 2013;
- Phenolic and nutrient compounds measured in a grab sample collected on 17 July 2013; and
- Chronic bioassays conducted on a composite sample collected on 16 July 2013.

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 2013 augment data collected over the past two decades from the MBSCD² 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 2013, only 14 of these compounds were detected, and of those, only five had concentrations high enough to be reliably quantified above their respective MLs: copper, lead, zinc, dioxin, and cyanide. The concentrations of the chemical compounds detected in the July 2013 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, and through corrosion of household plumbing systems. Nevertheless, the concentrations of these metals that were detected in the July 2013 effluent were an order of magnitude below the levels deemed deleterious to marine organisms.

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

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

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

Similarly, the concentrations of the two organic compounds that were also quantified within the effluent samples were also well below permit limitations. Dioxins are ubiquitous compounds consistently detected at low levels within effluent and biosolid samples collected over the past decade; and cyanide can form in small amounts within the treatment process.

Dioxin concentrations in the July 2013 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.

Although cyanide occurs naturally, it can also form in the treatment process as a byproduct of the disinfection process. It has been detected at low, but quantifiable levels within approximately 20% of the effluent samples collected over the past two decades. However, cyanide's measured concentration in the July 2013 sample was 3.5 times lower than its permit limitation and therefore, not of ecological concern.

Chronic toxicity tests conducted on the July 2013 composite effluent sample also measured its effect on the development of larval red abalone (*Haliotis rufescens*) after exposure to a range of effluent dilutions. Although the larval abalone were highly sensitive to contaminants, adverse effects were not observed in effluent that was more than four times more concentrated than that allowed by the discharge permit.

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

Sincerely,

A handwritten signature in blue ink that reads "Bonnie Luke" followed by a flourish.

Bonnie Luke
Program Manager

ATTACHMENT A
MINIMUM LEVEL REPORTING

ATTACHMENT A
Analytical Results for Effluent Samples Collected during July 2013

Chemical Compound or Parameter	Units	Method	Detection Limit ^a	Practical ^b Quantification Limit	Minimum Level ^c	Permit ^d Limit	Reported Value
Nutrients							
Nitrate (as N)	mg/L	300.0	—	0.10	— ^e	— ^e	0.2 as measured
Urea (as N)	mg/L	Mulvenna & Savid	—	0.01	—	—	0.089 as measured
Ortho-Phosphate (as P)	mg/L	300.0	—	0.10	—	—	1.6 as measured
Dissolved Silica (SiO ₂)	mg/L	200.7	—	0.5	—	—	13. as measured
Objectives for the Protection of Marine Aquatic Life							
Arsenic	mg/L	200.8	0.0007	0.002	0.002	0.67	DNQ 0.0012 Est. Conc.
Cadmium	mg/L	200.7	0.0011	0.01	0.01	0.13	ND
Chromium VI	mg/L	200.7	0.0011	0.01	0.01	0.27	DNQ 0.0026 Est. Conc.
Copper	mg/L	200.7	0.0011	0.01	0.01	0.14	0.017 as measured
Lead	mg/L	200.8	0.0001	0.001	0.0005	0.27	0.0018 as measured
Mercury	µg/L	245.1	0.024	0.2	0.2	5.29	DNQ 0.048 Est. Conc.
Nickel	mg/L	200.7	0.002	0.01	0.02	0.67	DNQ 0.0034 Est. Conc.
Selenium	mg/L	200.8	0.00019	0.002	0.002	2.01	DNQ 0.0012 Est. Conc.
Silver	mg/L	200.7	0.0019	0.01	0.01	0.07	DNQ 0.0046 Est. Conc.
Zinc	mg/L	200.7	0.0023	0.05	0.02	1.62	0.051 as measured
Cyanide	mg/L	335.4	0.0026	0.005	0.005	0.13	0.037 as measured
Toxicity-Chronic: H. Rufescens	TUc	600/R-95/136	—	—	—	134.	31.2 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 2013

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	0.0002	0.002	0.005	4.02	ND
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	7110C	0.016	—	—	15.	ND
Radioactivity Gross β	pCi/L	900	1.457	—	—	50.	18. 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	0.0085	0.1	0.05	160.8	DNQ 0.011 Est. Conc.
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	0.0000011	0.00001	0.00001	25.5	DNQ 0.0000026 Est. Conc.
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 0.00000028 Est. Conc.
Tributyltin	µg/L	GC/MS	0.05	—	0.1	0.188	ND
1,1,1-Trichloroethane	g/L	624	0.00000011	0.0000005	0.000002	72.4	ND

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

Analytical Results for Effluent Samples Collected during July 2013

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	0.5	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.	ND
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 0.00097 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 2013

Chemical Compound or Parameter	Units	Method	Detection Limit ^a	Practical ^b Quantification Limit	Minimum Level ^c	Permit ^d Limit	Reported Value
Hexachlorobenzene	ng/L	625	200.	2,000.	1,000.	28.1	ND
Hexachlorobutadiene	mg/L	625	0.00024	0.002	0.001	1.88	ND
Hexachloroethane	µg/L	625	0.32	2.	1.	335.	ND
Isophorone	mg/L	625	0.00031	0.002	0.001	98.	ND
N-Nitrosodimethylamine	µg/L	625	0.61	2.	5.	978.	ND
N-Nitrosodi-n-propylamine	µg/L	625	1.3	2.	5.	50.9	ND
N-Nitrosodiphenylamine	µg/L	625	0.44	2.	1.	335.	ND
PAHs	µg/L	625	0.2	2.	10.	1.18	ND
Total PCB's	ng/L	608	20.	200.	500.	2.55	ND
Dioxin (TCDD equivalents)	pg/L	1613B	—	—	—	0.52	0.0575 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	0.05	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 0.116 pg/L (See Attachment C) is higher than the TEQ reported here because they included an estimated concentration of 5.88 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

DISCHARGE MONITORING REPORT (DMR)

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-S
DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 07/01/2013	TO 12/31/2013

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) 00620 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0.2	mg/L	0	Semi-annual	Grab
	PERMIT REQUIREMENT						Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB
Cyanide, total (as CN) 00720 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	0.037	0.037	0.037	mg/L	0	Semi-annual	Comp24
	PERMIT REQUIREMENT				.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Twice Per Year	COMP24
Silica, dissolved (as SiO2) 00955 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	13.	mg/L	0	Semi-annual	Grab
	PERMIT REQUIREMENT						Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB
Arsenic, total recoverable 00978 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	NODI (Q)	NODI (Q)	NODI (Q)	mg/L	0	Semi-annual	Comp24
	PERMIT REQUIREMENT				.67 6 MO MED	3.89 DAILY MX	10.3 INST MAX	mg/L		Twice Per Year	COMP24
Selenium, total recoverable 00981 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	NODI (Q)	NODI (Q)	NODI (Q)	mg/L	0	Semi-annual	Comp24
	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) 01032 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	NODI (Q)	NODI (Q)	NODI (Q)	mg/L	0	Semi-annual	Comp24
	PERMIT REQUIREMENT				.27 6 MO MED	1.07 DAILY MX	2.68 INST MAX	mg/L		Twice Per Year	COMP24
Nickel, total recoverable 01074 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	NODI (Q)	NODI (Q)	NODI (Q)	mg/L	0	Semi-annual	Comp24
	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 Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE (805) 772-6272		DATE 08/16/2013
		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(Q)" FOR SPECIES NOT TESTED.
Total chromium is reported for hexavalent chromium.

DISCHARGE MONITORING REPORT (DMR)

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-S
DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 07/01/2013	TO 12/31/2013

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	*****	*****	*****	<i>NODI (Q)</i>	<i>NODI (Q)</i>	<i>NODI (Q)</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
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	*****	*****	*****	<i>0.051</i>	<i>0.051</i>	<i>0.051</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
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	*****	*****	*****	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
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	*****	*****	*****	<i>0.0018</i>	<i>0.0018</i>	<i>0.0018</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
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	*****	*****	*****	<i>0.017</i>	<i>0.017</i>	<i>0.017</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
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	*****	*****	*****	*****	*****	<i>1.6</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Grab</i>
04175 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB
Urea	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	<i>0.089</i>	<i>mg/L</i>	0	<i>Semi-annual</i>	<i>Grab</i>
71800 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Twice Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
		(805) 772-6272		08/16/2013
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(0)" FOR SPECIES NOT TESTED.

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

Form Approved
OMB No. 2040-0004

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I
ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442
FACILITY: MORRO BAY/CAYUCOS WWTP
LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442
ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-S
DISCHARGE NUMBER

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

MONITORING PERIOD		
MM/DD/YYYY		MM/DD/YYYY
FROM 07/01/2013	TO	12/31/2013

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	*****	*****	*****	<i>NODI (Q)</i>	<i>NODI (Q)</i>	<i>NODI (Q)</i>	<i>µg/L</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
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	*****	*****	*****	*****	*****	<i>NODI (9)</i>	<i>TUc</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
TTK1D 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	134 DAILY MX	tox chronic		Twice Per Year	COMP24
Static 48Hr Chronic Haliotis Rufescens	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	<i>31.2</i>	<i>TUc</i>	0	<i>Semi-annual</i>	<i>Comp24</i>
TTK3R 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	134 DAILY MX	tox chronic		Twice Per Year	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE (805) 772-6272		DATE 08/16/2013
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code

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

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

DISCHARGE MONITORING REPORT (DMR)

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NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

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MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

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MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-Y
DISCHARGE NUMBER

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

MONITORING PERIOD		
MM/DD/YYYY		MM/DD/YYYY
01/01/2013	FROM	TO 12/31/2013

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	*****	*****	*****	*****	*****	18.	pCi/L	0	Annual	Comp24
00189 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	pCi/L		Annual	COMP24
Thallium, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	mg/L	0	Annual	Comp24
00982 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	.27 MO AVG	*****	mg/L		Annual	COMP24
Beryllium, total recoverable (as Be)	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	µg/L	0	Annual	Comp24
00998 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	4.42 MO AVG	*****	ug/L		Annual	COMP24
Chromium, trivalent (as Cr)	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (Q)	*****	g/L	0	Annual	Comp24
01033 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	25.5 MO AVG	*****	g/L		Annual	COMP24
Antimony, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (Q)	*****	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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Gross beta activity is reported above for "Radioactivity." Gross alpha activity was not detected. Gross beta activity was below the drinking water standard of 50 pCi/L. Total chromium is reported for trivalent chromium.

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PERMIT NUMBER

001-Y
DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 01/01/2013	TO 12/31/2013

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Polynuclear Aromatic Hydrocarbons (Method 610) 22456 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	µg/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	1.18 MO AVG	*****	ug/L		Annual	COMP24
Dichlorobromomethane 32101 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	mg/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	.83 MO AVG	*****	mg/L		Annual	COMP24
Carbon tetrachloride 32102 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	µg/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	121 MO AVG	*****	ug/L		Annual	COMP24
1,2-Dichloroethane 32103 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	mg/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	3.75 MO AVG	*****	mg/L		Annual	COMP24
Dibromochloromethane 32105 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (B)	*****	µg/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	1152 MO AVG	*****	ug/L		Annual	COMP24
Chloroform 32106 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (Q)	*****	mg/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	17.4 MO AVG	*****	mg/L		Annual	COMP24
Toluene 34010 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	NODI (Q)	*****	g/L	0	Annual	Comp24
	PERMIT REQUIREMENT	*****	*****	*****	*****	11.4 MO AVG	*****	g/L		Annual	COMP24

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

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

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DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 01/01/2013	TO 12/31/2013

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Benzene 34030 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	791 MO AVG	*****	ug/L		Annual	COMP24
Acrolein 34210 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	29.5 MO AVG	*****	mg/L		Annual	COMP24
Acrylonitrile 34215 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	13.4 MO AVG	*****	ug/L		Annual	COMP24
Bis(2-chloroethyl) ether 34273 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	6.03 MO AVG	*****	ug/L		Annual	COMP24
Bis(2-chloroethoxy)methane 34278 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	.59 MO AVG	*****	mg/L		Annual	COMP24
Bis(2-chloroisopropyl) ether 34283 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	160.8 MO AVG	*****	mg/L		Annual	COMP24
Chlorobenzene 34301 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	76.4 MO AVG	*****	mg/L		Annual	COMP24

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code	NUMBER	MM/DD/YYYY

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

DISCHARGE MONITORING REPORT (DMR)

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

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DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 01/01/2013	TO 12/31/2013

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 34336 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	4420 MO AVG	*****	mg/L		Annual	COMP24
Dimethyl phthalate 34341 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	g/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	109.9 MO AVG	*****	g/L		Annual	COMP24
1,2-Diphenylhydrazine 34346 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	21.4 MO AVG	*****	ug/L		Annual	COMP24
Ethylbenzene 34371 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	549 MO AVG	*****	mg/L		Annual	COMP24
Fluoranthene 34376 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	2 MO AVG	*****	mg/L		Annual	COMP24
Hexachlorocyclopentadiene 34386 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	7.8 MO AVG	*****	mg/L		Annual	COMP24
Hexachlorobutadiene 34391 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	1.88 MO AVG	*****	mg/L		Annual	COMP24

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DMR Mailing ZIP CODE: 93442
MAJOR
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DISCHARGE 001/ YEARLY
External Outfall

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 01/01/2013	TO 12/31/2013

No Discharge

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		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Hexachloroethane 34396 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>µg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	335 MO AVG	*****	ug/L		Annual	COMP24
Isophorone 34408 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>mg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	98 MO AVG	*****	mg/L		Annual	COMP24
Methylene chloride 34423 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>mg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	60.3 MO AVG	*****	mg/L		Annual	COMP24
N-Nitrosodi-N-propylamine 34428 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>µg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	50.9 MO AVG	*****	ug/L		Annual	COMP24
N-Nitrosodiphenylamine 34433 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>µg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	335 MO AVG	*****	ug/L		Annual	COMP24
N-Nitrosodimethylamine (NDMA) 34438 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>µg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	978 MO AVG	*****	ug/L		Annual	COMP24
Nitrobenzene 34447 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>mg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	.66 MO AVG	*****	mg/L		Annual	COMP24

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FROM 01/01/2013	TO 12/31/2013

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Tetrachloroethylene 34475 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	268 MO AVG	*****	ug/L		Annual	COMP24
1,1-Dichloroethylene 34501 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	.12 MO AVG	*****	mg/L		Annual	COMP24
1,1,1-Trichloroethane 34506 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	g/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	72.4 MO AVG	*****	g/L		Annual	COMP24
1,1,2-Trichloroethane 34511 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	1.26 MO AVG	*****	mg/L		Annual	COMP24
1,1,2,2-Tetrachloroethane 34516 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	.31 MO AVG	*****	mg/L		Annual	COMP24
1,4-Dichlorobenzene 34571 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	2.41 MO AVG	*****	mg/L		Annual	COMP24
2,4-Dinitrotoluene 34611 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	348 MO AVG	*****	ug/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
		(805) 772-6272		08/16/2013
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code	NUMBER	MM/DD/YYYY

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

DISCHARGE MONITORING REPORT (DMR)

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-Y
DISCHARGE NUMBER

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

MONITORING PERIOD				
MM/DD/YYYY			MM/DD/YYYY	
FROM	01/01/2013	TO	12/31/2013	

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	*****	*****	*****	*****	<i>NODI (B)</i>	*****	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	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	Annual	Comp24
34621 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	.039 MO AVG	*****	mg/L		Annual	COMP24
3,3'-Dichlorobenzidine	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	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	*****	*****	*****	*****	<i>NODI (B)</i>	*****	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	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	Annual	Comp24
39110 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	469 MO AVG	*****	mg/L		Annual	COMP24
Benzidine	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	ng/L	0	Annual	Comp24
39120 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	9.25 MO AVG	*****	ng/L		Annual	COMP24
Vinyl chloride	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	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 Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
		(805) 772-6272		08/16/2013
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code	NUMBER	MM/DD/YYYY

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

DISCHARGE MONITORING REPORT (DMR)

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-Y
DISCHARGE NUMBER

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

MONITORING PERIOD		
MM/DD/YYYY		MM/DD/YYYY
01/01/2013	FROM	TO
12/31/2013		

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Trichloroethylene 39180 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	3.62 MO AVG	*****	mg/L		Annual	COMP24
Aldrin 39330 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	ng/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	2.95 MO AVG	*****	ng/L		Annual	COMP24
Chlordane (tech mix. and metabolites) 39350 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	ng/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	3.08 MO AVG	*****	ng/L		Annual	COMP24
DDT/DDD/DDE, sum of p,p' & o,p' isomers 39379 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	ng/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	22.8 MO AVG	*****	ng/L		Annual	COMP24
Dieldrin 39380 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	ng/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	5.36 MO AVG	*****	ng/L		Annual	COMP24
Endosulfan, total 39388 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>NODI (B)</i>	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	1.21 6 MO MED	2.41 DAILY MX	3.62 INST MAX	ug/L		Annual	COMP24
Endrin 39390 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>NODI (B)</i>	µg/L	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	.27 6 MO MED	.54 DAILY MX	.8 INST MAX	ug/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
		(805) 772-6272		08/16/2013
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		MM/DD/YYYY
		AREA Code	NUMBER	

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

DISCHARGE MONITORING REPORT (DMR)

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

CA0047881
PERMIT NUMBER

001-Y
DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 01/01/2013	TO 12/31/2013

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Toxaphene 39410 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>ng/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	28.1 MO AVG	*****	ng/L		Annual	COMP24
Heptachlor 39410 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>pg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	6.7 MO AVG	*****	pg/L		Annual	COMP24
Heptachlor epoxide 39420 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>pg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	2.68 MO AVG	*****	pg/L		Annual	COMP24
Polychlorinated biphenyls (PCBs) 39516 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>ng/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	2.55 MO AVG	*****	ng/L		Annual	COMP24
Hexachlorobenzene 39700 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>ng/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	28.1 MO AVG	*****	ng/L		Annual	COMP24
Phenols, chlorinated 74015 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>mg/L</i>	0	<i>Annual</i>	<i>Grab</i>
	PERMIT REQUIREMENT	*****	*****	*****	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Annual	GRAB
1,3-Dichloropropene 77163 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	<i>mg/L</i>	0	<i>Annual</i>	<i>Comp24</i>
	PERMIT REQUIREMENT	*****	*****	*****	*****	1.19 MO AVG	*****	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
		(805) 772-6272		08/16/2013
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		MM/DD/YYYY
		AREA Code	NUMBER	

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

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

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

Form Approved
OMB No. 2040-0004

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

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

CA0047881
PERMIT NUMBER

001-Y
DISCHARGE NUMBER

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

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 01/01/2013	TO 12/31/2013

No Discharge

ATTN: BRUCE KEOGH

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	*****	*****	*****	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>NODI (B)</i>	µg/L	0	<i>Annual</i>	<i>Comp24</i>
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	*****	*****	*****	<i>NODI (B)</i>	<i>NODI (B)</i>	<i>NODI (B)</i>	mg/L	0	<i>Annual</i>	<i>Grab</i>
78218 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	4.02 6 MO MED	16.1 DAILY MX	40.2 INST MAX	mg/L		Annual	GRAB
Halomethanes, sum	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
78456 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	17.4 MO AVG	*****	mg/L		Annual	COMP24
Dichlorobenzene	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>NODI (B)</i>	*****	mg/L	0	<i>Annual</i>	<i>Comp24</i>
81524 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	683 MO AVG	*****	mg/L		Annual	COMP24
TCDD equivalents	SAMPLE MEASUREMENT	*****	*****	*****	*****	<i>0.0575</i>	*****	pg/L	0	<i>Annual</i>	<i>Comp24</i>
82698 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	.52 MO AVG	*****	pg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Bruce Keogh Wastewater Division Manager TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
		(805) 772-6272		08/16/2013
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: 08/02/2013

Doug Coats

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

Project: Semi-Annual Eff
BC Work Order: 1315031
Invoice ID: B151816

Enclosed are the results of analyses for samples received by the laboratory on 7/17/2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Tina Green
Client Services Manager

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014



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Case Narratives

Case Narrative for Work Order 1315031

Samples for total metals by EPA Method 200.7 were digested by EPA Method 3010.



COOLER RECEIPT FORM

Rev. No. 15 07/01/13

Page 1 of 1

Chain of Custody and Cooler Receipt Form for 1315031 Page 2 of 2

BC LABORATORIES INC.

Submission #: 13-15031

SHIPPING INFORMATION
Federal Express [] UPS [] Hand Delivery []
BC Lab Field Service [x] Other [] (Specify) _____

SHIPPING CONTAINER
Ice Chest [x] None [] Box []
Other [] (Specify) _____

FREE LIQUID
YES [] NO []

Refrigerant: Ice [x] Blue Ice [] None [] Other [] Comments:

Custody Seals Ice Chest [] Containers [] None [x]
Intact? Yes [] No [] Intact? Yes [] No []

All samples received? Yes [x] No [] All samples containers intact? Yes [x] No [] Description(s) match COC? Yes [x] No []

COC Received
YES [x] NO []

Emissivity: 0.95 Container: Amber Thermometer ID: 207

Date/Time 7.17.13 2005

Temperature: (A) 0.6 °C / (C) 0.7 °C

Analyst Init SAS

Table with columns for Sample Containers and Sample Numbers (1-10). Rows include various sample types like QT GENERAL MINERAL/GENERAL, PT PE UNPRESERVED, etc. Handwritten entries include 'B', 'C', 'A(1)', 'A(3)', 'D', 'EFG', '12/1/13'.

Comments:
Sample Numbering Completed By: [Signature] Date/Time: 7/16/13 @ 10:20
A = Actual / C = Corrected

IS:\Mv\DCS\WordPerfect\1315031\AR_DCS\FORMS\SAMREC151



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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1315031-01	COC Number:	---	Receive Date:	07/17/2013 20:05
	Project Number:	---	Sampling Date:	07/17/2013 09:30
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	Grab EFF A.R.S BC1	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Wastewater
	<hr/>			
1315031-02	COC Number:	---	Receive Date:	07/17/2013 20:05
	Project Number:	---	Sampling Date:	07/17/2013 09:30
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	COMP EFF A.R.S BC2	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Wastewater
	<hr/>			
1315031-03	COC Number:	---	Receive Date:	07/17/2013 20:05
	Project Number:	---	Sampling Date:	07/17/2013 00:00
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	Trip Blank	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Trip Blank
	<hr/>			



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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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

BCL Sample ID: 1315031-01	Client Sample Name: Grab EFF A.R.S BC1, 7/17/2013 9:30:00AM
----------------------------------	--

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	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)	52.8	%	30 - 120 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	51.3	%	12 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	82.3	%	60 - 130 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	77.0	%	55 - 125 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	99.6	%	40 - 150 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	87.0	%	40 - 150 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run		Instrument	Dilution	QC
			Date/Time	Analyst			Batch ID
1	EPA-625	07/23/13	08/01/13 14:04	SKC	MS-B1	1	BWG1996

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
----------------------------------	--

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	0.020	EPA-608	ND		1
PCB-1221	ND	ug/L	0.20	0.089	EPA-608	ND		1
PCB-1232	ND	ug/L	0.20	0.090	EPA-608	ND		1
PCB-1242	ND	ug/L	0.20	0.095	EPA-608	ND		1
PCB-1248	ND	ug/L	0.20	0.025	EPA-608	ND		1
PCB-1254	ND	ug/L	0.20	0.042	EPA-608	ND		1
PCB-1260	ND	ug/L	0.20	0.020	EPA-608	ND		1
Total PCB's (Summation)	ND	ug/L	0.20	0.10	EPA-608	ND		1
TCMX (Surrogate)	86.5	%	40 - 140 (LCL - UCL)		EPA-608			1
Dibutyl chlorendate (Surrogate)	73.5	%	50 - 130 (LCL - UCL)		EPA-608			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-608	07/22/13	07/23/13 17:57	VH1	GC-17	1	BWG1603

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3140 Telegraph Road, Suite A
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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
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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	V11	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	0.97	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	0.28	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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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acrolein	ND	ug/L	20	7.9	EPA-624	ND		1
Acrylonitrile	ND	ug/L	5.0	0.75	EPA-624	ND		1
p- & m-Xylenes	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)	103	%	75 - 125 (LCL - UCL)		EPA-624			1
Toluene-d8 (Surrogate)	99.8	%	80 - 120 (LCL - UCL)		EPA-624			1
4-Bromofluorobenzene (Surrogate)	99.2	%	80 - 120 (LCL - UCL)		EPA-624			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-624	07/22/13	07/22/13 20:18	MGC	MS-V7	1	BWG1444

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
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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	ND	ug/L	5.0	3.0	EPA-625	ND		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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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
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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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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
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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)	54.2	%	30 - 120 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	56.3	%	12 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	95.5	%	60 - 130 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	81.5	%	55 - 125 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	95.0	%	40 - 150 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	83.2	%	40 - 150 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/23/13	08/01/13 14:32	SKC	MS-B1	1	BWG1996

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Water Analysis (General Chemistry)

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	0.037	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	07/19/13	07/19/13 14:07	TDC	KONE-1	1	BWG1335

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

BCL Sample ID: 1315031-02	Client Sample Name: COMP EFF A.R.S BC2, 7/17/2013 9:30:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Antimony	11	ug/L	100	8.5	EPA-200.7	ND	J	1
Total Beryllium	ND	ug/L	10	0.50	EPA-200.7	ND		1
Total Cadmium	ND	ug/L	10	1.1	EPA-200.7	ND		1
Total Chromium	2.6	ug/L	10	1.1	EPA-200.7	ND	J	1
Total Copper	17	ug/L	10	1.1	EPA-200.7	ND		1
Total Mercury	0.048	ug/L	0.20	0.024	EPA-245.1	ND	J	2
Total Nickel	3.4	ug/L	10	2.0	EPA-200.7	ND	J	1
Total Silver	4.6	ug/L	10	1.9	EPA-200.7	ND	J	1
Total Zinc	51	ug/L	50	2.3	EPA-200.7	ND		1
Total Recoverable Arsenic	1.2	ug/L	2.0	0.70	EPA-200.8	ND	J	3
Total Recoverable Lead	1.8	ug/L	1.0	0.10	EPA-200.8	ND		3
Total Recoverable Selenium	1.2	ug/L	2.0	0.19	EPA-200.8	ND	J	3
Total Recoverable Thallium	ND	ug/L	1.0	0.10	EPA-200.8	0.31		3

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	07/22/13	07/23/13	11:48	ARD	PE-OP1	1	BWG1498
2	EPA-245.1	07/19/13	07/22/13	14:44	MEV	CETAC1	1	BWG1371
3	EPA-200.8	07/23/13	07/23/13	19:20	SRM	PE-EL2	1	BWG1610

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1315031-03 **Client Sample Name:** Trip Blank, 7/17/2013 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-624	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.24	EPA-624	ND		1
Bromoform	ND	ug/L	0.50	0.26	EPA-624	ND		1
Bromomethane	ND	ug/L	1.0	0.12	EPA-624	ND	V11	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	ND	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	ND	ug/L	0.50	0.067	EPA-624	ND		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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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1315031-03 **Client Sample Name:** Trip Blank, 7/17/2013 12:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acrolein	ND	ug/L	20	7.9	EPA-624	ND		1
Acrylonitrile	ND	ug/L	5.0	0.75	EPA-624	ND		1
p- & m-Xylenes	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)	101	%	75 - 125 (LCL - UCL)		EPA-624			1
Toluene-d8 (Surrogate)	99.2	%	80 - 120 (LCL - UCL)		EPA-624			1
4-Bromofluorobenzene (Surrogate)	97.1	%	80 - 120 (LCL - UCL)		EPA-624			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-624	07/22/13	07/22/13 19:54	MGC	MS-V7	1	BWG1444

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Reported: 08/02/2013 11:16
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: BWG1603						
Aldrin	BWG1603-BLK1	ND	ug/L	0.0050	0.0013	
alpha-BHC	BWG1603-BLK1	ND	ug/L	0.0050	0.0011	
beta-BHC	BWG1603-BLK1	ND	ug/L	0.0050	0.0021	
delta-BHC	BWG1603-BLK1	ND	ug/L	0.0050	0.0014	
gamma-BHC (Lindane)	BWG1603-BLK1	ND	ug/L	0.0050	0.00094	
Chlordane (Technical)	BWG1603-BLK1	ND	ug/L	0.50	0.38	
4,4'-DDD	BWG1603-BLK1	ND	ug/L	0.0050	0.0017	
4,4'-DDE	BWG1603-BLK1	ND	ug/L	0.0050	0.0019	
4,4'-DDT	BWG1603-BLK1	ND	ug/L	0.0050	0.00076	
Dieldrin	BWG1603-BLK1	ND	ug/L	0.0050	0.0012	
Endosulfan I	BWG1603-BLK1	ND	ug/L	0.0050	0.0016	
Endosulfan II	BWG1603-BLK1	ND	ug/L	0.0050	0.0014	
Endosulfan sulfate	BWG1603-BLK1	ND	ug/L	0.0050	0.0026	
Endrin	BWG1603-BLK1	ND	ug/L	0.0050	0.00082	
Endrin aldehyde	BWG1603-BLK1	ND	ug/L	0.010	0.0032	
Heptachlor	BWG1603-BLK1	ND	ug/L	0.0050	0.0012	
Heptachlor epoxide	BWG1603-BLK1	ND	ug/L	0.0050	0.00099	
Methoxychlor	BWG1603-BLK1	ND	ug/L	0.0050	0.0011	
Toxaphene	BWG1603-BLK1	ND	ug/L	2.0	0.42	
PCB-1016	BWG1603-BLK1	ND	ug/L	0.20	0.020	
PCB-1221	BWG1603-BLK1	ND	ug/L	0.20	0.089	
PCB-1232	BWG1603-BLK1	ND	ug/L	0.20	0.090	
PCB-1242	BWG1603-BLK1	ND	ug/L	0.20	0.095	
PCB-1248	BWG1603-BLK1	ND	ug/L	0.20	0.025	
PCB-1254	BWG1603-BLK1	ND	ug/L	0.20	0.042	
PCB-1260	BWG1603-BLK1	ND	ug/L	0.20	0.020	
Total PCB's (Summation)	BWG1603-BLK1	ND	ug/L	0.20	0.10	
TCMX (Surrogate)	BWG1603-BLK1	78.9	%	40 - 140 (LCL - UCL)		
Dibutyl chlorendate (Surrogate)	BWG1603-BLK1	89.3	%	50 - 130 (LCL - UCL)		



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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		Lab
								Percent Recovery	RPD	
QC Batch ID: BWG1603										
Aldrin	BWG1603-BS1	LCS	0.097040	0.15000	ug/L	64.7		60 - 130		
gamma-BHC (Lindane)	BWG1603-BS1	LCS	0.13257	0.15000	ug/L	88.4		60 - 130		
4,4'-DDT	BWG1603-BS1	LCS	0.11763	0.15000	ug/L	78.4		60 - 130		
Dieldrin	BWG1603-BS1	LCS	0.13573	0.15000	ug/L	90.5		60 - 130		
Endrin	BWG1603-BS1	LCS	0.13424	0.15000	ug/L	89.5		60 - 130		
Heptachlor	BWG1603-BS1	LCS	0.10156	0.15000	ug/L	67.7		60 - 130		
TCMX (Surrogate)	BWG1603-BS1	LCS	0.25497	0.30000	ug/L	85.0		40 - 140		
Dibutyl chlorendate (Surrogate)	BWG1603-BS1	LCS	0.75698	0.75000	ug/L	101		50 - 130		



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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	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: BWG1603		Used client sample: N								
Aldrin	MS	1313237-71	ND	0.10345	0.15000	ug/L		69.0		60 - 130
	MSD	1313237-71	ND	0.097950	0.15000	ug/L	5.5	65.3	30	60 - 130
gamma-BHC (Lindane)	MS	1313237-71	ND	0.13538	0.15000	ug/L		90.3		60 - 130
	MSD	1313237-71	ND	0.12816	0.15000	ug/L	5.5	85.4	30	60 - 130
4,4'-DDT	MS	1313237-71	ND	0.12825	0.15000	ug/L		85.5		60 - 130
	MSD	1313237-71	ND	0.11705	0.15000	ug/L	9.1	78.0	30	60 - 130
Dieldrin	MS	1313237-71	ND	0.13886	0.15000	ug/L		92.6		65 - 130
	MSD	1313237-71	ND	0.13122	0.15000	ug/L	5.7	87.5	30	65 - 130
Endrin	MS	1313237-71	ND	0.13954	0.15000	ug/L		93.0		60 - 130
	MSD	1313237-71	ND	0.13033	0.15000	ug/L	6.8	86.9	30	60 - 130
Heptachlor	MS	1313237-71	ND	0.10590	0.15000	ug/L		70.6		60 - 130
	MSD	1313237-71	ND	0.10130	0.15000	ug/L	4.4	67.5	30	60 - 130
TCMX (Surrogate)	MS	1313237-71	ND	0.25788	0.30000	ug/L		86.0		40 - 140
	MSD	1313237-71	ND	0.25136	0.30000	ug/L	2.6	83.8		40 - 140
Dibutyl chlorendate (Surrogate)	MS	1313237-71	ND	0.80363	0.75000	ug/L		107		50 - 130
	MSD	1313237-71	ND	0.76795	0.75000	ug/L	4.5	102		50 - 130

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BWG1444						
Benzene	BWG1444-BLK1	ND	ug/L	0.50	0.083	
Bromodichloromethane	BWG1444-BLK1	ND	ug/L	0.50	0.24	
Bromoform	BWG1444-BLK1	ND	ug/L	0.50	0.26	
Bromomethane	BWG1444-BLK1	ND	ug/L	1.0	0.12	
Carbon tetrachloride	BWG1444-BLK1	ND	ug/L	0.50	0.12	
Chlorobenzene	BWG1444-BLK1	ND	ug/L	0.50	0.063	
Chloroethane	BWG1444-BLK1	ND	ug/L	0.50	0.12	
Chloroform	BWG1444-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BWG1444-BLK1	ND	ug/L	0.50	0.13	
Dibromochloromethane	BWG1444-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichlorobenzene	BWG1444-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BWG1444-BLK1	ND	ug/L	0.50	0.11	
1,4-Dichlorobenzene	BWG1444-BLK1	ND	ug/L	0.50	0.059	
1,1-Dichloroethane	BWG1444-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BWG1444-BLK1	ND	ug/L	0.50	0.092	
1,1-Dichloroethene	BWG1444-BLK1	ND	ug/L	0.50	0.070	
trans-1,2-Dichloroethene	BWG1444-BLK1	ND	ug/L	0.50	0.14	
1,2-Dichloropropane	BWG1444-BLK1	ND	ug/L	0.50	0.13	
cis-1,3-Dichloropropene	BWG1444-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	BWG1444-BLK1	ND	ug/L	0.50	0.071	
Ethylbenzene	BWG1444-BLK1	ND	ug/L	0.50	0.077	
Methylene chloride	BWG1444-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BWG1444-BLK1	ND	ug/L	0.50	0.11	
1,1,2,2-Tetrachloroethane	BWG1444-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BWG1444-BLK1	ND	ug/L	0.50	0.095	
Toluene	BWG1444-BLK1	ND	ug/L	0.50	0.067	
1,1,1-Trichloroethane	BWG1444-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BWG1444-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BWG1444-BLK1	ND	ug/L	0.50	0.072	
Trichlorofluoromethane	BWG1444-BLK1	ND	ug/L	0.50	0.079	
1,1,2-Trichloro-1,2,2-trifluoroethane	BWG1444-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BWG1444-BLK1	ND	ug/L	0.50	0.11	
Total Xylenes	BWG1444-BLK1	ND	ug/L	0.50	0.22	
Acrolein	BWG1444-BLK1	ND	ug/L	20	7.9	

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BWG1444						
Acrylonitrile	BWG1444-BLK1	ND	ug/L	5.0	0.75	
p- & m-Xylenes	BWG1444-BLK1	ND	ug/L	0.50	0.17	
o-Xylene	BWG1444-BLK1	ND	ug/L	0.50	0.050	
1,2-Dichloroethane-d4 (Surrogate)	BWG1444-BLK1	95.7	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWG1444-BLK1	100	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWG1444-BLK1	98.5	%	80 - 120 (LCL - UCL)		



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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: BWG1444										
Benzene	BWG1444-BS1	LCS	25.710	25.000	ug/L	103		70 - 130		
Bromodichloromethane	BWG1444-BS1	LCS	26.440	25.000	ug/L	106		70 - 130		
Bromoform	BWG1444-BS1	LCS	26.950	25.000	ug/L	108		70 - 130		
Bromomethane	BWG1444-BS1	LCS	19.210	25.000	ug/L	76.8		70 - 130		
Carbon tetrachloride	BWG1444-BS1	LCS	28.600	25.000	ug/L	114		70 - 130		
Chlorobenzene	BWG1444-BS1	LCS	26.680	25.000	ug/L	107		70 - 130		
Chloroethane	BWG1444-BS1	LCS	26.680	25.000	ug/L	107		70 - 130		
Chloroform	BWG1444-BS1	LCS	27.110	25.000	ug/L	108		70 - 130		
Chloromethane	BWG1444-BS1	LCS	25.070	25.000	ug/L	100		70 - 130		
Dibromochloromethane	BWG1444-BS1	LCS	26.470	25.000	ug/L	106		70 - 130		
1,2-Dichlorobenzene	BWG1444-BS1	LCS	26.770	25.000	ug/L	107		70 - 130		
1,3-Dichlorobenzene	BWG1444-BS1	LCS	26.770	25.000	ug/L	107		70 - 130		
1,4-Dichlorobenzene	BWG1444-BS1	LCS	26.320	25.000	ug/L	105		70 - 130		
1,1-Dichloroethane	BWG1444-BS1	LCS	25.400	25.000	ug/L	102		70 - 130		
1,2-Dichloroethane	BWG1444-BS1	LCS	24.390	25.000	ug/L	97.6		70 - 130		
1,1-Dichloroethene	BWG1444-BS1	LCS	28.230	25.000	ug/L	113		70 - 130		
trans-1,2-Dichloroethene	BWG1444-BS1	LCS	27.770	25.000	ug/L	111		70 - 130		
1,2-Dichloropropane	BWG1444-BS1	LCS	25.970	25.000	ug/L	104		70 - 130		
cis-1,3-Dichloropropene	BWG1444-BS1	LCS	25.670	25.000	ug/L	103		70 - 130		
trans-1,3-Dichloropropene	BWG1444-BS1	LCS	24.360	25.000	ug/L	97.4		70 - 130		
Ethylbenzene	BWG1444-BS1	LCS	27.250	25.000	ug/L	109		70 - 130		
Methylene chloride	BWG1444-BS1	LCS	26.550	25.000	ug/L	106		70 - 130		
Methyl t-butyl ether	BWG1444-BS1	LCS	24.680	25.000	ug/L	98.7		70 - 130		
1,1,2,2-Tetrachloroethane	BWG1444-BS1	LCS	25.540	25.000	ug/L	102		70 - 130		
Tetrachloroethene	BWG1444-BS1	LCS	25.680	25.000	ug/L	103		70 - 130		
Toluene	BWG1444-BS1	LCS	26.130	25.000	ug/L	105		70 - 130		
1,1,1-Trichloroethane	BWG1444-BS1	LCS	26.180	25.000	ug/L	105		70 - 130		
1,1,2-Trichloroethane	BWG1444-BS1	LCS	24.410	25.000	ug/L	97.6		70 - 130		
Trichloroethene	BWG1444-BS1	LCS	26.350	25.000	ug/L	105		70 - 130		
Trichlorofluoromethane	BWG1444-BS1	LCS	27.750	25.000	ug/L	111		70 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	BWG1444-BS1	LCS	30.310	25.000	ug/L	121		70 - 130		
Vinyl chloride	BWG1444-BS1	LCS	26.790	25.000	ug/L	107		70 - 130		
Total Xylenes	BWG1444-BS1	LCS	81.580	75.000	ug/L	109		70 - 130		

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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		Lab
								Percent Recovery	RPD	
QC Batch ID: BWG1444										
p- & m-Xylenes	BWG1444-BS1	LCS	55.060	50.000	ug/L	110		70 - 130		
o-Xylene	BWG1444-BS1	LCS	26.520	25.000	ug/L	106		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWG1444-BS1	LCS	9.5600	10.000	ug/L	95.6		75 - 125		
Toluene-d8 (Surrogate)	BWG1444-BS1	LCS	9.8900	10.000	ug/L	98.9		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWG1444-BS1	LCS	10.000	10.000	ug/L	100		80 - 120		



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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	Control Limits		Lab	
								Percent Recovery	RPD		Percent Recovery
QC Batch ID: BWG1444		Used client sample: N									
Benzene	MS	1315000-02	ND	23.890	25.000	ug/L		95.6		70 - 130	
	MSD	1315000-02	ND	23.630	25.000	ug/L	1.1	94.5	20	70 - 130	
Bromodichloromethane	MS	1315000-02	ND	24.860	25.000	ug/L		99.4		70 - 130	
	MSD	1315000-02	ND	25.140	25.000	ug/L	1.1	101	20	70 - 130	
Bromoform	MS	1315000-02	ND	25.050	25.000	ug/L		100		70 - 130	
	MSD	1315000-02	ND	24.730	25.000	ug/L	1.3	98.9	20	70 - 130	
Bromomethane	MS	1315000-02	ND	21.460	25.000	ug/L		85.8		70 - 130	
	MSD	1315000-02	ND	16.560	25.000	ug/L	25.8	66.2	20	70 - 130	Q02, Q03
Carbon tetrachloride	MS	1315000-02	ND	26.600	25.000	ug/L		106		70 - 130	
	MSD	1315000-02	ND	26.150	25.000	ug/L	1.7	105	20	70 - 130	
Chlorobenzene	MS	1315000-02	ND	24.770	25.000	ug/L		99.1		70 - 130	
	MSD	1315000-02	ND	24.570	25.000	ug/L	0.8	98.3	20	70 - 130	
Chloroethane	MS	1315000-02	ND	24.910	25.000	ug/L		99.6		70 - 130	
	MSD	1315000-02	ND	24.100	25.000	ug/L	3.3	96.4	20	70 - 130	
Chloroform	MS	1315000-02	ND	25.210	25.000	ug/L		101		70 - 130	
	MSD	1315000-02	ND	25.130	25.000	ug/L	0.3	101	20	70 - 130	
Chloromethane	MS	1315000-02	ND	23.910	25.000	ug/L		95.6		70 - 130	
	MSD	1315000-02	ND	21.960	25.000	ug/L	8.5	87.8	20	70 - 130	
Dibromochloromethane	MS	1315000-02	ND	24.500	25.000	ug/L		98.0		70 - 130	
	MSD	1315000-02	ND	24.590	25.000	ug/L	0.4	98.4	20	70 - 130	
1,2-Dichlorobenzene	MS	1315000-02	ND	25.080	25.000	ug/L		100		70 - 130	
	MSD	1315000-02	ND	24.610	25.000	ug/L	1.9	98.4	20	70 - 130	
1,3-Dichlorobenzene	MS	1315000-02	ND	24.810	25.000	ug/L		99.2		70 - 130	
	MSD	1315000-02	ND	24.440	25.000	ug/L	1.5	97.8	20	70 - 130	
1,4-Dichlorobenzene	MS	1315000-02	ND	24.470	25.000	ug/L		97.9		70 - 130	
	MSD	1315000-02	ND	24.090	25.000	ug/L	1.6	96.4	20	70 - 130	
1,1-Dichloroethane	MS	1315000-02	ND	23.570	25.000	ug/L		94.3		70 - 130	
	MSD	1315000-02	ND	23.350	25.000	ug/L	0.9	93.4	20	70 - 130	
1,2-Dichloroethane	MS	1315000-02	ND	22.410	25.000	ug/L		89.6		70 - 130	
	MSD	1315000-02	ND	22.430	25.000	ug/L	0.1	89.7	20	70 - 130	
1,1-Dichloroethene	MS	1315000-02	ND	26.160	25.000	ug/L		105		70 - 130	
	MSD	1315000-02	ND	25.950	25.000	ug/L	0.8	104	20	70 - 130	
trans-1,2-Dichloroethene	MS	1315000-02	ND	25.730	25.000	ug/L		103		70 - 130	
	MSD	1315000-02	ND	25.420	25.000	ug/L	1.2	102	20	70 - 130	
1,2-Dichloropropane	MS	1315000-02	ND	24.000	25.000	ug/L		96.0		70 - 130	
	MSD	1315000-02	ND	23.980	25.000	ug/L	0.1	95.9	20	70 - 130	

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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
QC Batch ID: BWG1444		Used client sample: N								
cis-1,3-Dichloropropene	MS	1315000-02	ND	23.370	25.000	ug/L		93.5		70 - 130
	MSD	1315000-02	ND	23.780	25.000	ug/L	1.7	95.1	20	70 - 130
trans-1,3-Dichloropropene	MS	1315000-02	ND	22.340	25.000	ug/L		89.4		70 - 130
	MSD	1315000-02	ND	22.500	25.000	ug/L	0.7	90.0	20	70 - 130
Ethylbenzene	MS	1315000-02	ND	25.130	25.000	ug/L		101		70 - 130
	MSD	1315000-02	ND	24.850	25.000	ug/L	1.1	99.4	20	70 - 130
Methylene chloride	MS	1315000-02	ND	24.560	25.000	ug/L		98.2		70 - 130
	MSD	1315000-02	ND	24.100	25.000	ug/L	1.9	96.4	20	70 - 130
Methyl t-butyl ether	MS	1315000-02	ND	23.260	25.000	ug/L		93.0		70 - 130
	MSD	1315000-02	ND	22.640	25.000	ug/L	2.7	90.6	20	70 - 130
1,1,2,2-Tetrachloroethane	MS	1315000-02	ND	23.970	25.000	ug/L		95.9		70 - 130
	MSD	1315000-02	ND	23.140	25.000	ug/L	3.5	92.6	20	70 - 130
Tetrachloroethene	MS	1315000-02	ND	23.980	25.000	ug/L		95.9		70 - 130
	MSD	1315000-02	ND	24.590	25.000	ug/L	2.5	98.4	20	70 - 130
Toluene	MS	1315000-02	ND	24.540	25.000	ug/L		98.2		70 - 130
	MSD	1315000-02	ND	24.620	25.000	ug/L	0.3	98.5	20	70 - 130
1,1,1-Trichloroethane	MS	1315000-02	ND	24.120	25.000	ug/L		96.5		70 - 130
	MSD	1315000-02	ND	24.120	25.000	ug/L	0	96.5	20	70 - 130
1,1,2-Trichloroethane	MS	1315000-02	ND	22.950	25.000	ug/L		91.8		70 - 130
	MSD	1315000-02	ND	24.310	25.000	ug/L	5.8	97.2	20	70 - 130
Trichloroethene	MS	1315000-02	ND	24.280	25.000	ug/L		97.1		70 - 130
	MSD	1315000-02	ND	24.530	25.000	ug/L	1.0	98.1	20	70 - 130
Trichlorofluoromethane	MS	1315000-02	ND	25.690	25.000	ug/L		103		70 - 130
	MSD	1315000-02	ND	25.490	25.000	ug/L	0.8	102	20	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	MS	1315000-02	ND	28.430	25.000	ug/L		114		70 - 130
	MSD	1315000-02	ND	27.970	25.000	ug/L	1.6	112	20	70 - 130
Vinyl chloride	MS	1315000-02	ND	25.220	25.000	ug/L		101		70 - 130
	MSD	1315000-02	ND	24.280	25.000	ug/L	3.8	97.1	20	70 - 130
Total Xylenes	MS	1315000-02	ND	75.300	75.000	ug/L		100		70 - 130
	MSD	1315000-02	ND	75.330	75.000	ug/L	0.0	100	20	70 - 130
p- & m-Xylenes	MS	1315000-02	ND	50.510	50.000	ug/L		101		70 - 130
	MSD	1315000-02	ND	50.640	50.000	ug/L	0.3	101	20	70 - 130
o-Xylene	MS	1315000-02	ND	24.790	25.000	ug/L		99.2		70 - 130
	MSD	1315000-02	ND	24.690	25.000	ug/L	0.4	98.8	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1315000-02	ND	9.5300	10.000	ug/L		95.3		75 - 125
	MSD	1315000-02	ND	9.3000	10.000	ug/L	2.4	93.0		75 - 125

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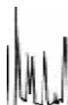
Marine Research Specialists
3140 Telegraph Road, Suite A
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Ventura, CA 93003-3238

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
QC Batch ID: BWG1444		Used client sample: N									
Toluene-d8 (Surrogate)	MS	1315000-02	ND	10.020	10.000	ug/L		100		80 - 120	
	MSD	1315000-02	ND	10.020	10.000	ug/L	0	100		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1315000-02	ND	10.140	10.000	ug/L		101		80 - 120	
	MSD	1315000-02	ND	9.7300	10.000	ug/L	4.1	97.3		80 - 120	



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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)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWG1996						
Acenaphthene	BWG1996-BLK1	ND	ug/L	2.0	0.24	
Acenaphthylene	BWG1996-BLK1	ND	ug/L	2.0	0.28	
Aldrin	BWG1996-BLK1	ND	ug/L	2.0	0.35	
Aniline	BWG1996-BLK1	ND	ug/L	5.0	0.69	
Anthracene	BWG1996-BLK1	ND	ug/L	2.0	0.30	
Benzidine	BWG1996-BLK1	ND	ug/L	20	7.1	
Benzo[a]anthracene	BWG1996-BLK1	ND	ug/L	2.0	0.38	
Benzo[b]fluoranthene	BWG1996-BLK1	ND	ug/L	2.0	0.41	
Benzo[k]fluoranthene	BWG1996-BLK1	ND	ug/L	2.0	0.31	
Benzo[a]pyrene	BWG1996-BLK1	ND	ug/L	2.0	0.20	
Benzo[g,h,i]perylene	BWG1996-BLK1	ND	ug/L	2.0	0.22	
Benzoic acid	BWG1996-BLK1	ND	ug/L	10	5.8	
Benzyl alcohol	BWG1996-BLK1	ND	ug/L	2.0	0.34	
Benzyl butyl phthalate	BWG1996-BLK1	ND	ug/L	2.0	0.47	
alpha-BHC	BWG1996-BLK1	ND	ug/L	2.0	0.27	
beta-BHC	BWG1996-BLK1	ND	ug/L	2.0	0.27	
delta-BHC	BWG1996-BLK1	ND	ug/L	2.0	0.30	
gamma-BHC (Lindane)	BWG1996-BLK1	ND	ug/L	2.0	0.22	
bis(2-Chloroethoxy)methane	BWG1996-BLK1	ND	ug/L	2.0	0.27	
bis(2-Chloroethyl) ether	BWG1996-BLK1	ND	ug/L	2.0	0.68	
bis(2-Chloroisopropyl)ether	BWG1996-BLK1	ND	ug/L	2.0	0.30	
bis(2-Ethylhexyl)phthalate	BWG1996-BLK1	ND	ug/L	5.0	3.0	
4-Bromophenyl phenyl ether	BWG1996-BLK1	ND	ug/L	2.0	0.23	
4-Chloroaniline	BWG1996-BLK1	ND	ug/L	2.0	0.69	
2-Chloronaphthalene	BWG1996-BLK1	ND	ug/L	2.0	0.34	
4-Chlorophenyl phenyl ether	BWG1996-BLK1	ND	ug/L	2.0	0.23	
Chrysene	BWG1996-BLK1	ND	ug/L	2.0	0.63	
4,4'-DDD	BWG1996-BLK1	ND	ug/L	2.0	0.48	
4,4'-DDE	BWG1996-BLK1	ND	ug/L	3.0	0.41	
4,4'-DDT	BWG1996-BLK1	ND	ug/L	2.0	0.43	
Dibenzo[a,h]anthracene	BWG1996-BLK1	ND	ug/L	3.0	0.26	
Dibenzofuran	BWG1996-BLK1	ND	ug/L	2.0	0.21	
1,2-Dichlorobenzene	BWG1996-BLK1	ND	ug/L	2.0	0.37	
1,3-Dichlorobenzene	BWG1996-BLK1	ND	ug/L	2.0	0.35	

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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: BWG1996						
1,4-Dichlorobenzene	BWG1996-BLK1	ND	ug/L	2.0	0.31	
3,3-Dichlorobenzidine	BWG1996-BLK1	ND	ug/L	10	8.2	
Dieldrin	BWG1996-BLK1	ND	ug/L	3.0	0.41	
Diethyl phthalate	BWG1996-BLK1	ND	ug/L	2.0	0.33	
Dimethyl phthalate	BWG1996-BLK1	ND	ug/L	2.0	0.39	
Di-n-butyl phthalate	BWG1996-BLK1	ND	ug/L	2.0	0.39	
2,4-Dinitrotoluene	BWG1996-BLK1	ND	ug/L	2.0	0.26	
2,6-Dinitrotoluene	BWG1996-BLK1	ND	ug/L	2.0	0.41	
Di-n-octyl phthalate	BWG1996-BLK1	ND	ug/L	2.0	0.46	
1,2-Diphenylhydrazine	BWG1996-BLK1	ND	ug/L	2.0	0.34	
Endosulfan I	BWG1996-BLK1	ND	ug/L	10	1.7	
Endosulfan II	BWG1996-BLK1	ND	ug/L	10	1.2	
Endosulfan sulfate	BWG1996-BLK1	ND	ug/L	3.0	0.58	
Endrin	BWG1996-BLK1	ND	ug/L	2.0	1.1	
Endrin aldehyde	BWG1996-BLK1	ND	ug/L	10	0.52	
Fluoranthene	BWG1996-BLK1	ND	ug/L	2.0	0.20	
Fluorene	BWG1996-BLK1	ND	ug/L	2.0	0.28	
Heptachlor	BWG1996-BLK1	ND	ug/L	2.0	0.32	
Heptachlor epoxide	BWG1996-BLK1	ND	ug/L	2.0	0.27	
Hexachlorobenzene	BWG1996-BLK1	ND	ug/L	2.0	0.20	
Hexachlorobutadiene	BWG1996-BLK1	ND	ug/L	2.0	0.24	
Hexachlorocyclopentadiene	BWG1996-BLK1	ND	ug/L	2.0	0.30	
Hexachloroethane	BWG1996-BLK1	ND	ug/L	2.0	0.32	
Indeno[1,2,3-cd]pyrene	BWG1996-BLK1	ND	ug/L	2.0	0.26	
Isophorone	BWG1996-BLK1	ND	ug/L	2.0	0.31	
2-Methylnaphthalene	BWG1996-BLK1	ND	ug/L	2.0	0.28	
Naphthalene	BWG1996-BLK1	ND	ug/L	2.0	0.21	
2-Naphthylamine	BWG1996-BLK1	ND	ug/L	20	4.8	
2-Nitroaniline	BWG1996-BLK1	ND	ug/L	2.0	0.33	
3-Nitroaniline	BWG1996-BLK1	ND	ug/L	2.0	0.66	
4-Nitroaniline	BWG1996-BLK1	ND	ug/L	5.0	0.87	
Nitrobenzene	BWG1996-BLK1	ND	ug/L	2.0	0.26	
N-Nitrosodimethylamine	BWG1996-BLK1	ND	ug/L	2.0	0.61	
N-Nitrosodi-N-propylamine	BWG1996-BLK1	ND	ug/L	2.0	1.3	

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

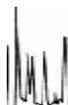
Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWG1996						
N-Nitrosodiphenylamine	BWG1996-BLK1	ND	ug/L	2.0	0.44	
Phenanthrene	BWG1996-BLK1	ND	ug/L	2.0	0.20	
Pyrene	BWG1996-BLK1	ND	ug/L	2.0	0.26	
1,2,4-Trichlorobenzene	BWG1996-BLK1	ND	ug/L	2.0	0.27	
4-Chloro-3-methylphenol	BWG1996-BLK1	ND	ug/L	5.0	0.40	
2-Chlorophenol	BWG1996-BLK1	ND	ug/L	2.0	0.37	
2,4-Dichlorophenol	BWG1996-BLK1	ND	ug/L	2.0	0.43	
2,4-Dimethylphenol	BWG1996-BLK1	ND	ug/L	2.0	0.20	
4,6-Dinitro-2-methylphenol	BWG1996-BLK1	ND	ug/L	10	0.34	
2,4-Dinitrophenol	BWG1996-BLK1	ND	ug/L	10	0.20	
2-Methylphenol	BWG1996-BLK1	ND	ug/L	2.0	1.0	
3- & 4-Methylphenol	BWG1996-BLK1	ND	ug/L	2.0	1.6	
2-Nitrophenol	BWG1996-BLK1	ND	ug/L	2.0	0.28	
4-Nitrophenol	BWG1996-BLK1	ND	ug/L	2.0	0.73	
Pentachlorophenol	BWG1996-BLK1	ND	ug/L	10	0.79	
Phenol	BWG1996-BLK1	ND	ug/L	2.0	0.20	
2,4,5-Trichlorophenol	BWG1996-BLK1	ND	ug/L	5.0	0.31	
2,4,6-Trichlorophenol	BWG1996-BLK1	ND	ug/L	5.0	0.60	
2-Fluorophenol (Surrogate)	BWG1996-BLK1	58.3	%	30 - 120 (LCL - UCL)		
Phenol-d5 (Surrogate)	BWG1996-BLK1	43.3	%	12 - 110 (LCL - UCL)		
Nitrobenzene-d5 (Surrogate)	BWG1996-BLK1	94.5	%	60 - 130 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BWG1996-BLK1	88.8	%	55 - 125 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	BWG1996-BLK1	99.4	%	40 - 150 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BWG1996-BLK1	99.6	%	40 - 150 (LCL - UCL)		

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Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: BWG1996										
Acenaphthene	BWG1996-BS1	LCS	44.770	50.000	ug/L	89.5		50 - 120		
1,4-Dichlorobenzene	BWG1996-BS1	LCS	44.130	50.000	ug/L	88.3		50 - 120		
2,4-Dinitrotoluene	BWG1996-BS1	LCS	47.310	50.000	ug/L	94.6		50 - 120		
Hexachlorobenzene	BWG1996-BS1	LCS	56.910	50.000	ug/L	114		60 - 120		
Hexachlorobutadiene	BWG1996-BS1	LCS	34.390	50.000	ug/L	68.8		40 - 110		
Hexachloroethane	BWG1996-BS1	LCS	37.990	50.000	ug/L	76.0		40 - 120		
Nitrobenzene	BWG1996-BS1	LCS	42.210	50.000	ug/L	84.4		50 - 120		
N-Nitrosodi-N-propylamine	BWG1996-BS1	LCS	39.300	50.000	ug/L	78.6		50 - 120		
Pyrene	BWG1996-BS1	LCS	55.840	50.000	ug/L	112		40 - 140		
1,2,4-Trichlorobenzene	BWG1996-BS1	LCS	44.080	50.000	ug/L	88.2		45 - 120		
4-Chloro-3-methylphenol	BWG1996-BS1	LCS	45.780	50.000	ug/L	91.6		50 - 120		
2-Chlorophenol	BWG1996-BS1	LCS	39.830	50.000	ug/L	79.7		50 - 120		
2-Methylphenol	BWG1996-BS1	LCS	38.650	50.000	ug/L	77.3		40 - 110		
3- & 4-Methylphenol	BWG1996-BS1	LCS	71.380	100.00	ug/L	71.4		40 - 110		
4-Nitrophenol	BWG1996-BS1	LCS	6.2500	50.000	ug/L	12.5		10 - 110		
Pentachlorophenol	BWG1996-BS1	LCS	36.930	50.000	ug/L	73.9		30 - 120		
Phenol	BWG1996-BS1	LCS	21.420	50.000	ug/L	42.8		20 - 110		
2,4,6-Trichlorophenol	BWG1996-BS1	LCS	44.690	50.000	ug/L	89.4		54 - 120		
2-Fluorophenol (Surrogate)	BWG1996-BS1	LCS	46.820	80.000	ug/L	58.5		30 - 120		
Phenol-d5 (Surrogate)	BWG1996-BS1	LCS	33.530	80.000	ug/L	41.9		12 - 110		
Nitrobenzene-d5 (Surrogate)	BWG1996-BS1	LCS	75.730	80.000	ug/L	94.7		60 - 130		
2-Fluorobiphenyl (Surrogate)	BWG1996-BS1	LCS	70.090	80.000	ug/L	87.6		55 - 125		
2,4,6-Tribromophenol (Surrogate)	BWG1996-BS1	LCS	87.330	80.000	ug/L	109		40 - 150		
p-Terphenyl-d14 (Surrogate)	BWG1996-BS1	LCS	42.270	40.000	ug/L	106		40 - 150		



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Project Manager: Doug Coats

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	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
QC Batch ID: BWG1996		Used client sample: N								
Acenaphthene	MS	1313237-79	ND	43.277	50.000	ug/L		86.6		50 - 120
	MSD	1313237-79	ND	44.950	50.000	ug/L	3.8	89.9	30	50 - 120
1,4-Dichlorobenzene	MS	1313237-79	ND	42.032	50.000	ug/L		84.1		47 - 120
	MSD	1313237-79	ND	44.850	50.000	ug/L	6.5	89.7	30	47 - 120
2,4-Dinitrotoluene	MS	1313237-79	ND	45.619	50.000	ug/L		91.2		50 - 130
	MSD	1313237-79	ND	48.130	50.000	ug/L	5.4	96.3	30	50 - 130
Hexachlorobenzene	MS	1313237-79	ND	54.429	50.000	ug/L		109		62 - 120
	MSD	1313237-79	ND	56.010	50.000	ug/L	2.9	112	30	62 - 120
Hexachlorobutadiene	MS	1313237-79	ND	33.320	50.000	ug/L		66.6		40 - 110
	MSD	1313237-79	ND	34.410	50.000	ug/L	3.2	68.8	30	40 - 110
Hexachloroethane	MS	1313237-79	ND	36.319	50.000	ug/L		72.6		40 - 120
	MSD	1313237-79	ND	38.840	50.000	ug/L	6.7	77.7	30	40 - 120
Nitrobenzene	MS	1313237-79	ND	41.611	50.000	ug/L		83.2		50 - 120
	MSD	1313237-79	ND	42.050	50.000	ug/L	1.0	84.1	30	50 - 120
N-Nitrosodi-N-propylamine	MS	1313237-79	ND	36.858	50.000	ug/L		73.7		50 - 120
	MSD	1313237-79	ND	37.590	50.000	ug/L	2.0	75.2	30	50 - 120
Pyrene	MS	1313237-79	ND	46.903	50.000	ug/L		93.8		40 - 140
	MSD	1313237-79	ND	48.750	50.000	ug/L	3.9	97.5	30	40 - 140
1,2,4-Trichlorobenzene	MS	1313237-79	ND	42.650	50.000	ug/L		85.3		43 - 120
	MSD	1313237-79	ND	42.980	50.000	ug/L	0.8	86.0	30	43 - 120
4-Chloro-3-methylphenol	MS	1313237-79	ND	45.609	50.000	ug/L		91.2		50 - 120
	MSD	1313237-79	ND	45.420	50.000	ug/L	0.4	90.8	30	50 - 120
2-Chlorophenol	MS	1313237-79	ND	39.259	50.000	ug/L		78.5		50 - 120
	MSD	1313237-79	ND	39.600	50.000	ug/L	0.9	79.2	30	50 - 120
2-Methylphenol	MS	1313237-79	ND	36.642	50.000	ug/L		73.3		40 - 110
	MSD	1313237-79	ND	36.570	50.000	ug/L	0.2	73.1	30	40 - 110
3- & 4-Methylphenol	MS	1313237-79	ND	67.218	100.00	ug/L		67.2		40 - 110
	MSD	1313237-79	ND	67.640	100.00	ug/L	0.6	67.6	30	40 - 110
4-Nitrophenol	MS	1313237-79	ND	6.6836	50.000	ug/L		13.4		10 - 110
	MSD	1313237-79	ND	6.4400	50.000	ug/L	3.7	12.9	30	10 - 110
Pentachlorophenol	MS	1313237-79	ND	42.101	50.000	ug/L		84.2		30 - 120
	MSD	1313237-79	ND	40.500	50.000	ug/L	3.9	81.0	30	30 - 120
Phenol	MS	1313237-79	ND	20.002	50.000	ug/L		40.0		20 - 110
	MSD	1313237-79	ND	21.820	50.000	ug/L	8.7	43.6	30	20 - 110
2,4,6-Trichlorophenol	MS	1313237-79	ND	45.276	50.000	ug/L		90.6		50 - 120
	MSD	1313237-79	ND	45.550	50.000	ug/L	0.6	91.1	30	50 - 120

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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

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	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
QC Batch ID: BWG1996		Used client sample: N								
2-Fluorophenol (Surrogate)	MS	1313237-79	ND	47.069	80.000	ug/L		58.8	30 - 120	
	MSD	1313237-79	ND	48.840	80.000	ug/L	3.7	61.0	30 - 120	
Phenol-d5 (Surrogate)	MS	1313237-79	ND	33.124	80.000	ug/L		41.4	12 - 110	
	MSD	1313237-79	ND	34.010	80.000	ug/L	2.6	42.5	12 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1313237-79	ND	71.942	80.000	ug/L		89.9	60 - 130	
	MSD	1313237-79	ND	72.820	80.000	ug/L	1.2	91.0	60 - 130	
2-Fluorobiphenyl (Surrogate)	MS	1313237-79	ND	68.169	80.000	ug/L		85.2	55 - 125	
	MSD	1313237-79	ND	72.180	80.000	ug/L	5.7	90.2	55 - 125	
2,4,6-Tribromophenol (Surrogate)	MS	1313237-79	ND	85.133	80.000	ug/L		106	40 - 150	
	MSD	1313237-79	ND	85.120	80.000	ug/L	0.0	106	40 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1313237-79	ND	38.808	40.000	ug/L		97.0	40 - 150	
	MSD	1313237-79	ND	38.080	40.000	ug/L	1.9	95.2	40 - 150	



Marine Research Specialists
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Ventura, CA 93003-3238

Reported: 08/02/2013 11:16
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: BWG1335						
Total Cyanide	BWG1335-BLK1	ND	mg/L	0.0050	0.0026	



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Reported: 08/02/2013 11:16
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		Lab
								Percent Recovery	RPD	
QC Batch ID: BWG1335										
Total Cyanide	BWG1335-BS1	LCS	0.15609	0.15000	mg/L	104		90 - 110		



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Reported: 08/02/2013 11:16
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		Lab Quals
									RPD	Percent Recovery	
QC Batch ID: BWG1335		Used client sample: N									
Total Cyanide	DUP	1314948-01	ND	ND		mg/L			10		
	MS	1314948-01	ND	0.10543	0.10000	mg/L		105		90 - 110	
	MSD	1314948-01	ND	0.10585	0.10000	mg/L	0.4	106	10	90 - 110	



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Ventura, CA 93003-3238

Reported: 08/02/2013 11:16
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: BWG1371						
Total Mercury	BWG1371-BLK1	ND	ug/L	0.20	0.024	
QC Batch ID: BWG1498						
Total Antimony	BWG1498-BLK1	ND	ug/L	100	8.5	
Total Beryllium	BWG1498-BLK1	ND	ug/L	10	0.50	
Total Cadmium	BWG1498-BLK1	ND	ug/L	10	1.1	
Total Chromium	BWG1498-BLK1	ND	ug/L	10	1.1	
Total Copper	BWG1498-BLK1	ND	ug/L	10	1.1	
Total Nickel	BWG1498-BLK1	ND	ug/L	10	2.0	
Total Silver	BWG1498-BLK1	ND	ug/L	10	1.9	
Total Zinc	BWG1498-BLK1	ND	ug/L	50	2.3	
QC Batch ID: BWG1610						
Total Recoverable Arsenic	BWG1610-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Lead	BWG1610-BLK1	ND	ug/L	1.0	0.10	
Total Recoverable Selenium	BWG1610-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Thallium	BWG1610-BLK1	0.30600	ug/L	1.0	0.10	J



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Reported: 08/02/2013 11:16
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		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: BWG1371										
Total Mercury	BWG1371-BS1	LCS	1.0450	1.0000	ug/L	104		85	115	
QC Batch ID: BWG1498										
Total Antimony	BWG1498-BS1	LCS	398.18	400.00	ug/L	99.5		85	115	
Total Beryllium	BWG1498-BS1	LCS	206.35	200.00	ug/L	103		85	115	
Total Cadmium	BWG1498-BS1	LCS	206.33	200.00	ug/L	103		85	115	
Total Chromium	BWG1498-BS1	LCS	212.57	200.00	ug/L	106		85	115	
Total Copper	BWG1498-BS1	LCS	406.50	400.00	ug/L	102		85	115	
Total Nickel	BWG1498-BS1	LCS	427.06	400.00	ug/L	107		85	115	
Total Silver	BWG1498-BS1	LCS	102.49	100.00	ug/L	102		85	115	
Total Zinc	BWG1498-BS1	LCS	521.73	500.00	ug/L	104		85	115	
QC Batch ID: BWG1610										
Total Recoverable Arsenic	BWG1610-BS1	LCS	98.432	100.00	ug/L	98.4		85	115	
Total Recoverable Lead	BWG1610-BS1	LCS	100.72	100.00	ug/L	101		85	115	
Total Recoverable Selenium	BWG1610-BS1	LCS	100.64	100.00	ug/L	101		85	115	
Total Recoverable Thallium	BWG1610-BS1	LCS	39.935	40.000	ug/L	99.8		85	115	

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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Metals Analysis

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Qualls. Includes QC Batch IDs BWG1371, BWG1498, and BWG1610.

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

Reported: 08/02/2013 11:16
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		Lab Quals
									RPD	Percent Recovery	
QC Batch ID: BWG1610		Used client sample: N									
Total Recoverable Thallium	DUP	1314991-10	ND	ND		ug/L			20		
	MS	1314991-10	ND	42.389	40.000	ug/L		106		70 - 130	
	MSD	1314991-10	ND	39.163	40.000	ug/L	7.9	97.9	20	70 - 130	



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

Reported: 08/02/2013 11:16
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Notes And Definitions

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected at or above the reporting limit
- PQL Practical Quantitation Limit
- RPD Relative Percent Difference
- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery(s) is(are) 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



4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net

ELAP Certification Number: 2385

Lab Number: AB03472

Collection Date/Time: 7/17/2013 10:00 Sample Collector: STEVE A
Submittal Date/Time: 7/18/2013 9:17 Sample ID: MBCSD SEMMI ANN

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

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed	Analyst:
Nitrate as NO3-N	EPA300.0	mg/L	0.2		0.1	7/18/2013	DC
o-Phosphate-P	EPA300.0	mg/L	1.6		0.1	7/18/2013	DC
Silica as SiO2, Dissolved	EPA200.7	mg/L	13		0.5	7/22/2013	HC
Urea-N	Mulvenna&Savid	ug/L	89		10	7/25/2013	HC

Sample Comments:

Report Approved by:

David Holland
Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed outside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD

J = Result is less than PQL

Chain of Custody / Analysis Request



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

Analysis Requested					
Nitrate as NO ₃ /EPA 300.0 <i>NO₃-N</i>	O-Phosphate-P/EPA 300.0	Silica as SiO ₂ /EPA 4500-Si-E <i>Total</i>	Urea/Mulvenna & Savid		
X	X	X	X		

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		Receiving Temp	Coliform Analysis				# Cont.	Container	
			Date	Time		CL2 Residual	Routine	Other	Repeat		Type	Size
03472	MBCSD Semi ann	Grab Eff A.R.S. M1	7/17/2013	10:00						1		
↓	MBCSD Semi ann	Grab Eff A.R.S. M2	7/17/2013	10:00						1		
↓	MBCSD Semi ann	Grab Eff A.R.S. M3	7/17/2013							1		

	Printed Name	Signature	Date	Time	Comment
Sampled by:	Steven R. Aschenbrenner	<i>[Signature]</i>	7/17/13	10:00	Is sample for regulatory purposes? Yes / No
Relinquished by:	Steve R. Aschenbrenner	<i>[Signature]</i>	7/17/13	1430	
Received by:	M. Holland	<i>[Signature]</i>	7/18/13	0917	*pour off 50 ml & freeze to hold for Urea test
Relinquished by:					
Received by:					

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

ENC

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

Date: July 21, 2013

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

4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Laboratory No.: A-13071702-001
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: 07/16/13 (composite)
Date Received: 07/17/13
Temp. Received: 1.1°C
Chlorine (TRC): 0.0 mg/l
Dates Tested: 07/17/13 to 07/19/13

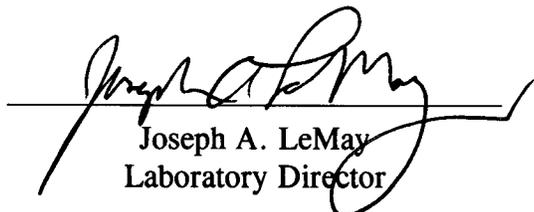
Sample Analysis: The following analyses were performed on your sample:
Abalone Larval Development Short-Term Toxicity Test (EPA 600/R-95/136).

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

Result Summary:

<u>Test</u>	<u>NOEC</u>	<u>TUc</u>
Abalone Development:	3.2%	31.2

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

ABALONE LARVAL DEVELOPMENT SHORT-TERM TOXICITY TEST



Lab No.: A-13071702-001
Client/ID: Morro Bay WWTP

Date tested: 07/17/13 - 07/19/13

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-130717 (ran concurrently)

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

RESULTS SUMMARY

Sample Concentration	Percent Normal Development	
Control (Brine)	96.6%	
Control (Dilution)	97.7%	
3.2%	96.8%	
5.6%	13.7%	*
10.0%	0%	*
18.0%	0%	*
32.0%	0%	*
* Statistically significantly less than control at P = 0.05 level		

CHRONIC TOXICITY

NOEC	3.2%
TU _c	31.2

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥ 80%	PASSED (97.7%)
%MSD < 20% relative to control	PASSED (%MSD = 3.3%)
Please see RT-130717 report for additional test acceptability criteria.	

Abalone Larval Development Test-Proportion Normal

Start Date: 7/17/2003 14:00 Test ID: 13071702ab Sample ID: Morro Bay
 End Date: 7/19/2003 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF1-POTW
 Sample Date: 7/16/2003 11:00 Protocol: WCCH-EPA-600-R-95-136 Test Species: HR-Haliotis rufescens

Comments:

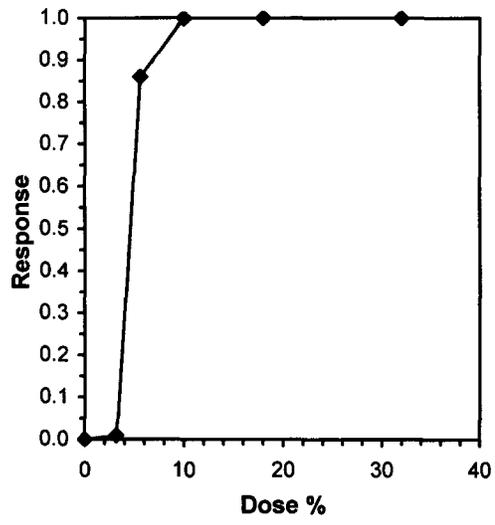
Conc-%	1	2	3	4	5
B-Control	0.9537	0.9813	0.9714	0.9626	0.9626
D-Control	0.9906	0.9626	0.9906	0.9810	0.9615
3.2	0.9811	0.9714	0.9444	0.9904	0.9541
5.6	0.1058	0.1698	0.0833	0.0971	0.2308
10	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
B-Control	0.9663	0.9888	1.3882	1.3539	1.4336	2.188	5						
D-Control	0.9772	1.0000	1.4258	1.3734	1.4735	3.471	5	*				0.9773	1.0000
3.2	0.9683	0.9908	1.3989	1.3329	1.4726	4.058	5	0.640	2.110	0.0888		0.9680	0.9906
*5.6	0.1374	0.1406	0.3734	0.2928	0.5011	23.351	5	25.017	2.110	0.0888		0.1371	0.1403
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)	0.92239	0.881	0.51622	-0.6664
Bartlett's Test indicates equal variances (p = 0.52)	1.32108	9.21035		
The control means are not significantly different (p = 0.19)	1.44792	2.30601		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	3.2	5.6	4.2332	31.25	0.03278	0.03348	1.80003	0.00442	9.4E-12	2, 12

Linear Interpolation (200 Resamples)					
Point	%	SD	95% CL(Exp)		Skew
IC05	3.3145	0.0252	3.2389	3.3540	-0.7288
IC10	3.4556	0.0251	3.3802	3.5048	-0.5408
IC15	3.5968	0.0258	3.5267	3.6541	-0.3285
IC20	3.7379	0.0273	3.6670	3.8040	-0.1360
IC25	3.8790	0.0295	3.8063	3.9563	0.0129
IC40	4.3025	0.0389	4.2242	4.4096	0.2327
IC50	4.5847	0.0465	4.4932	4.7147	0.2849



ABALONE CHRONIC BIOASSAY



Lab No.: A-13071702-001
 Client ID: MRS - Morro Bay Effluent

Start Date: 07/17/2013

WATER QUALITY READINGS

Sample	Initial Readings				24 Hrs		Final Readings			
	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)	Temp (°C)	pH	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)
Control (brine)	14.7	8.0	8.1	34	15.1	8.1	14.9	8.1	8.1	34
Control (lab)	15.2	8.0	8.2	34	15.0	8.1	15.3	8.0	8.1	34
3.2%	15.4	8.1	8.2	34	14.9	8.1	15.5	8.1	8.1	34
5.6%	15.2	8.0	8.2	34	15.5	8.1	15.1	7.9	8.1	34
10%	15.6	8.1	8.2	34	15.4	8.2	15.3	8.2	8.1	34
18%	15.6	8.1	8.2	34	15.0	8.2	15.2	8.1	8.1	34
32%	15.3	7.9	8.2	34	15.5	8.2	15.0	7.8	8.1	34

Sample as received: Chlorine: 0 mg/l; pH: 8.2; Salinity: 0 ppt; Temp: 1.1 °C; DO: 3.7 mg/l.

Initial readings: [Signature] Date/Time: 7-17-13 1400 Final readings: [Signature] Date/Time: 7-19-13 1400
24 Hrs = 44 Hrs

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	104	2	13	3.2	0	100	25	3.2	0	100
2	BC	103	5	14	3.2	102	6	26	BC	103	4
3	10	0	100	15	10	0	100	27	5.6	10	93
4	C	105	1	16	18	0	100	28	10	0	100
5	5.6	11	93	17	BC	102	3	29	18	0	100
6	3.2	0	100	18	C	105	1	30	5.6	24	80
7	10	0	100	19	3.2	0	100	31	3.2	104	5
8	C	103	4	20	BC	103	4	32	10	0	100
9	3.2	0	100	21	C	103	2	33	18	0	100
10	3.2	102	3	22	18	0	100	34	C	100	4
11	BC	105	2	23	3.2	103	1	35	18	0	100
12	5.6	18	88	24	5.6	9	99				

Microscopic examination: Analyst: [Signature] Date: 7-21-13 Time: 0800



***CHAIN
OF
CUSTODY***

CHAIN OF CUSTODY

Client: City of Morro Bay

Address: Wastewater Treatment Plant

160 Atascadero Road

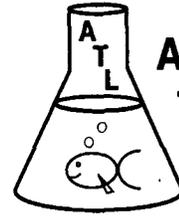
Morro Bay, CA 93442

Project Manager: Doug Coats - MRS

Phone: (805) 644-1180

Fax: (805) 289-3935

Purchase Order No:



**Aquatic
Testing
Laboratories**

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

Sample ID	Sample Date	Sample Time	Sample Type *	Chlorine (TRC)**	Number of Containers	Testing Requested
Comp. Eff.	7.16.13	1100 hrs	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)
<i>[Signature]</i>	<i>[Signature]</i>	7.16.13	1415	YES	—
<i>[Signature]</i>	<i>[Signature]</i>	7-17-13	0950	NA	12.1



***REFERENCE
TOXICANT
DATA***

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



QA/QC Batch No.: RT-130717

Date tested: 07/17/13 - 07/19/13

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: ZnSO₄(7H₂O).

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

RESULTS SUMMARY

SAMPLE CONCENTRATION	PERCENT NORMAL DEVELOPMENT
Control	97.2%
10 µg/l	96.1%
18 µg/l	95.2%
32 µg/l	14.0% *
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	21.9 µg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥80%	Yes (97.2%)
56 µg/l treatment response significantly less than control response	Yes (NOEC = 18 µg/l)
%MSD < 20% relative to control	Yes (%MSD = 3.3%)

Abalone Larval Development Test-Proportion Normal

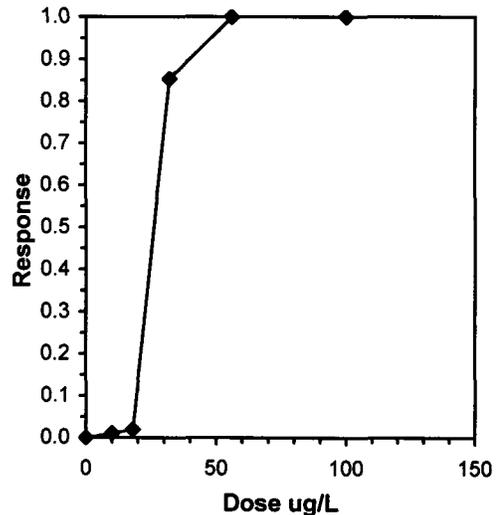
Start Date: 7/17/2003 14:00 Test ID: RT130717ab Sample ID: REF-Ref Toxicant
 End Date: 7/19/2003 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: ZNSO-Zinc sulfate
 Sample Date: 7/17/2013 Protocol: WCCH-EPA-600-R-95-136 Test Species: HR-Haliotis rufescens
 Comments:

Conc-ug/L	1	2	3	4	5
D-Control	0.9712	0.9811	0.9810	0.9906	0.9352
10	0.9813	0.9643	0.9450	0.9623	0.9528
18	0.9450	0.9352	0.9364	0.9640	0.9813
32	0.1509	0.0991	0.0865	0.1391	0.2261
56	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-ug/L	Transform: Arcsin Square Root							1-Tailed			Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9718	1.0000	1.4105	1.3134	1.4735	4.268	5				0.9716	1.0000
10	0.9611	0.9890	1.3751	1.3340	1.4336	2.743	5	0.958	2.230	0.0824	0.9611	0.9892
18	0.9524	0.9800	1.3553	1.3134	1.4336	3.783	5	1.493	2.230	0.0824	0.9523	0.9801
*32	0.1404	0.1444	0.3791	0.2986	0.4955	20.391	5	27.914	2.230	0.0824	0.1416	0.1457
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

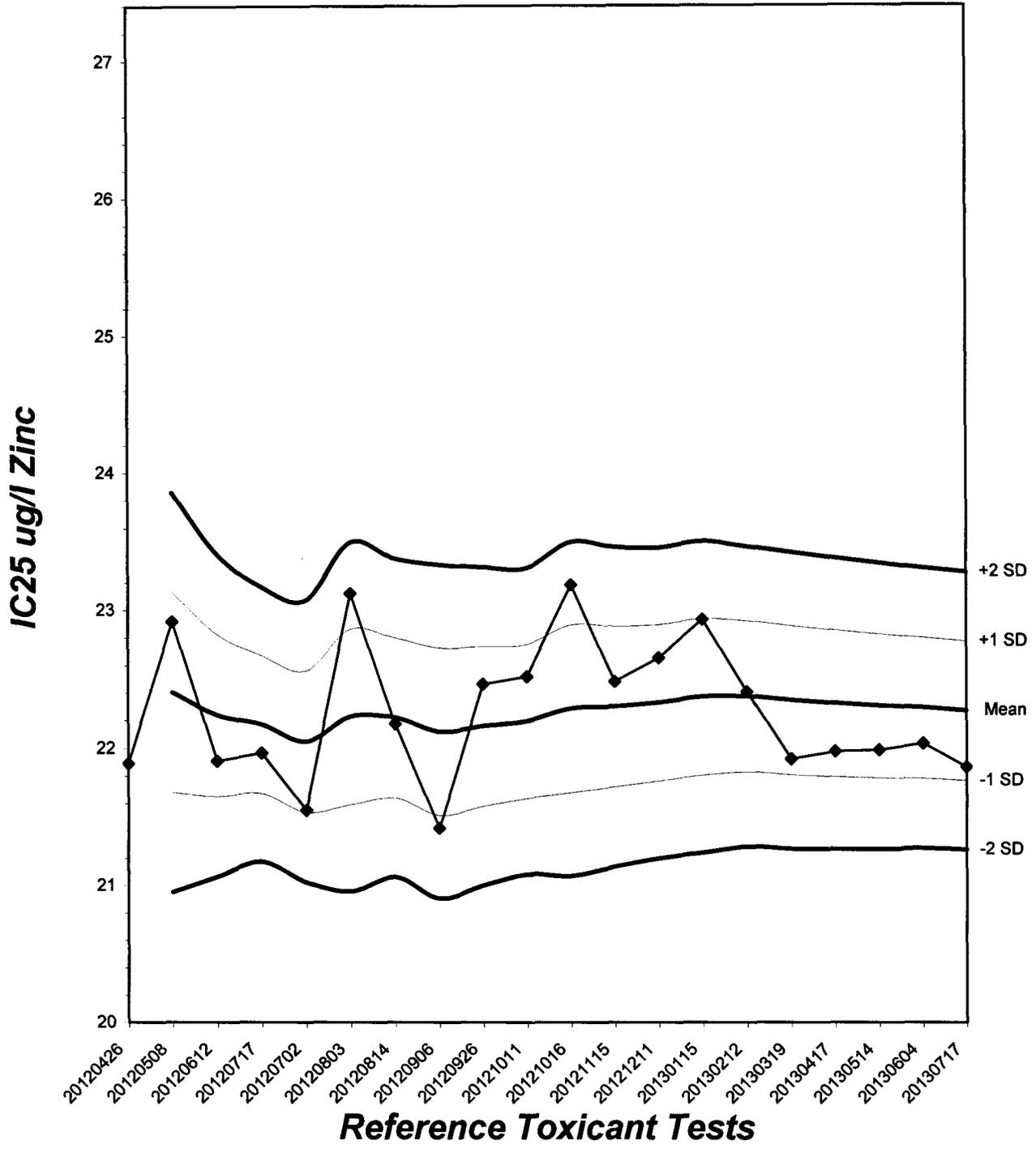
Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.98451	0.905	0.25936	-0.0266						
Bartlett's Test indicates equal variances (p = 0.60)	1.86883	11.3449								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	18	32	24		0.03228	0.03312	1.25553	0.00341	5.8E-15	3, 16

Point	Linear Interpolation (200 Resamples)				
	ug/L	SD	95% CL(Exp)		Skew
IC05	18.505	0.168	17.976	18.934	-0.0998
IC10	19.344	0.159	18.834	19.715	-0.1291
IC15	20.183	0.154	19.700	20.541	-0.1243
IC20	21.022	0.153	20.554	21.401	-0.0671
IC25	21.861	0.156	21.378	22.236	0.0408
IC40	24.377	0.186	23.880	24.903	0.4242
IC50	26.055	0.219	25.500	26.702	0.5672



Abalone Larval Development Laboratory Control Chart

CV% = 2.27



ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate



QA/QC No.: RT-130717

Start Date: 07/17/2013

WATER QUALITY READINGS

Sample	Initial Readings				24 Hr		Final Readings			
	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)	Temp (°C)	pH	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)
Control	15.3	7.7	8.1	34	15.0	8.2	15.2	8.1	8.1	34
10 µg/l Zn	14.5	7.8	8.1	34	15.2	8.1	14.7	8.1	8.0	34
18 µg/l Zn	14.4	7.9	8.1	34	14.9	8.1	14.9	8.0	8.1	34
32 µg/l Zn	14.7	8.0	8.1	34	15.0	8.2	15.1	8.0	8.1	34
56 µg/l Zn	14.4	8.0	8.1	34	15.5	8.2	15.4	8.1	8.1	34
100 µg/l Zn	14.8	8.1	8.1	34	15.2	8.2	15.1	8.0	8.1	34

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

Initial readings: ML Date/Time: 7-17-13 1400 Final readings: ML Date/Time: 7-19-13 1400

MICROSCOPIC EXAMINATION

Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal
1	18	103	6	11	56	0	100	21	C	105	1
2	100	0	100	12	10	108	4	22	32	16	99
3	32	16	90	13	100	0	100	23	10	102	4
4	56	0	100	14	32	9	95	24	56	0	100
5	10	105	2	15	C	103	2	25	32	26	89
6	C	101	3	16	18	103	7	26	10	101	5
7	100	0	100	17	56	0	100	27	C	101	7
8	18	101	7	18	10	103	6	28	56	0	100
9	C	104	2	19	100	0	100	29	18	105	2
10	32	11	100	20	18	107	4	30	100	0	100

Microscopic examination: Analyst: ML Date: 7-21-13 Time: 0800

ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate



QA/QC No.: RT-130717

Start Date: 07/17/2013

RANDOMIZATION WORKSHEET

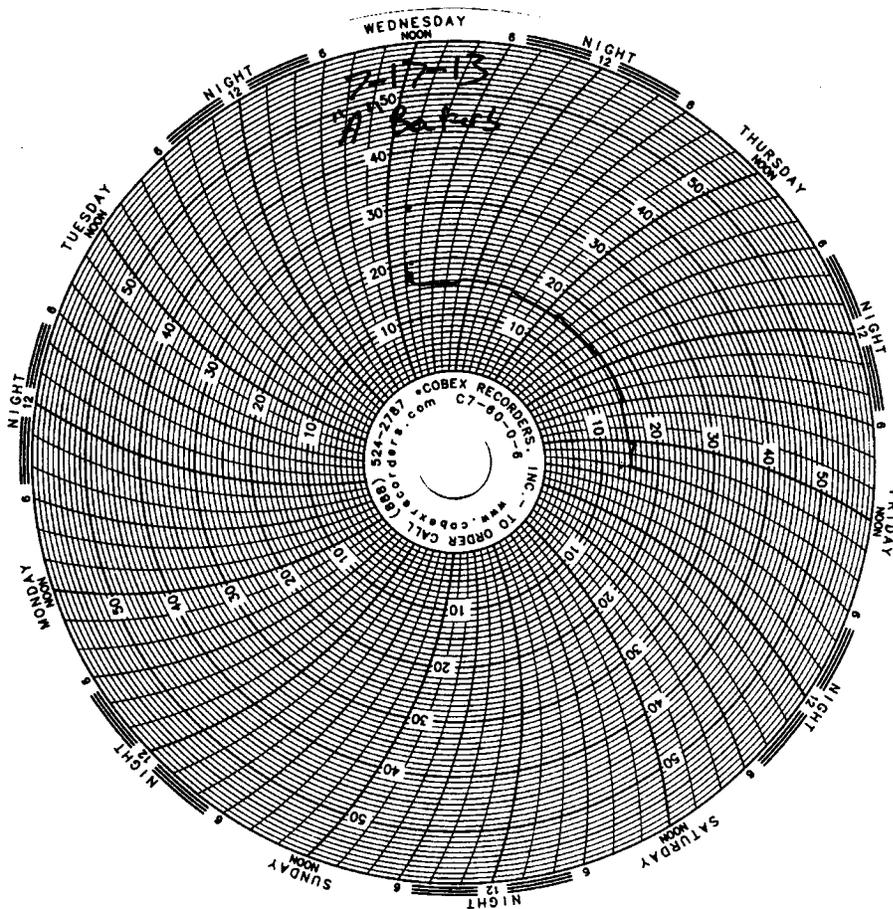
Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Notes
1	18	11	56	21	C	Number Males used: <u>4</u> Number females used: <u>7</u> Time H ₂ O ₂ added: <u>10:00</u> Time water changed: <u>12:30</u> Time spawned: <u>♂ 13:15 ♀ 13:30</u> Time placed in test: <u>1400</u> Add 1600 fertilized eggs per 200 ml.. Time glutaraldehyde added: <u>1400</u>
2	100	12	10	22	32	
3	32	13	100	23	10	
4	56	14	32	24	56	
5	10	15	C	25	32	
6	C	16	18	26	10	
7	100	17	56	27	C	
8	18	18	10	28	56	
9	C	19	100	29	18	
10	32	20	18	30	100	
Analyst: <u>[Signature]</u> Date: <u>7-17-13</u> Time: <u>0700</u>						

Test Temperature Chart

Test No: *RT-130717*

Date Tested: *07/17/13 to 07/19/13*

Acceptable Range: *15 +/- 1°C*



CERTIFICATE OF ANALYSIS

Client: Marine Research Specialties 3140 Telegraph Road, Suite A Ventura CA, 93003-3223	Report Date: 08/14/13 11:57
Attention: Bonnie Luke	Received Date: 07/18/13 09:25
Phone: (805) 644-1180	Turn Around: Normal
Fax:	Client Project: MBCSD Semi-Annual Effluent July 2013
Work Order(s): 3G18030	

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

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Bonnie Luke :

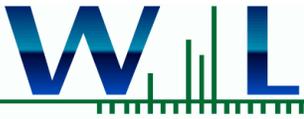
Enclosed are the results of analyses for samples received 07/18/13 09:25 with the Chain of Custody document. The samples were received in good condition, at 1.0 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Kim G Tu
Project Manager





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

Date Received: 07/18/13 09:25
Date Reported: 08/14/13 11:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
COMP EFF A.R.S. W1	Steve Aschenbrene		3G18030-01	Water	07/17/13 10:00
COMP EFF A.R.S. W2	Steve Aschenbrene		3G18030-02	Water	07/17/13 10:00

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: 07/18/13 09:25
Date Reported: 08/14/13 11:57

3G18030-01 COMP EFF A.R.S. W1

Sampled: 07/17/13 10:00

Sampled By: Steve Aschenbrener

Matrix: Water

Organo Tin by GC/MS

Method: GC/MS

Batch: W3G1247

Prepared: 07/30/13 08:31

Analyst: css

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Tri-n-butyltin	ND	0.050	ug/l	1	08/14/13 01:38	
<i>Surr: Triphenyltin</i>	109 %	Conc:0.218	23-146	%		



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

Date Received: 07/18/13 09:25
Date Reported: 08/14/13 11:57

3G18030-02 COMP EFF A.R.S. W2

Sampled: 07/17/13 10:00

Sampled By: Steve Aschenbrener

Matrix: Water

Radiological Parameters by APHA/EPA Methods

Method: EPA 900.0 Batch: W3G0847 Prepared: 07/19/13 08:17 Analyst: sap

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
---------	--------	-----	-------	-----	----------	-----------

Gross Beta	18		pCi/L	1	07/23/13 10:02	
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Counting Error (+/-): 1.243 MDA: 1.457

Method: SM 7110C Batch: W3G0938 Prepared: 07/22/13 11:14 Analyst: sap

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Gross Alpha	ND	0.00	pCi/L	1	07/24/13 16:50	
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Counting Error (+/-): 0.144 MDA: 0.016



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

Date Received: 07/18/13 09:25
Date Reported: 08/14/13 11:57

QUALITY CONTROL SECTION



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

Date Received: 07/18/13 09:25
Date Reported: 08/14/13 11:57

Organo Tin by GC/MS - Quality Control

Batch W3G1247 - GC/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3G1247-BLK1) Analyzed: 08/13/13 22:42										
Tri-n-butyltin	ND	0.050	ug/l							
Surr: Tripentyltin	0.203		ug/l	0.200		101	23-146			
LCS (W3G1247-BS1) Analyzed: 08/13/13 23:07										
Tri-n-butyltin	0.0615	0.050	ug/l	0.0500		123	53-154			
Surr: Tripentyltin	0.243		ug/l	0.200		122	23-146			
LCS Dup (W3G1247-BSD1) Analyzed: 08/13/13 23:32										
Tri-n-butyltin	0.0677	0.050	ug/l	0.0500		135	53-154	10	30	
Surr: Tripentyltin	0.266		ug/l	0.200		133	23-146			

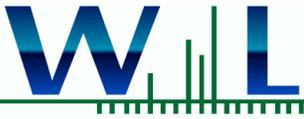
Radiological Parameters by APHA/EPA Methods - Quality Control

Batch W3G0847 - EPA 900.0

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3G0847-BLK1) Analyzed: 07/22/13 14:52										
Gross Beta	-0.38		pCi/L							
Counting Error (+/-): 0.498	MDA: 0.839									
LCS (W3G0847-BS1) Analyzed: 07/19/13 16:49										
Gross Beta	18		pCi/L	16.0		114	70-130			
Counting Error (+/-): 0.851	MDA: 0.847									
Matrix Spike (W3G0847-MS1) Source: 3G17076-01 Analyzed: 07/19/13 15:57										
Gross Beta	1100		pCi/L	800	410	85	70-130			
Counting Error (+/-): 38.791	MDA: 46.491									
Matrix Spike Dup (W3G0847-MSD1) Source: 3G17076-01 Analyzed: 07/19/13 15:57										
Gross Beta	1100		pCi/L	800	410	82	70-130	2	30	
Counting Error (+/-): 37.617	MDA: 43.508									

Batch W3G0938 - SM 7110C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3G0938-BLK1) Analyzed: 07/24/13 12:47										
Gross Alpha	ND	0.00	pCi/L							
Counting Error (+/-): 0.16	MDA: 0.016									
LCS (W3G0938-BS1) Analyzed: 07/24/13 12:47										
Gross Alpha	6.02	0.00	pCi/L	4.80		125	70-130			
Counting Error (+/-): 0.397	MDA: 0.016									
Matrix Spike (W3G0938-MS1) Source: 3G17076-01 Analyzed: 07/24/13 16:50										
Gross Alpha	5.41	0.00	pCi/L	4.80	0.619	100	70-130			
Counting Error (+/-): 0.375	MDA: 0.016									
Matrix Spike Dup (W3G0938-MSD1) Source: 3G17076-01 Analyzed: 07/24/13 16:50										
Gross Alpha	4.27	0.00	pCi/L	4.80	0.619	76	70-130	24	30	
Counting Error (+/-): 0.334	MDA: 0.016									



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

Date Received: 07/18/13 09:25
Date Reported: 08/14/13 11:57

Notes and Definitions

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.



August 03, 2013

Vista Project I.D.: 1300519

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 18, 2013. This sample set was analyzed on a standard turn-around time, under your Project Name 'MBCSD Semi-Annual Effluent 2013'. The work was authorized under your Purchase Order No. 224.

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,

A handwritten signature in blue ink that reads "Martha Maier".

Martha Maier
Laboratory Director



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

Vista Work Order No. 1300519

Case Narrative

Sample Condition on Receipt:

Two aqueous samples 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 Travel Blank was placed on hold.

Analytical Notes:

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.

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Sample Inventory Report



Vista Sample ID	Client Sample ID	Sampled	Received	Components/ Containers
1300519-01	COMP EFF A.R.S. V1	17-Jul-13 10:00	18-Jul-13 08:54	Amber Glass NM Bottle, 1L
1300519-02	TRAVEL BLANK	17-Jul-13 00:00	18-Jul-13 08:54	Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

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

Matrix: Aqueous	QC Batch: B3G0113	Lab Sample: B3G0113-BLK1
Sample Size: 1.00 L	Date Extracted: 26-Jul-2013 8:14	Date Analyzed: 01-Aug-13 12:12 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.928		1.83		IS 13C-2,3,7,8-TCDD	80.4	25 - 164	
1,2,3,7,8-PeCDD	ND	1.57		7.33		13C-1,2,3,7,8-PeCDD	75.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.46		5.40		13C-1,2,3,4,7,8-HxCDD	76.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.52		4.43		13C-1,2,3,6,7,8-HxCDD	87.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.71		4.16		13C-1,2,3,7,8,9-HxCDD	82.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	2.87		5.49		13C-1,2,3,4,6,7,8-HpCDD	77.1	23 - 140	
OCDD	ND	7.64		6.21		13C-OCDD	73.8	17 - 157	
2,3,7,8-TCDF	ND	1.05		1.50		13C-2,3,7,8-TCDF	91.0	24 - 169	
1,2,3,7,8-PeCDF	ND	1.20		3.41		13C-1,2,3,7,8-PeCDF	89.5	24 - 185	
2,3,4,7,8-PeCDF	ND	1.24		6.24		13C-2,3,4,7,8-PeCDF	86.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND	1.30		4.02		13C-1,2,3,4,7,8-HxCDF	74.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	1.35		3.36		13C-1,2,3,6,7,8-HxCDF	73.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	2.77		5.26		13C-2,3,4,6,7,8-HxCDF	77.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	2.14		6.86		13C-1,2,3,7,8,9-HxCDF	79.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	1.26		5.93		13C-1,2,3,4,6,7,8-HpCDF	74.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	1.50		6.96		13C-1,2,3,4,7,8,9-HpCDF	73.5	26 - 138	
OCDF	ND	3.34		9.96		13C-OCDF	69.1	17 - 157	
						CRS 37Cl-2,3,7,8-TCDD	87.3	35 - 197	

Toxic Equivalent Quotient (TEQ) Data	
TEQMinWHO2005Dioxin	0.00

TOTALS		
Total TCDD	ND	0.928
Total PeCDD	ND	1.57
Total HxCDD	ND	2.09
Total HpCDD	ND	5.38
Total TCDF	ND	1.05
Total PeCDF	ND	1.79
Total HxCDF	ND	2.81
Total HpCDF	ND	2.31

DL - Sample specific 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: B3G0113			Lab Sample: B3G0113-BS1			
Sample Size: 1.00 L		Date Extracted: 26-Jul-2013 8:14			Date Analyzed: 01-Aug-13 09:46 Column: ZB-5MS Analyst: MAS			
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL	
2,3,7,8-TCDD	179	200	89.3	67 - 158	IS 13C-2,3,7,8-TCDD	78.4	20 - 175	
1,2,3,7,8-PeCDD	1010	1000	101	70 - 142	13C-1,2,3,7,8-PeCDD	74.1	21 - 227	
1,2,3,4,7,8-HxCDD	888	1000	88.8	70 - 164	13C-1,2,3,4,7,8-HxCDD	75.7	21 - 193	
1,2,3,6,7,8-HxCDD	927	1000	92.7	76 - 134	13C-1,2,3,6,7,8-HxCDD	74.7	25 - 163	
1,2,3,7,8,9-HxCDD	910	1000	91.0	64 - 162	13C-1,2,3,7,8,9-HxCDD	74.0	21 - 193	
1,2,3,4,6,7,8-HpCDD	921	1000	92.1	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	71.5	26 - 166	
OCDD	1850	2000	92.6	78 - 144	13C-OCDD	70.7	13 - 199	
2,3,7,8-TCDF	177	200	88.6	75 - 158	13C-2,3,7,8-TCDF	85.3	22 - 152	
1,2,3,7,8-PeCDF	962	1000	96.2	80 - 134	13C-1,2,3,7,8-PeCDF	80.8	21 - 192	
2,3,4,7,8-PeCDF	907	1000	90.7	68 - 160	13C-2,3,4,7,8-PeCDF	87.3	13 - 328	
1,2,3,4,7,8-HxCDF	945	1000	94.5	72 - 134	13C-1,2,3,4,7,8-HxCDF	69.0	19 - 202	
1,2,3,6,7,8-HxCDF	952	1000	95.2	84 - 130	13C-1,2,3,6,7,8-HxCDF	68.7	21 - 159	
2,3,4,6,7,8-HxCDF	953	1000	95.3	70 - 156	13C-2,3,4,6,7,8-HxCDF	72.3	22 - 176	
1,2,3,7,8,9-HxCDF	962	1000	96.2	78 - 130	13C-1,2,3,7,8,9-HxCDF	67.5	17 - 205	
1,2,3,4,6,7,8-HpCDF	959	1000	95.9	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	66.1	21 - 158	
1,2,3,4,7,8,9-HpCDF	973	1000	97.3	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	67.2	20 - 186	
OCDF	1950	2000	97.3	63 - 170	13C-OCDF	65.3	13 - 199	
					CRS 37Cl-2,3,7,8-TCDD	87.1	31 - 191	

LCL-UCL - Lower control limit - upper control limit

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

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Marine Research Specialists	Matrix:	Wastewater	Lab Sample:	1300519-01	Date Received:	18-Jul-2013 8:54
Project:	MBCSD Semi-Annual Effluent 2013	Sample Size:	1.04 L	QC Batch:	B3G0113	Date Extracted:	26-Jul-2013 8:14
Date Collected:	17-Jul-2013 10:00			Date Analyzed :	01-Aug-13 15:25	Column:	ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	1.33		1.83		IS 13C-2,3,7,8-TCDD	82.9	25 - 164	
1,2,3,7,8-PeCDD	ND	2.13		7.33		13C-1,2,3,7,8-PeCDD	83.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	2.58		5.40		13C-1,2,3,4,7,8-HxCDD	82.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	3.25		4.43		13C-1,2,3,6,7,8-HxCDD	82.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	3.54		4.16		13C-1,2,3,7,8,9-HxCDD	78.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	5.88			5.49	J	13C-1,2,3,4,6,7,8-HpCDD	76.1	23 - 140	
OCDD	57.5			6.21		13C-OCDD	70.8	17 - 157	
2,3,7,8-TCDF	ND	1.14		1.50		13C-2,3,7,8-TCDF	90.8	24 - 169	
1,2,3,7,8-PeCDF	ND	1.30		3.41		13C-1,2,3,7,8-PeCDF	93.5	24 - 185	
2,3,4,7,8-PeCDF	ND	1.33		6.24		13C-2,3,4,7,8-PeCDF	91.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.817		4.02		13C-1,2,3,4,7,8-HxCDF	76.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.837		3.36		13C-1,2,3,6,7,8-HxCDF	75.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.999		5.26		13C-2,3,4,6,7,8-HxCDF	76.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.34		6.86		13C-1,2,3,7,8,9-HxCDF	72.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	3.12		5.93		13C-1,2,3,4,6,7,8-HpCDF	71.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	2.15		6.96		13C-1,2,3,4,7,8,9-HpCDF	73.2	26 - 138	
OCDF	ND	6.40		9.96		13C-OCDF	67.4	17 - 157	
						CRS 37Cl-2,3,7,8-TCDD	93.5	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinEPA_ITEF1989 0.116

TOTALS									
Total TCDD	5.42								
Total PeCDD	5.65								
Total HxCDD	ND	4.89							
Total HpCDD	5.88		12.0						
Total TCDF	ND	1.14							
Total PeCDF	ND	2.16							
Total HxCDF	ND	1.62							
Total HpCDF	ND	3.36							

DL - Sample specific 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 Dept of Environmental Management	41610
Alaska Department of Environmental Conservation	CA00413
Arkansas Dept of Environmental Quality	13-017-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept 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
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA120020
Maine Department of Health	2012010
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132013-2
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oregon Laboratory Accreditation Program	CA200001-011
Pennsylvania Dept of Environmental Protection	010
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-13-4
Utah Dept of Health	CA164002012-2
Virginia Dept of General Services	2358
Washington Department of Ecology	C584
Wisconsin Dept of Natural Resources	998036160



CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY

Laboratory Project ID: 1300519 Temp: 0.6 °C
 Storage ID: WR2 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 2012 P.O. #: _____ Sampler: Aschenbrenner Stone
 (Name)

Invoice to: Name Bonnie Luke Company Marine Research Specialists Address 3140 Telegraph Rd. #A City Ventura State CA Zip 93003 Ph# 805-289-3926 Fax # 805-289-3935
 Relinquished by: (Printed Name and Signature) Aschenbrenner Steven Date: 7/17/13 Time: 1430 Received by: (Signature and Printed Name) B. Benedict Date: 7/18/13 Time: 0900
 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				Method of Shipment: <u>fedex</u>		Add Analysis(es) Requested															
ATTN: _____				Tracking No.: _____		Container(s)															
Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDF/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDF/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDF/TCDF	TOTALS	COPLANAR PCBs	209 CONGENERS	PBDE	PAH	WHO-29	
COMP EFF A.R.S. V1	7/17/13	<u>10:00</u>	A.R.S. / 24 hr. COMP EFF	1		ww															
TRAVEL BLANK	7/17/13			1																	

Special Instructions/Comments: Extract and analyze using EPA 1613B 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 Project #: 1300519 TAT Std

Samples Arrival:	Date/Time 7/18/2013 0854	Initials: UBB	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 7/19/13 1133	Initials: UBB	Location: WR-2
			Shelf/Rack: B4
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
		<input type="checkbox"/> Other	
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
		<input type="checkbox"/> None	
Temp °C 0.6°C	Time: 0859	Thermometer ID: IR-2	

	YES	NO	NA
Adequate Sample Volume Received? 1 liter	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 7962 5530 7868	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact? Seal wet from cooler	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented? NA			
	<input type="checkbox"/> COC	<input type="checkbox"/> Sample Container	<input type="checkbox"/> None
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments: