City of Morro Bay and
Cayucos Sanitary District

OFFSHORE MONITORING AND REPORTING PROGRAM

SEMI-ANNUAL EFFLUENT SAMPLING

CHEMICAL AND BIOASSAY ANALYSIS RESULTS

JULY 2012

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 2012

Prepared by

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September 2012

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

Bruce Keogh

Mr. Bruce Keogh
Wastewater Division Manager
City of Morro Bay

Date Sept 12, 2012

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

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

12 September 2012

Reference: Annual Effluent Self-Monitoring Report for 2012
Semiannual Effluent Self-Monitoring Report for July through December 2012

Dear Mr. Keogh:

This self-monitoring report documents the chemical and bioassay analysis results for effluent samples collected in July 2012 as required by NPDES discharge permit CA0047881.[1] Analyses of effluent samples collected on 16 and 18 July 2012 were conducted in accordance with the monitoring requirements specified in the permit, including:

- Chemical and radionuclide analyses conducted on a composite sample collected on 18 July 2011;
- Phenolic and nutrient compounds measured in a grab sample collected on 18 July 2011; and
- Chronic bioassays conducted on a composite sample collected on 16 July 2011.

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

The comprehensive chemical and bioassay analyses of effluent samples collected in July 2012 augment data collected over the past two decades from the MBSCD[2] treatment plant. The general lack of toxicity and chemical contaminants within the effluent samples reflects the absence of heavy industry within the collection area and the high performance of the treatment process.

The concentrations of 78 chemical compounds are limited under the current permit.[3] In July 2012, only 12 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 2012 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 2012 effluent were an order of magnitude below the levels deemed deleterious to marine organisms.

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

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

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

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 forms in small amounts within the treatment process.

Dioxin concentrations in the July 2012 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 2012 sample was 2.5 times lower than its permit limitation and therefore, not of ecological concern.

In addition to these typical chemical compounds, preliminary analysis of the composite effluent sample collected on 18 July also indicated that a detectable concentration of 4,4' DDT[4] may have been present in the sample. However, the analysis of the 18 July effluent sample was complicated by an unusually high level of matrix interference, which complicates the ability to definitively distinguish individual compounds within a sample, and often results in elevated detection limits.[5]

Historically, matrix interference severe enough to require dilution of the MBCSD effluent samples is extremely rare. Additionally, the preliminary detection of 4,4' DDT in the MBCSD effluent was highly suspect for the following reasons:

1) There is no known source of legacy DDT contamination within the MBCSD collection system or within the central coast region as a whole;
2) DDT has been banned in the United States for most uses since 1972;
3) DDT does not form naturally within the environment or within wastewater treatment systems;
4) 4,4' DDT typically occurs in conjunction with its breakdown metabolites, DDE and DDD, yet neither of these congeners were identified in the sample; and
5) DDT is hydrophobic and when found in the environment, and is associated with sediment or tissue contamination, not aqueous solutions such as wastewater.

Subsequently, a higher-resolution analysis was performed using a combination of extracts from the 18 July sample. This analysis determined that the preliminary result indicating the presence of 4,4' DDT was incorrect.[6] The absence of detectable DDT concentrations within the MBCSD effluent was not only confirmed by reanalysis of extract from the 18 July sample, but also by the analysis of an additional confirmatory effluent sample collected on 7 August 2012. This sample, which did not exhibit matrix interference, had low detection limits and contained no detectable concentration of DDT or any of its congeners (refer to Footnote ***i*** in Attachment A).[7]

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[4] Dichlorodiphenyltrichloroethane

[5] See the Laboratory Qualification A10 for results from EPA Methods 608 and 625 documented for Work Order 1213283 (the 18 July Sample) in Appendix C.

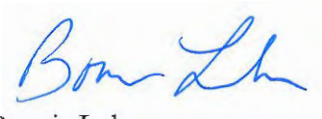
[6] See the Case Narrative for BC Laboratories, Inc. for Work Order 1213283 in Appendix C.

[7] See the results reported for Work Order 1214632 (the 7 August Sample) in Appendix C.

Chronic toxicity tests conducted on the July 2012 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 seven times more concentrated than that allowed by the discharge permit.

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

Sincerely,



Bonnie Luke
Program Manager

ATTACHMENT A

MINIMUM LEVEL REPORTING

ATTACHMENT A
Analytical Results for Effluent Samples Collected during July and August 2012

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]	0.12 as measured
Urea (as N)	mg/L	Mulvenna & Savid	—	0.01	—	—	0.037 as measured
Ortho-Phosphate (as P)	mg/L	300.0	—	0.10	—	—	2.83 as measured
Dissolved Silica (Si02)	mg/L	200.7	—	0.5	—	—	12. as measured
Objectives for the Protection of Marine Aquatic Life							
Arsenic	mg/L	200.8	0.0007	0.002	0.002	0.67	DNQ 0.0011 Est. Conc.
Cadmium	mg/L	200.7	0.001	0.01	0.01	0.13	ND
Chromium VI	mg/L	200.7	0.001	0.01	0.01	0.27	DNQ 0.0018 Est. Conc.
Copper	mg/L	200.7	0.0023	0.01	0.01	0.14	0.015 as measured
Lead	mg/L	200.8	0.0001	0.001	0.0005	0.27	0.0013 as measured
Mercury	µg/L	245.1	0.03	0.2	0.2	5.29	ND
Nickel	mg/L	200.7	0.0012	0.01	0.02	0.67	DNQ 0.0032 Est. Conc.
Selenium	mg/L	200.8	0.00019	0.002	0.002	2.01	DNQ 0.0013 Est. Conc.
Silver	mg/L	200.7	0.001	0.01	0.01	0.07	ND
Zinc	mg/L	200.7	0.0029	0.05	0.02	1.62	0.045 as measured[f]
Cyanide	mg/L	335.4	0.0016	0.005	0.005	0.13	0.049 as measured
Toxicity-Chronic: H. Rufescens	TUc	600/R-95/136	—	—	—	134.	17.9 as measured

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

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

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

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

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

[f] The reported concentration was below the PQL and was flagged "as estimated" by the chemistry laboratory (See Attachment C). However, in accordance with the guidance from the COP, the reported value is listed "as measured" herein, because the measured value exceeded the ML.

Analytical Results for Effluent Samples Collected during July and August 2012

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	0.001	0.01	0.025	4.02	ND
Chlorinated Phenolics	mg/L	625	0.0016	0.01	0.025	0.13	ND
Endosulfan (Sum)	µg/L	608	0.0028	0.01	0.02	1.21	ND
Endrin	µg/L	608	0.0016	0.01	0.02	0.27	ND
HCH	µg/L	608	0.0019	0.01	0.04	0.54	ND
Radioactivity Gross α	pCi/L	7110C	0.016	—	—	15.	ND
Radioactivity Gross β	pCi/L	900	1.774	—	—	50.	16. as measured
Objectives for the Protection of Human Health: Noncarcinogens							
Acrolein	mg/L	624	0.0079	0.02	0.005	29.5	ND
Antimony	mg/L	200.7	0.013	0.1	0.05	160.8	ND
Bis(2-chloroethoxy) methane	mg/L	625	0.0027	0.02	0.05	0.59	ND
Bis(2-chloroisopropyl)ether	mg/L	625	0.003	0.02	0.02	160.8	ND
Chlorobenzene	mg/L	624	0.000063	0.0005	0.002	76.4	ND
Chromium III[g]	g/L	200.7	0.000001	0.00001	0.00001	25.5	DNQ 0.0000018 Est. Conc.
Di-n-butyl phthalate	mg/L	625	0.0039	0.02	0.1	469.	ND
Dichlorobenzene	mg/L	624	0.000072	0.0005	0.002	683.	ND
Diethyl phthalate	mg/L	625	0.0033	0.02	0.02	4,420.	ND
Dimethyl phthalate	g/L	625	0.0000039	0.00002	0.00002	109.9	ND
2-Methyl-4,6-dinitrophenol	mg/L	625	0.0034	0.1	0.05	29.5	ND
2,4-Dinitrophenol	mg/L	625	0.002	0.1	0.05	0.54	ND
Ethylbenzene	mg/L	624	0.000077	0.0005	0.002	549.	ND
Fluoranthene	mg/L	625	0.002	0.02	0.01	2.	ND
Hexachlorocyclopentadiene	mg/L	625	0.003	0.02	0.05	7.8	ND
Nitrobenzene	mg/L	625	0.0026	0.02	0.01	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 0.00000012 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

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

Analytical Results for Effluent Samples Collected during July and August 2012

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	2.6	10.	10.	2.95	ND
Benzene	µg/L	624	0.083	0.5	2.	791.	ND
Benzidine	ng/L	625	71,000.	200,000.	50,000.	9.25	ND
Beryllium	µg/L	200.7	1.	10.	2.	4.42	ND
Bis (2-chloroethyl) ether	µg/L	625	6.8	20.	10.	6.03	ND
Bis(2-ethylhexyl) phthalate	µg/L	625	30.	50.	50.	469.	ND
Carbon Tetrachloride	µg/L	624	0.12	0.5	2.	121.	ND
Chlordane	ng/L	608	760.	1000.	200.	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 0.00087 Est. Conc.[h]
DDT (Sum)	ng/L	608	1.5	10.	20.	22.8	ND
DDT (Sum) [i]	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	82.	100.	50.	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	2.4	10.	20.	5.36	ND
2,4-Dinitrotoluene	µg/L	625	2.6	20.	50.	348.	ND
1,2-Diphenylhydrazine	µg/L	625	3.4	20.	10.	21.4	ND
Halomethanes	mg/L	624	0.00013	0.0005	0.002	17.4	DNQ 0.00025 Est. Conc.
Heptachlor	pg/L	608	2,400.	10,000.	20,000.	6,700.[j]	ND

[h] 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).

[i] A second composite effluent sample was collected on 7 August 2012 and was analyzed for DDT.

[j] 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 and August 2012

Chemical Compound or Parameter	Units	Method	Detection Limit[a]	Practical[b] Quantification Limit	Minimum Level[c]	Permit[d] Limit	Reported Value
Heptachlor Epoxide	pg/L	608	2,000.	10,000.	20,000.	2,680.[j]	ND
Hexachlorobenzene	ng/L	625	2,000.	20,000.	10,000.	28.1	ND
Hexachlorobutadiene	mg/L	625	0.0024	0.02	0.01	1.88	ND
Hexachloroethane	µg/L	625	3.2	20.	10.	335.	ND
Isophorone	mg/L	625	0.0031	0.02	0.01	98.	ND
N-Nitrosodimethylamine	µg/L	625	6.1	20.	50.	978.	ND
N-Nitrosodi-n-propylamine	µg/L	625	13.	20.	50.	50.9	ND
N-Nitrosodiphenylamine	µg/L	625	4.4	20.	10.	335.	ND
PAHs	µg/L	625	2.	20.	100.	1.18	ND
Total PCB's	ng/L	608	40.	400.	1000.	2.55	ND
Dioxin (TCDD equivalents)	pg/L	1613B	—	—	—	0.52	0.0524 as measured
1,1,2,2-Tetrachloroethane	mg/L	624	0.00017	0.0005	0.002	0.31	ND
Tetrachloroethene	µg/L	624	0.095	0.5	2.	268.	ND
Toxaphene	ng/L	608	840.	4,000.	1,000.	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	0.006	0.05	0.1	0.039	ND
Vinyl chloride	mg/L	624	0.00011	0.0005	0.002	4.82	ND

ATTACHMENT B

DISCHARGE MONITORING REPORTS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2012	**TO**	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, nitrate total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	*0.12*	*mg/L*	0	*Semi-annual*	*Grab*
00620 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	*0.0049*	*0.0049*	*0.0049*	*mg/L*	0	*Semi-annual*	*Comp24*
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Semiannual	COMP24
Silica, dissolved (as SiO2)	SAMPLE MEASUREMENT	******	******	******	******	******	*12.*	*mg/L*	0	*Semi-annual*	*Grab*
00955 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB
Arsenic, total recoverable	SAMPLE MEASUREMENT	******	******	******	*NODI (Q)*	*NODI (Q)*	*NODI (Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
00978 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.67 6 MO MED	3.89 DAILY MX	10.3 INST MAX	mg/L		Semiannual	COMP24
Selenium, total recoverable	SAMPLE MEASUREMENT	******	******	******	*NODI (Q)*	*NODI (Q)*	*NODI (Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
00981 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	2.01 6 MO MED	8.04 DAILY MX	20.1 INST MAX	mg/L		Semiannual	COMP24
Chromium, hexavalent (as Cr)	SAMPLE MEASUREMENT	******	******	******	*NODI (Q)*	*NODI (Q)*	*NODI (Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
01032 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.27 6 MO MED	1.07 DAILY MX	2.68 INST MAX	mg/L		Semiannual	COMP24
Nickel, total recoverable	SAMPLE MEASUREMENT	******	******	******	*NODI (Q)*	*NODI (Q)*	*NODI (Q)*	*mg/L*	0	*Semi-annual*	*Comp24*
01074 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.67 6 MO MED	2.68 DAILY MX	6.7 INST MAX	mg/L		Semiannual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

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

Total chromium is reported for hexavalent chromium.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	07/01/2012	TO	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Silver total recoverable	SAMPLE MEASUREMENT	******	******	******	NODI(B)	NODI(B)	NODI(B)	mg/L	0	Semi-annual	Comp24
01079 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.07 6 MO MED	.35 DAILY MX	.92 INST MAX	mg/L		Semiannual	COMP24
Zinc, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.045	0.045	0.045	mg/L	0	Semi-annual	Comp24
01094 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	1.62 6 MO MED	9.66 DAILY MX	25.7 INST MAX	mg/L		Semiannual	COMP24
Cadmium, total recoverable	SAMPLE MEASUREMENT	******	******	******	NODI(B)	NODI(B)	NODI(B)	mg/L	0	Semi-annual	Comp24
01113 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Semiannual	COMP24
Lead, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.0013	0.0013	0.0013	mg/L	0	Semi-annual	Comp24
01114 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.27 6 MO MED	1.07 DAILY MX	2.68 INST MAX	mg/L		Semiannual	COMP24
Copper, total recoverable	SAMPLE MEASUREMENT	******	******	******	0.015	0.015	0.015	mg/L	0	Semi-annual	Comp24
01119 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.14 6 MO MED	1.34 DAILY MX	3.75 INST MAX	mg/L		Semiannual	COMP24
Phosphate, ortho (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	2.83	mg/L	0	Semi-annual	Grab
04175 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB
Urea	SAMPLE MEASUREMENT	******	******	******	******	******	0.037	mg/L	0	Semi-annual	Grab
71800 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	mg/L		Semiannual	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		**MM/DD/YYYY**
FROM	07/01/2012	**TO**	12/31/2012

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

No Discharge ☐

PARAMETER		**QUANTITY OR LOADING**			**QUALITY OR CONCENTRATION**				**NO. EX**	**FREQUENCY OF ANALYSIS**	**SAMPLE TYPE**
		VALUE	**VALUE**	**UNITS**	**VALUE**	**VALUE**	**VALUE**	**UNITS**			
Mercury, total recoverable	**SAMPLE MEASUREMENT**	******	******	******	*NODI(B)*	*NODI(B)*	*NODI(B)*	µg/L	0	*Semi-annual*	*Comp24*
71901 1 0 Effluent Gross	**PERMIT REQUIREMENT**	******	******	******	5.29 6 MO MED	21.4 DAILY MX	53.5 INST MAX	ug/L		Semiannual	COMP24
Static 48Hr Chronic Macrocystis Pyrifera	**SAMPLE MEASUREMENT**	******	******	******	******	******	*NODI(9)*	*TUc*	0	*Semi-annual*	*Comp24*
TTK1D 1 0 Effluent Gross	**PERMIT REQUIREMENT**	******	******	******	******	******	134 DAILY MX	tox chronic		Semiannual	COMP24
Static 48Hr Chronic Haliotis Rufescens	**SAMPLE MEASUREMENT**	******	******	******	******	******	*17.9*	*TUc*	0	*Semi-annual*	*Comp24*
TTK3R 1 0 Effluent Gross	**PERMIT REQUIREMENT**	******	******	******	******	******	134 DAILY MX	tox chronic		Semiannual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			**TELEPHONE**		**DATE**
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		**SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT**	**AREA Code**	**NUMBER**	**MM/DD/YYYY**

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

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	TO	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Radioactivity	SAMPLE MEASUREMENT	******	******	******	******	******	*16.*	*pCi/L*	0	*Annual*	*Comp24*
00189 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. DAILY MX	pCi/L		Annual	COMP24
Thallium, total recoverable	SAMPLE MEASUREMENT	******	******	******	******	*NODI(B)*	******	*mg/L*	0	*Annual*	*Comp24*
00982 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.27 MO AVG	******	mg/L		Annual	COMP24
Beryllium, total recoverable (as Be)	SAMPLE MEASUREMENT	******	******	******	******	*NODI(B)*	******	*µg/L*	0	*Annual*	*Comp24*
00998 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	4.42 MO AVG	******	ug/L		Annual	COMP24
Chromium, trivalent (as Cr)	SAMPLE MEASUREMENT	******	******	******	******	*NODI(Q)*	******	*g/L*	0	*Annual*	*Comp24*
01033 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	25.5 MO AVG	******	g/L		Annual	COMP24
Antimony, total recoverable	SAMPLE MEASUREMENT	******	******	******	******	*NODI(B)*	******	*mg/L*	0	*Annual*	*Comp24*
01268 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	160.8 MO AVG	******	mg/L		Annual	COMP24
2-Methyl-4,6-dinitrophenol	SAMPLE MEASUREMENT	******	******	******	******	*NODI(B)*	******	*mg/L*	0	*Annual*	*Comp24*
03615 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	29.5 MO AVG	******	mg/L		Annual	COMP24
Tributyltin	SAMPLE MEASUREMENT	******	******	******	******	*NODI(B)*	******	*µg/L*	0	*Annual*	*Comp24*
03824 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.188 MO AVG	******	ug/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

Gross beta activity is reported above for "Radioactivity." Gross alpha activity was not detected. Gross beta activity was below the drinking water standard of 50 pCi/L. Total chromium is reported for trivalent chromium.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	**TO**	12/31/2012

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

No Discharge ☐

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

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	TO	12/31/2012

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

No Discharge ☐

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

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	**TO**	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Diethyl phthalate	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34336 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	4420 MO AVG	******	mg/L		Annual	COMP24
Dimethyl phthalate	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	g/L	0	Annual	Comp24
34341 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	109.9 MO AVG	******	g/L		Annual	COMP24
1,2-Diphenylhydrazine	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34346 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	21.4 MO AVG	******	ug/L		Annual	COMP24
Ethylbenzene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34371 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	549 MO AVG	******	mg/L		Annual	COMP24
Fluoranthene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34376 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2 MO AVG	******	mg/L		Annual	COMP24
Hexachlorocyclopentadiene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34386 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	7.8 MO AVG	******	mg/L		Annual	COMP24
Hexachlorobutadiene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34391 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.88 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	TO	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Hexachloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34396 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	335 MO AVG	******	ug/L		Annual	COMP24
Isophorone	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34408 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	98 MO AVG	******	mg/L		Annual	COMP24
Methylene chloride	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34423 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	60.3 MO AVG	******	mg/L		Annual	COMP24
N-Nitrosodi-N-propylamine	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34428 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	50.9 MO AVG	******	ug/L		Annual	COMP24
N-Nitrosodiphenylamine	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34433 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	335 MO AVG	******	ug/L		Annual	COMP24
N-Nitrosodimethylamine (NDMA)	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34438 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	978 MO AVG	******	ug/L		Annual	COMP24
Nitrobenzene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34447 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.66 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	TO	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Tetrachloroethylene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34475 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	268 MO AVG	******	ug/L		Annual	COMP24
1,1-Dichloroethylene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34501 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.12 MO AVG	******	mg/L		Annual	COMP24
1,1,1-Trichloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	g/L	0	Annual	Comp24
34506 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	72.4 MO AVG	******	g/L		Annual	COMP24
1,1,2-Trichloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34511 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.26 MO AVG	******	mg/L		Annual	COMP24
1,1,2,2-Tetrachloroethane	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34516 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.31 MO AVG	******	mg/L		Annual	COMP24
1,4-Dichlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	mg/L	0	Annual	Comp24
34571 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.41 MO AVG	******	mg/L		Annual	COMP24
2,4-Dinitrotoluene	SAMPLE MEASUREMENT	******	******	******	******	NODI (B)	******	µg/L	0	Annual	Comp24
34611 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	348 MO AVG	******	ug/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	TO	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
2,4-Dinitrophenol	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34616 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.54 MO AVG	******	mg/L		Annual	COMP24
2,4,6-Trichlorophenol	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
34621 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.039 MO AVG	******	mg/L		Annual	COMP24
3,3'-Dichlorobenzidine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*µg/L*	0	*Annual*	*Comp24*
34631 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.09 MO AVG	******	ug/L		Annual	COMP24
Bis(2-ethylhexyl) phthalate	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*µg/L*	0	*Annual*	*Comp24*
39100 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	469 MO AVG	******	ug/L		Annual	COMP24
Di-n-butyl phthalate	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
39110 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	469 MO AVG	******	mg/L		Annual	COMP24
Benzidine	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39120 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	9.25 MO AVG	******	ng/L		Annual	COMP24
Vinyl chloride	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
39175 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	4.82 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	**TO**	12/31/2012

DMR Mailing ZIP CODE: 93442

MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
External Outfall

No Discharge ☐

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

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

NAME: MORRO BAY, CITY OF AND CAYUCOS SANITARY I

ADDRESS: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

FACILITY: MORRO BAY/CAYUCOS WWTP

LOCATION: 160 ATASCADERO ROAD
MORRO BAY, CA 93442

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	**TO**	12/31/2012

DMR Mailing ZIP CODE: 93442

MAJOR
(SUBR 03)
DISCHARGE 001/ YEARLY
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Toxaphene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	28.1 MO AVG	******	ng/L		Annual	COMP24
Heptachlor	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*pg/L*	0	*Annual*	*Comp24*
39410 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	6.7 MO AVG	******	pg/L		Annual	COMP24
Heptachlor epoxide	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*pg/L*	0	*Annual*	*Comp24*
39420 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.68 MO AVG	******	pg/L		Annual	COMP24
Polychlorinated biphenyls (PCBs)	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39516 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	2.55 MO AVG	******	ng/L		Annual	COMP24
Hexachlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*ng/L*	0	*Annual*	*Comp24*
39700 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	28.1 MO AVG	******	ng/L		Annual	COMP24
Phenols, chlorinated	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*mg/L*	0	*Annual*	*Grab*
74015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.13 6 MO MED	.54 DAILY MX	1.34 INST MAX	mg/L		Annual	GRAB
1,3-Dichloropropene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
77163 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	1.19 MO AVG	******	mg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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

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

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

ATTN: BRUCE KEOGH

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

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	01/01/2012	TO	12/31/2012

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

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Hexachlorocyclohexane, total	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*µg/L*	0	*Annual*	*Comp24*
77835 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	.54 6 MO MED	1.07 DAILY MX	1.61 INST MAX	ug/L		Annual	COMP24
Phenolic compounds, unchlorinated	SAMPLE MEASUREMENT	******	******	******	*NODI (B)*	*NODI (B)*	*NODI (B)*	*mg/L*	0	*Annual*	*Grab*
78218 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	4.02 6 MO MED	16.1 DAILY MX	40.2 INST MAX	mg/L		Annual	GRAB
Halomethanes, sum	SAMPLE MEASUREMENT	******	******	******	******	*NODI (Q)*	******	*mg/L*	0	*Annual*	*Comp24*
78456 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	17.4 MO AVG	******	mg/L		Annual	COMP24
Dichlorobenzene	SAMPLE MEASUREMENT	******	******	******	******	*NODI (B)*	******	*mg/L*	0	*Annual*	*Comp24*
81524 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	683 MO AVG	******	mg/L		Annual	COMP24
TCDD equivalents	SAMPLE MEASUREMENT	******	******	******	******	*0.0524*	******	*pg/L*	0	*Annual*	*Comp24*
82698 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	.52 MO AVG	******	pg/L		Annual	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Bruce Keogh Wastewater Division Manager	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		(805)772-6272		09/12/2012
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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

ATTACHMENT C
LABORATORY REPORTS

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 08/16/2012

Bonnie Luke

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

Project: Semi-Annual Eff
BC Work Order: 1213283
Invoice ID: B127391

Enclosed are the results of analyses for samples received by the laboratory on 7/18/2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Tina Green
Client Services Manager

Authorized Signature

Table of Contents

Case Narratives

Case Narrative for Work Order 1213283

The DDT was not confirmed by GC/MS. An analysis of a combination of multiple extracts was performed via 625 GC/MS for DDT which did not confirm the presence of DDT in the sample.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949.

Chain of Custody Form

Report To: Client:	Marine Research Specialists	Project #:	
Attn:	Bonnie Luke	Project Name:	MBCSD SemiAnn
Street Address:	3140 Telegraph Rd. Suite A	Global ID #:	
City, State, Zip:	Ventura, CA 93003	Sampler(s):	SRA
Phone:	805-289-3926		
Email Address:	bonnie.luke@mrsenv.com		
Work Order#	12-13283		

Analysis Requested

Sample #	Description	Date Sampled	Time Sampled	EPA 625 (see comments)	EPA 625 (see comments)	EPA 624 (see attachment!)	EPA 608	Cyanide: EPA 335.3	Metals: Ag, Be, Cd, Cr, Cu, Ni,	Sb, Zn, As, Pb, Se, Tl, & Hg	Soil	Sludge	Drinking Water	Ground water	Waste Water	Other	Notes
1	GRAB EFF A.R.S. BC1	7/18/12	0830	✓											✓		Please see/read page 2 for
2	COMP EFF A.R.S. BC2	7/18/12	0830		✓	✓	✓	✓	✓	✓					✓		additional instructions!!

1.1

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

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

CHK BY: KIQ | DISTRIBUTION: SAM JEL WA WX | SUB-OUT ☐

Billing ☑ Same as above

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

EDF Required? ☐ Yes ☐ No

Send Copy to State of CA? ☐ Yes ☐ No

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

Special Reporting ☐ QC ☐ EDF ☐ Raw Data

Relinquished By	Date	Time	Received By	Date	Time
1. [signature]	7/18/12	1430	1. [signature]	7-18-12	1515
2. [signature]	7-18-12	2150	2. [signature]	7-18-12	2150
3.			3.		

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

Page 1 of 2

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949.

Chain of Custody Form

Report To: Client: Marine Research Specialists	Project #:
Attn: Bonnie Luke	Project Name: MBCSD SemiAnn
Street Address: 3140 Telegraph Rd. Suite A	Global ID #:
City, State, Zip: Ventura, CA 93003	Sampler(s):
Phone: 805-289-3926	
Email Address: bonnie.luke@mrsenv.com	
Work Order# 12-144033	

Analysis Requested

Comments:
Split sample submitted for confirmatory testing.
Analyze for 4,4' DDT only.

Sample #	Description	Date Sampled	Time Sampled	4,4' DDT (EPA 608)	Sample Matrix: Soil	Sludge	Drinking Water	Ground Water	Waste Water	Other	Are there any tests with holding times less than or equal to 48 hours?	Notes
1-3	COMP EFF A.R.S. BC2- SPLIT	7/18/12	8:30	✓					✓			analyze for 4,4' DDT only
2												

Yes ☐ No ☐

DISTRIBUTION
SWM ☐
SUB-OUT ☐

Billing
☑ Same as above
Client:
Address:
City: State Zip
Attn:
PO#:

EDF Required?
☐ Yes ☐ No

Send Copy to State of CA?
☐ Yes ☐ No

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

Special Reporting
☐ QC ☑ EDF ☐ Raw Data

1. Relinquished By	Date	Time	1. Relinquished By	Date	Time
Bonnie Luke	8/7/12	1325		8/7/12	1325
2. Relinquished By	Date	Time	2. Relinquished By	Date	Time
	8/7/12	1800	Komar	8/7/12	1800
3. Relinquished By	Date	Time	3. Relinquished By	Date	Time

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

Page 1 of 1

12-13283

Analysis Effluent Samples to be collected from the Morro Bay Wastewater Treatment Plant on Wednesday, July 18, 2012

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

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

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

Chain of Custody and Cooler Receipt Form for 1213283 Page 4 of 5

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

Submission #: 12-13283

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

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

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

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

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

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: QTA Thermometer ID: 177

Temperature: A 1.2 °C / C 1.0 °C

Date/Time 7-18-12

Analyst Init JPW 2150

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS		B								
PT CYANIDE		C								
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK			A1							
40ml VOA VIAL	(	A13	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA ~~508/608/8080~~		D								
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER 625	AB	EF								
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
VOB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments:

Sample Numbering Completed By: JPW Date/Time: 7/18/12 2213

A = Actual / C = Corrected

[H:\DOCS\WP80\LAB_DOCS\FORMS\SAMREC2.WPD]

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 12 12/30/10 Page 1 Of 1

Submission #: ~~12-14033~~ 12-14P13283

SHIPPING INFORMATION	SHIPPING CONTAINER
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)______	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)______

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

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

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

COC Received		
☑ YES ☐ NO	Emissivity: 0.95 Container: QtA Thermometer ID: 207 Temperature: (A) 2.0 °C / (C) 2.0 °C	Date/Time 8/7/12 1800 Analyst Init JNW

SAMPLE CONTAINERS	3\1-2	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA ~~508~~/608/~~8080~~	A G									
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments:

Sample Numbering Completed By: JNW Date/Time: 8/7/12 1947

A = Actual / C = Corrected

[C:\MyDOCS\WordPerfect\LAB_DOCS\FORMS\SAMREC 2]

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1213283-01	**COC Number:**	---	**Receive Date:**	07/18/2012 21:50
	Project Number:	---	**Sampling Date:**	07/18/2012 08:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	Grab EFF A.R.S BC1	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Wastewater
1213283-02	**COC Number:**	---	**Receive Date:**	07/18/2012 21:50
	Project Number:	---	**Sampling Date:**	07/18/2012 08:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	Comp EFF A.R.S BC2	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Wastewater

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

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

BCL Sample ID: 1213283-01 | **Client Sample Name:** Grab EFF A.R.S BC1, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4-Chloro-3-methylphenol	ND	ug/L	25	2.0	EPA-625	ND	A10	1
2-Chlorophenol	ND	ug/L	10	1.8	EPA-625	ND	A10	1
2,4-Dichlorophenol	ND	ug/L	10	2.2	EPA-625	ND	A10	1
2,4-Dimethylphenol	ND	ug/L	10	1.0	EPA-625	ND	A10	1
4,6-Dinitro-2-methylphenol	ND	ug/L	50	1.7	EPA-625	ND	A10	1
2,4-Dinitrophenol	ND	ug/L	50	1.0	EPA-625	ND	A10	1
2-Methylphenol	ND	ug/L	10	5.0	EPA-625	ND	A10	1
3- & 4-Methylphenol	ND	ug/L	10	8.0	EPA-625	ND	A10	1
2-Nitrophenol	ND	ug/L	10	1.4	EPA-625	ND	A10	1
4-Nitrophenol	ND	ug/L	10	3.6	EPA-625	ND	A10	1
Pentachlorophenol	ND	ug/L	50	4.0	EPA-625	ND	A10	1
Phenol	ND	ug/L	10	1.0	EPA-625	ND	A10	1
2,4,5-Trichlorophenol	ND	ug/L	25	1.6	EPA-625	ND	A10	1
2,4,6-Trichlorophenol	ND	ug/L	25	3.0	EPA-625	ND	A10	1
2-Fluorophenol (Surrogate)	37.1	%	30 - 120 (LCL - UCL)		EPA-625		A10	1
Phenol-d5 (Surrogate)	34.6	%	12 - 110 (LCL - UCL)		EPA-625		A10	1
Nitrobenzene-d5 (Surrogate)	78.0	%	60 - 130 (LCL - UCL)		EPA-625		A10	1
2-Fluorobiphenyl (Surrogate)	77.4	%	55 - 125 (LCL - UCL)		EPA-625		A10	1
2,4,6-Tribromophenol (Surrogate)	59.7	%	40 - 150 (LCL - UCL)		EPA-625		A10	1
p-Terphenyl-d14 (Surrogate)	65.4	%	40 - 150 (LCL - UCL)		EPA-625		A10	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/23/12	08/02/12 21:01	SKC	MS-B2	5	BVG2192

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Organochlorine Pesticides and PCB's (EPA Method 608)

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Aldrin	ND	ug/L	0.010	0.0026	EPA-608	ND	A10	1
alpha-BHC	ND	ug/L	0.010	0.0022	EPA-608	ND	A10	1
beta-BHC	ND	ug/L	0.010	0.0042	EPA-608	ND	A10	1
delta-BHC	ND	ug/L	0.010	0.0028	EPA-608	ND	A10	1
gamma-BHC (Lindane)	ND	ug/L	0.010	0.0019	EPA-608	ND	A10	1
Chlordane (Technical)	ND	ug/L	1.0	0.76	EPA-608	ND	A10	1
4,4'-DDD	ND	ug/L	0.010	0.0034	EPA-608	ND	A10	1
4,4'-DDE	ND	ug/L	0.010	0.0038	EPA-608	ND	A10	1
4,4'-DDT	ND	ug/L	0.010	0.0015	EPA-608	ND	A10	1
Dieldrin	ND	ug/L	0.010	0.0024	EPA-608	ND	A10	1
Endosulfan I	ND	ug/L	0.010	0.0032	EPA-608	ND	A10	1
Endosulfan II	ND	ug/L	0.010	0.0028	EPA-608	ND	A10	1
Endosulfan sulfate	ND	ug/L	0.010	0.0052	EPA-608	ND	A10	1
Endrin	ND	ug/L	0.010	0.0016	EPA-608	ND	A10	1
Endrin aldehyde	ND	ug/L	0.020	0.0064	EPA-608	ND	A10	1
Heptachlor	ND	ug/L	0.010	0.0024	EPA-608	ND	A10	1
Heptachlor epoxide	ND	ug/L	0.010	0.0020	EPA-608	ND	A10	1
Methoxychlor	ND	ug/L	0.010	0.0022	EPA-608	ND	A10	1
Toxaphene	ND	ug/L	4.0	0.84	EPA-608	ND	A10	1
PCB-1016	ND	ug/L	0.40	0.040	EPA-608	ND	A10	1
PCB-1221	ND	ug/L	0.40	0.18	EPA-608	ND	A10	1
PCB-1232	ND	ug/L	0.40	0.18	EPA-608	ND	A10	1
PCB-1242	ND	ug/L	0.40	0.19	EPA-608	ND	A10	1
PCB-1248	ND	ug/L	0.40	0.050	EPA-608	ND	A10	1
PCB-1254	ND	ug/L	0.40	0.084	EPA-608	ND	A10	1
PCB-1260	ND	ug/L	0.40	0.040	EPA-608	ND	A10	1
Total PCB's (Summation)	ND	ug/L	0.40	0.20	EPA-608	ND	A10	1
TCMX (Surrogate)	119	%	40 - 126 (LCL - UCL)		EPA-608		A10	1
Dibutyl chlorendate (Surrogate)	53.6	%	40 - 140 (LCL - UCL)		EPA-608		A10	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-608	07/23/12	07/30/12 17:54	VH1	GC-1	2	BVG2142

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-624	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.24	EPA-624	ND		1
Bromoform	ND	ug/L	0.50	0.26	EPA-624	ND		1
Bromomethane	ND	ug/L	1.0	0.12	EPA-624	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.12	EPA-624	ND		1
Chlorobenzene	ND	ug/L	0.50	0.063	EPA-624	ND		1
Chloroethane	ND	ug/L	0.50	0.12	EPA-624	ND	V11	1
Chloroform	**0.87**	**ug/L**	**0.50**	**0.12**	**EPA-624**	ND		1
Chloromethane	**0.25**	**ug/L**	**0.50**	**0.13**	**EPA-624**	ND	**J,V11**	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	**0.12**	**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	V11	1
Total Xylenes	**0.28**	**ug/L**	**0.50**	**0.22**	**EPA-624**	ND	**J**	1

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acrolein	ND	ug/L	20	7.9	EPA-624	ND	V11	1
Acrylonitrile	ND	ug/L	5.0	0.75	EPA-624	ND	V11	1
p- & m-Xylenes	**0.19**	**ug/L**	**0.50**	**0.17**	**EPA-624**	ND	**J**	1
o-Xylene	**0.090**	**ug/L**	**0.50**	**0.050**	**EPA-624**	ND	**J**	1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-624			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-624			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-624			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-624	07/23/12	07/24/12 12:04	mgc	MS-V7	1	BVG1515

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

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

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	ug/L	20	2.4	EPA-625	ND	A10	1
Acenaphthylene	ND	ug/L	20	2.8	EPA-625	ND	A10	1
Aldrin	ND	ug/L	20	3.5	EPA-625	ND	A10	1
Aniline	ND	ug/L	50	6.9	EPA-625	ND	A10	1
Anthracene	ND	ug/L	20	3.0	EPA-625	ND	A10	1
Benzidine	ND	ug/L	200	71	EPA-625	ND	A10	1
Benzo[a]anthracene	ND	ug/L	20	3.8	EPA-625	ND	A10	1
Benzo[b]fluoranthene	ND	ug/L	20	4.1	EPA-625	ND	A10	1
Benzo[k]fluoranthene	ND	ug/L	20	3.1	EPA-625	ND	A10	1
Benzo[a]pyrene	ND	ug/L	20	2.0	EPA-625	ND	A10	1
Benzo[g,h,i]perylene	ND	ug/L	20	2.2	EPA-625	ND	A10	1
Benzoic acid	ND	ug/L	100	58	EPA-625	ND	A10	1
Benzyl alcohol	ND	ug/L	20	3.4	EPA-625	ND	A10	1
Benzyl butyl phthalate	ND	ug/L	20	4.7	EPA-625	ND	A10	1
alpha-BHC	ND	ug/L	20	2.7	EPA-625	ND	A10	1
beta-BHC	ND	ug/L	20	2.7	EPA-625	ND	A10	1
delta-BHC	ND	ug/L	20	3.0	EPA-625	ND	A10	1
gamma-BHC (Lindane)	ND	ug/L	20	2.2	EPA-625	ND	A10	1
bis(2-Chloroethoxy)methane	ND	ug/L	20	2.7	EPA-625	ND	A10	1
bis(2-Chloroethyl) ether	ND	ug/L	20	6.8	EPA-625	ND	A10	1
bis(2-Chloroisopropyl)ether	ND	ug/L	20	3.0	EPA-625	ND	A10	1
bis(2-Ethylhexyl)phthalate	ND	ug/L	50	30	EPA-625	ND	A10	1
4-Bromophenyl phenyl ether	ND	ug/L	20	2.3	EPA-625	ND	A10	1
4-Chloroaniline	ND	ug/L	20	6.9	EPA-625	ND	A10	1
2-Chloronaphthalene	ND	ug/L	20	3.4	EPA-625	ND	A10	1
4-Chlorophenyl phenyl ether	ND	ug/L	20	2.3	EPA-625	ND	A10	1
Chrysene	ND	ug/L	20	6.3	EPA-625	ND	A10	1
4,4'-DDD	ND	ug/L	20	4.8	EPA-625	ND	A10	1
4,4'-DDE	ND	ug/L	30	4.1	EPA-625	ND	A10	1
4,4'-DDT	ND	ug/L	20	4.3	EPA-625	ND	A10	1
Dibenzo[a,h]anthracene	ND	ug/L	30	2.6	EPA-625	ND	A10	1
Dibenzofuran	ND	ug/L	20	2.1	EPA-625	ND	A10	1
1,2-Dichlorobenzene	ND	ug/L	20	3.7	EPA-625	ND	A10	1

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

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

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	ug/L	20	3.5	EPA-625	ND	A10	1
1,4-Dichlorobenzene	ND	ug/L	20	3.1	EPA-625	ND	A10	1
3,3-Dichlorobenzidine	ND	ug/L	100	82	EPA-625	ND	A10	1
Dieldrin	ND	ug/L	30	4.1	EPA-625	ND	A10	1
Diethyl phthalate	ND	ug/L	20	3.3	EPA-625	ND	A10	1
Dimethyl phthalate	ND	ug/L	20	3.9	EPA-625	ND	A10	1
Di-n-butyl phthalate	ND	ug/L	20	3.9	EPA-625	ND	A10	1
2,4-Dinitrotoluene	ND	ug/L	20	2.6	EPA-625	ND	A10	1
2,6-Dinitrotoluene	ND	ug/L	20	4.1	EPA-625	ND	A10	1
Di-n-octyl phthalate	ND	ug/L	20	4.6	EPA-625	ND	A10	1
1,2-Diphenylhydrazine	ND	ug/L	20	3.4	EPA-625	ND	A10	1
Endosulfan I	ND	ug/L	100	17	EPA-625	ND	A10	1
Endosulfan II	ND	ug/L	100	12	EPA-625	ND	A10	1
Endosulfan sulfate	ND	ug/L	30	5.8	EPA-625	ND	A10	1
Endrin	ND	ug/L	20	11	EPA-625	ND	A10	1
Endrin aldehyde	ND	ug/L	100	5.2	EPA-625	ND	A10	1
Fluoranthene	ND	ug/L	20	2.0	EPA-625	ND	A10	1
Fluorene	ND	ug/L	20	2.8	EPA-625	ND	A10	1
Heptachlor	ND	ug/L	20	3.2	EPA-625	ND	A10	1
Heptachlor epoxide	ND	ug/L	20	2.7	EPA-625	ND	A10	1
Hexachlorobenzene	ND	ug/L	20	2.0	EPA-625	ND	A10	1
Hexachlorobutadiene	ND	ug/L	20	2.4	EPA-625	ND	A10	1
Hexachlorocyclopentadiene	ND	ug/L	20	3.0	EPA-625	ND	A10	1
Hexachloroethane	ND	ug/L	20	3.2	EPA-625	ND	A10	1
Indeno[1,2,3-cd]pyrene	ND	ug/L	20	2.6	EPA-625	ND	A10	1
Isophorone	ND	ug/L	20	3.1	EPA-625	ND	A10	1
2-Methylnaphthalene	ND	ug/L	20	2.8	EPA-625	ND	A10	1
Naphthalene	ND	ug/L	20	2.1	EPA-625	ND	A10	1
2-Naphthylamine	ND	ug/L	200	48	EPA-625	ND	A10	1
2-Nitroaniline	ND	ug/L	20	3.3	EPA-625	ND	A10	1
3-Nitroaniline	ND	ug/L	20	6.6	EPA-625	ND	A10	1
4-Nitroaniline	ND	ug/L	50	8.7	EPA-625	ND	A10	1
Nitrobenzene	ND	ug/L	20	2.6	EPA-625	ND	A10	1

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

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

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	ug/L	20	6.1	EPA-625	ND	A10	1
N-Nitrosodi-N-propylamine	ND	ug/L	20	13	EPA-625	ND	A10	1
N-Nitrosodiphenylamine	ND	ug/L	20	4.4	EPA-625	ND	A10	1
Phenanthrene	ND	ug/L	20	2.0	EPA-625	ND	A10	1
Pyrene	ND	ug/L	20	2.6	EPA-625	ND	A10	1
1,2,4-Trichlorobenzene	ND	ug/L	20	2.7	EPA-625	ND	A10	1
4-Chloro-3-methylphenol	ND	ug/L	50	4.0	EPA-625	ND	A10	1
2-Chlorophenol	ND	ug/L	20	3.7	EPA-625	ND	A10	1
2,4-Dichlorophenol	ND	ug/L	20	4.3	EPA-625	ND	A10	1
2,4-Dimethylphenol	ND	ug/L	20	2.0	EPA-625	ND	A10	1
4,6-Dinitro-2-methylphenol	ND	ug/L	100	3.4	EPA-625	ND	A10	1
2,4-Dinitrophenol	ND	ug/L	100	2.0	EPA-625	ND	A10	1
2-Methylphenol	ND	ug/L	20	10	EPA-625	ND	A10	1
3- & 4-Methylphenol	ND	ug/L	20	16	EPA-625	ND	A10	1
2-Nitrophenol	ND	ug/L	20	2.8	EPA-625	ND	A10	1
4-Nitrophenol	ND	ug/L	20	7.3	EPA-625	ND	A10	1
Pentachlorophenol	ND	ug/L	100	7.9	EPA-625	ND	A10	1
Phenol	ND	ug/L	20	2.0	EPA-625	ND	A10	1
2,4,5-Trichlorophenol	ND	ug/L	50	3.1	EPA-625	ND	A10	1
2,4,6-Trichlorophenol	ND	ug/L	50	6.0	EPA-625	ND	A10	1
2-Fluorophenol (Surrogate)	0	%	30 - 120 (LCL - UCL)		EPA-625		A10,A17	1
Phenol-d5 (Surrogate)	0	%	12 - 110 (LCL - UCL)		EPA-625		A10,A17	1
Nitrobenzene-d5 (Surrogate)	0	%	60 - 130 (LCL - UCL)		EPA-625		A10,A17	1
2-Fluorobiphenyl (Surrogate)	0	%	55 - 125 (LCL - UCL)		EPA-625		A10,A17	1
2,4,6-Tribromophenol (Surrogate)	0	%	40 - 150 (LCL - UCL)		EPA-625		A10,A17	1
p-Terphenyl-d14 (Surrogate)	0	%	40 - 150 (LCL - UCL)		EPA-625		A10,A17	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	07/23/12	08/01/12 04:45	SKC	MS-B1	10	BVG2192

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Water Analysis (General Chemistry)

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide	**0.049**	**mg/L**	**0.0050**	**0.0016**	**EPA-335.4**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-335.4	07/20/12	07/23/12 09:23	TDC	KONE-1	1	BVG1352

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Water Analysis (Metals)

BCL Sample ID: 1213283-02 | **Client Sample Name:** Comp EFF A.R.S BC2, 7/18/2012 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Antimony	ND	ug/L	100	13	EPA-200.7	ND		1
Total Beryllium	ND	ug/L	10	1.0	EPA-200.7	ND		1
Total Cadmium	ND	ug/L	10	1.0	EPA-200.7	ND		1
Total Chromium	**1.8**	**ug/L**	**10**	**1.0**	**EPA-200.7**	ND	**J**	1
Total Copper	**15**	**ug/L**	**10**	**2.3**	**EPA-200.7**	ND		1
Total Mercury	ND	ug/L	0.20	0.030	EPA-245.1	0.038		2
Total Nickel	**3.2**	**ug/L**	**10**	**1.2**	**EPA-200.7**	ND	**J**	1
Total Silver	ND	ug/L	10	1.0	EPA-200.7	ND		1
Total Zinc	**45**	**ug/L**	**50**	**2.9**	**EPA-200.7**	ND	**J**	1
Total Recoverable Arsenic	**1.1**	**ug/L**	**2.0**	**0.70**	**EPA-200.8**	ND	**J**	3
Total Recoverable Lead	**1.3**	**ug/L**	**1.0**	**0.10**	**EPA-200.8**	ND		3
Total Recoverable Selenium	**1.3**	**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	0.20		3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-200.7	07/26/12	07/26/12 20:18	JRG	PE-OP1	1	BVG1862
2	EPA-245.1	07/25/12	07/26/12 11:16	MEV	CETAC1	1	BVG1725
3	EPA-200.8	07/26/12	07/27/12 13:35	SRM	PE-EL2	1	BVG1834

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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: BVG2142						
Aldrin	BVG2142-BLK1	ND	ug/L	0.0050	0.0013	
alpha-BHC	BVG2142-BLK1	ND	ug/L	0.0050	0.0011	
beta-BHC	BVG2142-BLK1	ND	ug/L	0.0050	0.0021	
delta-BHC	BVG2142-BLK1	ND	ug/L	0.0050	0.0014	
gamma-BHC (Lindane)	BVG2142-BLK1	ND	ug/L	0.0050	0.00094	
Chlordane (Technical)	BVG2142-BLK1	ND	ug/L	0.50	0.38	
4,4'-DDD	BVG2142-BLK1	ND	ug/L	0.0050	0.0017	
4,4'-DDE	BVG2142-BLK1	ND	ug/L	0.0050	0.0019	
4,4'-DDT	BVG2142-BLK1	ND	ug/L	0.0050	0.00076	
Dieldrin	BVG2142-BLK1	ND	ug/L	0.0050	0.0012	
Endosulfan I	BVG2142-BLK1	ND	ug/L	0.0050	0.0016	
Endosulfan II	BVG2142-BLK1	ND	ug/L	0.0050	0.0014	
Endosulfan sulfate	BVG2142-BLK1	ND	ug/L	0.0050	0.0026	
Endrin	BVG2142-BLK1	ND	ug/L	0.0050	0.00082	
Endrin aldehyde	BVG2142-BLK1	ND	ug/L	0.010	0.0032	
Heptachlor	BVG2142-BLK1	ND	ug/L	0.0050	0.0012	
Heptachlor epoxide	BVG2142-BLK1	ND	ug/L	0.0050	0.00099	
Methoxychlor	BVG2142-BLK1	ND	ug/L	0.0050	0.0011	
Toxaphene	BVG2142-BLK1	ND	ug/L	2.0	0.42	
PCB-1016	BVG2142-BLK1	ND	ug/L	0.20	0.020	
PCB-1221	BVG2142-BLK1	ND	ug/L	0.20	0.089	
PCB-1232	BVG2142-BLK1	ND	ug/L	0.20	0.090	
PCB-1242	BVG2142-BLK1	ND	ug/L	0.20	0.095	
PCB-1248	BVG2142-BLK1	ND	ug/L	0.20	0.025	
PCB-1254	BVG2142-BLK1	ND	ug/L	0.20	0.042	
PCB-1260	BVG2142-BLK1	ND	ug/L	0.20	0.020	
Total PCB's (Summation)	BVG2142-BLK1	ND	ug/L	0.20	0.10	
TCMX (Surrogate)	BVG2142-BLK1	71.2	%	40 - 126 (LCL - UCL)		
Dibutyl chlorendate (Surrogate)	BVG2142-BLK1	87.7	%	40 - 140 (LCL - UCL)		

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Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVG2142										
Aldrin	BVG2142-BS1	LCS	0.12967	0.15000	ug/L	86.4		50 - 130		
gamma-BHC (Lindane)	BVG2142-BS1	LCS	0.12860	0.15000	ug/L	85.7		50 - 130		
4,4'-DDT	BVG2142-BS1	LCS	0.16294	0.15000	ug/L	109		40 - 140		
Dieldrin	BVG2142-BS1	LCS	0.13184	0.15000	ug/L	87.9		50 - 130		
Endrin	BVG2142-BS1	LCS	0.13529	0.15000	ug/L	90.2		60 - 140		
Heptachlor	BVG2142-BS1	LCS	0.12806	0.15000	ug/L	85.4		50 - 130		
PCB-1260	BVG2142-BS1	LCS	ND		ug/L			64 - 120		
TCMX (Surrogate)	BVG2142-BS1	LCS	0.20487	0.30000	ug/L	68.3		40 - 126		
Dibutyl chlorendate (Surrogate)	BVG2142-BS1	LCS	0.59850	0.75000	ug/L	79.8		40 - 140		

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Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG2142	Used client sample: N										
Aldrin	MS	1210608-98	ND	0.13720	0.15000	ug/L		91.5		45 - 130	
	MSD	1210608-98	ND	0.13982	0.15000	ug/L	1.9	93.2	30	45 - 130	
gamma-BHC (Lindane)	MS	1210608-98	ND	0.14256	0.15000	ug/L		95.0		40 - 140	
	MSD	1210608-98	ND	0.14518	0.15000	ug/L	1.8	96.8	30	40 - 140	
4,4'-DDT	MS	1210608-98	ND	0.18419	0.15000	ug/L		123		40 - 140	
	MSD	1210608-98	ND	0.18694	0.15000	ug/L	1.5	125	30	40 - 140	
Dieldrin	MS	1210608-98	ND	0.14056	0.15000	ug/L		93.7		60 - 140	
	MSD	1210608-98	ND	0.14402	0.15000	ug/L	2.4	96.0	30	60 - 140	
Endrin	MS	1210608-98	ND	0.15230	0.15000	ug/L		102		50 - 130	
	MSD	1210608-98	ND	0.15761	0.15000	ug/L	3.4	105	30	50 - 130	
Heptachlor	MS	1210608-98	ND	0.14530	0.15000	ug/L		96.9		50 - 130	
	MSD	1210608-98	ND	0.14638	0.15000	ug/L	0.7	97.6	30	50 - 130	
PCB-1260	MS	1210608-98	ND	ND		ug/L				60 - 119	
	MSD	1210608-98	ND	ND		ug/L			25	60 - 119	
TCMX (Surrogate)	MS	1210608-98	ND	0.22093	0.30000	ug/L		73.6		40 - 126	
	MSD	1210608-98	ND	0.21372	0.30000	ug/L	3.3	71.2		40 - 126	
Dibutyl chlorendate (Surrogate)	MS	1210608-98	ND	0.67477	0.75000	ug/L		90.0		40 - 140	
	MSD	1210608-98	ND	0.66751	0.75000	ug/L	1.1	89.0		40 - 140	

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG1515						
Benzene	BVG1515-BLK1	ND	ug/L	0.50	0.083	
Bromodichloromethane	BVG1515-BLK1	ND	ug/L	0.50	0.24	
Bromoform	BVG1515-BLK1	ND	ug/L	0.50	0.26	
Bromomethane	BVG1515-BLK1	ND	ug/L	1.0	0.12	
Carbon tetrachloride	BVG1515-BLK1	ND	ug/L	0.50	0.12	
Chlorobenzene	BVG1515-BLK1	ND	ug/L	0.50	0.063	
Chloroethane	BVG1515-BLK1	ND	ug/L	0.50	0.12	
Chloroform	BVG1515-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BVG1515-BLK1	ND	ug/L	0.50	0.13	
Dibromochloromethane	BVG1515-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichlorobenzene	BVG1515-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BVG1515-BLK1	ND	ug/L	0.50	0.11	
1,4-Dichlorobenzene	BVG1515-BLK1	ND	ug/L	0.50	0.059	
1,1-Dichloroethane	BVG1515-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BVG1515-BLK1	ND	ug/L	0.50	0.092	
1,1-Dichloroethene	BVG1515-BLK1	ND	ug/L	0.50	0.070	
trans-1,2-Dichloroethene	BVG1515-BLK1	ND	ug/L	0.50	0.14	
1,2-Dichloropropane	BVG1515-BLK1	ND	ug/L	0.50	0.13	
cis-1,3-Dichloropropene	BVG1515-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	BVG1515-BLK1	ND	ug/L	0.50	0.071	
Ethylbenzene	BVG1515-BLK1	ND	ug/L	0.50	0.077	
Methylene chloride	BVG1515-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BVG1515-BLK1	ND	ug/L	0.50	0.11	
1,1,2,2-Tetrachloroethane	BVG1515-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BVG1515-BLK1	ND	ug/L	0.50	0.095	
Toluene	BVG1515-BLK1	ND	ug/L	0.50	0.067	
1,1,1-Trichloroethane	BVG1515-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BVG1515-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BVG1515-BLK1	ND	ug/L	0.50	0.072	
Trichlorofluoromethane	BVG1515-BLK1	ND	ug/L	0.50	0.079	
1,1,2-Trichloro-1,2,2-trifluoroethane	BVG1515-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BVG1515-BLK1	ND	ug/L	0.50	0.11	
Total Xylenes	BVG1515-BLK1	ND	ug/L	0.50	0.22	
Acrolein	BVG1515-BLK1	ND	ug/L	20	7.9	

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG1515						
Acrylonitrile	BVG1515-BLK1	ND	ug/L	5.0	0.75	
p- & m-Xylenes	BVG1515-BLK1	ND	ug/L	0.50	0.17	
o-Xylene	BVG1515-BLK1	ND	ug/L	0.50	0.050	
1,2-Dichloroethane-d4 (Surrogate)	BVG1515-BLK1	108	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVG1515-BLK1	97.5	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVG1515-BLK1	101	%	80 - 120 (LCL - UCL)		

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVG1515										
Benzene	BVG1515-BS1	LCS	25.480	25.000	ug/L	102		70 - 130		
Bromodichloromethane	BVG1515-BS1	LCS	24.260	25.000	ug/L	97.0		70 - 130		
Bromoform	BVG1515-BS1	LCS	23.930	25.000	ug/L	95.7		70 - 130		
Bromomethane	BVG1515-BS1	LCS	24.560	25.000	ug/L	98.2		70 - 130		
Carbon tetrachloride	BVG1515-BS1	LCS	26.140	25.000	ug/L	105		70 - 130		
Chlorobenzene	BVG1515-BS1	LCS	23.980	25.000	ug/L	95.9		70 - 130		
Chloroethane	BVG1515-BS1	LCS	28.050	25.000	ug/L	112		70 - 130		
Chloroform	BVG1515-BS1	LCS	25.130	25.000	ug/L	101		70 - 130		
Chloromethane	BVG1515-BS1	LCS	29.410	25.000	ug/L	118		70 - 130		
Dibromochloromethane	BVG1515-BS1	LCS	24.330	25.000	ug/L	97.3		70 - 130		
1,2-Dichlorobenzene	BVG1515-BS1	LCS	24.440	25.000	ug/L	97.8		70 - 130		
1,3-Dichlorobenzene	BVG1515-BS1	LCS	24.650	25.000	ug/L	98.6		70 - 130		
1,4-Dichlorobenzene	BVG1515-BS1	LCS	24.290	25.000	ug/L	97.2		70 - 130		
1,1-Dichloroethane	BVG1515-BS1	LCS	26.640	25.000	ug/L	107		70 - 130		
1,2-Dichloroethane	BVG1515-BS1	LCS	25.030	25.000	ug/L	100		70 - 130		
1,1-Dichloroethene	BVG1515-BS1	LCS	25.170	25.000	ug/L	101		70 - 130		
trans-1,2-Dichloroethene	BVG1515-BS1	LCS	25.400	25.000	ug/L	102		70 - 130		
1,2-Dichloropropane	BVG1515-BS1	LCS	26.150	25.000	ug/L	105		70 - 130		
cis-1,3-Dichloropropene	BVG1515-BS1	LCS	24.170	25.000	ug/L	96.7		70 - 130		
trans-1,3-Dichloropropene	BVG1515-BS1	LCS	24.630	25.000	ug/L	98.5		70 - 130		
Ethylbenzene	BVG1515-BS1	LCS	25.430	25.000	ug/L	102		70 - 130		
Methylene chloride	BVG1515-BS1	LCS	25.470	25.000	ug/L	102		70 - 130		
Methyl t-butyl ether	BVG1515-BS1	LCS	25.710	25.000	ug/L	103		70 - 130		
1,1,2,2-Tetrachloroethane	BVG1515-BS1	LCS	21.450	25.000	ug/L	85.8		70 - 130		
Tetrachloroethene	BVG1515-BS1	LCS	24.920	25.000	ug/L	99.7		70 - 130		
Toluene	BVG1515-BS1	LCS	25.530	25.000	ug/L	102		70 - 130		
1,1,1-Trichloroethane	BVG1515-BS1	LCS	25.480	25.000	ug/L	102		70 - 130		
1,1,2-Trichloroethane	BVG1515-BS1	LCS	25.680	25.000	ug/L	103		70 - 130		
Trichloroethene	BVG1515-BS1	LCS	27.520	25.000	ug/L	110		70 - 130		
Trichlorofluoromethane	BVG1515-BS1	LCS	25.760	25.000	ug/L	103		70 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	BVG1515-BS1	LCS	26.710	25.000	ug/L	107		70 - 130		
Vinyl chloride	BVG1515-BS1	LCS	29.360	25.000	ug/L	117		70 - 130		
Total Xylenes	BVG1515-BS1	LCS	74.180	75.000	ug/L	98.9		70 - 130		

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVG1515										
p- & m-Xylenes	BVG1515-BS1	LCS	49.610	50.000	ug/L	99.2		70 - 130		
o-Xylene	BVG1515-BS1	LCS	24.570	25.000	ug/L	98.3		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVG1515-BS1	LCS	10.440	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	BVG1515-BS1	LCS	10.210	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BVG1515-BS1	LCS	10.090	10.000	ug/L	101		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	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG1515	Used client sample: N										
Benzene	MS	1213032-02	ND	22.500	25.000	ug/L		90.0		70 - 130	
	MSD	1213032-02	ND	24.760	25.000	ug/L	9.6	99.0	20	70 - 130	
Bromodichloromethane	MS	1213032-02	ND	25.630	25.000	ug/L		103		70 - 130	
	MSD	1213032-02	ND	24.940	25.000	ug/L	2.7	99.8	20	70 - 130	
Bromoform	MS	1213032-02	ND	24.720	25.000	ug/L		98.9		70 - 130	
	MSD	1213032-02	ND	24.400	25.000	ug/L	1.3	97.6	20	70 - 130	
Bromomethane	MS	1213032-02	ND	19.210	25.000	ug/L		76.8		70 - 130	
	MSD	1213032-02	ND	22.900	25.000	ug/L	17.5	91.6	20	70 - 130	
Carbon tetrachloride	MS	1213032-02	ND	28.270	25.000	ug/L		113		70 - 130	
	MSD	1213032-02	ND	27.110	25.000	ug/L	4.2	108	20	70 - 130	
Chlorobenzene	MS	1213032-02	ND	24.400	25.000	ug/L		97.6		70 - 130	
	MSD	1213032-02	ND	23.970	25.000	ug/L	1.8	95.9	20	70 - 130	
Chloroethane	MS	1213032-02	ND	22.730	25.000	ug/L		90.9		70 - 130	
	MSD	1213032-02	ND	26.860	25.000	ug/L	16.7	107	20	70 - 130	
Chloroform	MS	1213032-02	ND	24.750	25.000	ug/L		99.0		70 - 130	
	MSD	1213032-02	ND	25.090	25.000	ug/L	1.4	100	20	70 - 130	
Chloromethane	MS	1213032-02	ND	24.440	25.000	ug/L		97.8		70 - 130	
	MSD	1213032-02	ND	28.000	25.000	ug/L	13.6	112	20	70 - 130	
Dibromochloromethane	MS	1213032-02	ND	26.730	25.000	ug/L		107		70 - 130	
	MSD	1213032-02	ND	25.390	25.000	ug/L	5.1	102	20	70 - 130	
1,2-Dichlorobenzene	MS	1213032-02	ND	26.340	25.000	ug/L		105		70 - 130	
	MSD	1213032-02	ND	25.270	25.000	ug/L	4.1	101	20	70 - 130	
1,3-Dichlorobenzene	MS	1213032-02	ND	26.470	25.000	ug/L		106		70 - 130	
	MSD	1213032-02	ND	25.110	25.000	ug/L	5.3	100	20	70 - 130	
1,4-Dichlorobenzene	MS	1213032-02	ND	25.920	25.000	ug/L		104		70 - 130	
	MSD	1213032-02	ND	24.600	25.000	ug/L	5.2	98.4	20	70 - 130	
1,1-Dichloroethane	MS	1213032-02	ND	24.670	25.000	ug/L		98.7		70 - 130	
	MSD	1213032-02	ND	26.010	25.000	ug/L	5.3	104	20	70 - 130	
1,2-Dichloroethane	MS	1213032-02	ND	26.000	25.000	ug/L		104		70 - 130	
	MSD	1213032-02	ND	25.700	25.000	ug/L	1.2	103	20	70 - 130	
1,1-Dichloroethene	MS	1213032-02	ND	22.240	25.000	ug/L		89.0		70 - 130	
	MSD	1213032-02	ND	24.360	25.000	ug/L	9.1	97.4	20	70 - 130	
trans-1,2-Dichloroethene	MS	1213032-02	ND	22.740	25.000	ug/L		91.0		70 - 130	
	MSD	1213032-02	ND	24.480	25.000	ug/L	7.4	97.9	20	70 - 130	
1,2-Dichloropropane	MS	1213032-02	ND	24.620	25.000	ug/L		98.5		70 - 130	
	MSD	1213032-02	ND	25.680	25.000	ug/L	4.2	103	20	70 - 130	

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Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG1515	Used client sample: N										
cis-1,3-Dichloropropene	MS	1213032-02	ND	23.950	25.000	ug/L		95.8		70 - 130	
	MSD	1213032-02	ND	24.600	25.000	ug/L	2.7	98.4	20	70 - 130	
trans-1,3-Dichloropropene	MS	1213032-02	ND	25.000	25.000	ug/L		100		70 - 130	
	MSD	1213032-02	ND	24.720	25.000	ug/L	1.1	98.9	20	70 - 130	
Ethylbenzene	MS	1213032-02	ND	25.290	25.000	ug/L		101		70 - 130	
	MSD	1213032-02	ND	25.420	25.000	ug/L	0.5	102	20	70 - 130	
Methylene chloride	MS	1213032-02	ND	21.820	25.000	ug/L		87.3		70 - 130	
	MSD	1213032-02	ND	24.230	25.000	ug/L	10.5	96.9	20	70 - 130	
Methyl t-butyl ether	MS	1213032-02	ND	23.650	25.000	ug/L		94.6		70 - 130	
	MSD	1213032-02	ND	25.800	25.000	ug/L	8.7	103	20	70 - 130	
1,1,2,2-Tetrachloroethane	MS	1213032-02	ND	24.280	25.000	ug/L		97.1		70 - 130	
	MSD	1213032-02	ND	24.360	25.000	ug/L	0.3	97.4	20	70 - 130	
Tetrachloroethene	MS	1213032-02	ND	25.570	25.000	ug/L		102		70 - 130	
	MSD	1213032-02	ND	25.010	25.000	ug/L	2.2	100	20	70 - 130	
Toluene	MS	1213032-02	ND	24.490	25.000	ug/L		98.0		70 - 130	
	MSD	1213032-02	ND	24.910	25.000	ug/L	1.7	99.6	20	70 - 130	
1,1,1-Trichloroethane	MS	1213032-02	ND	26.840	25.000	ug/L		107		70 - 130	
	MSD	1213032-02	ND	26.320	25.000	ug/L	2.0	105	20	70 - 130	
1,1,2-Trichloroethane	MS	1213032-02	ND	25.190	25.000	ug/L		101		70 - 130	
	MSD	1213032-02	ND	26.010	25.000	ug/L	3.2	104	20	70 - 130	
Trichloroethene	MS	1213032-02	ND	25.160	25.000	ug/L		101		70 - 130	
	MSD	1213032-02	ND	25.270	25.000	ug/L	0.4	101	20	70 - 130	
Trichlorofluoromethane	MS	1213032-02	ND	27.210	25.000	ug/L		109		70 - 130	
	MSD	1213032-02	ND	26.660	25.000	ug/L	2.0	107	20	70 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	MS	1213032-02	ND	25.000	25.000	ug/L		100		70 - 130	
	MSD	1213032-02	ND	26.320	25.000	ug/L	5.1	105	20	70 - 130	
Vinyl chloride	MS	1213032-02	ND	24.610	25.000	ug/L		98.4		70 - 130	
	MSD	1213032-02	ND	28.390	25.000	ug/L	14.3	114	20	70 - 130	
Total Xylenes	MS	1213032-02	ND	76.180	75.000	ug/L		102		70 - 130	
	MSD	1213032-02	ND	74.510	75.000	ug/L	2.2	99.3	20	70 - 130	
p- & m-Xylenes	MS	1213032-02	ND	50.680	50.000	ug/L		101		70 - 130	
	MSD	1213032-02	ND	49.830	50.000	ug/L	1.7	99.7	20	70 - 130	
o-Xylene	MS	1213032-02	ND	25.500	25.000	ug/L		102		70 - 130	
	MSD	1213032-02	ND	24.680	25.000	ug/L	3.3	98.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1213032-02	ND	10.300	10.000	ug/L		103		75 - 125	
	MSD	1213032-02	ND	10.710	10.000	ug/L	3.9	107		75 - 125	

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG1515	Used client sample: N										
Toluene-d8 (Surrogate)	MS	1213032-02	ND	9.8100	10.000	ug/L		98.1		80 - 120	
	MSD	1213032-02	ND	10.130	10.000	ug/L	3.2	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1213032-02	ND	10.310	10.000	ug/L		103		80 - 120	
	MSD	1213032-02	ND	10.170	10.000	ug/L	1.4	102		80 - 120	

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

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG2192						
Acenaphthene	BVG2192-BLK1	ND	ug/L	2.0	0.24	
Acenaphthylene	BVG2192-BLK1	ND	ug/L	2.0	0.28	
Aldrin	BVG2192-BLK1	ND	ug/L	2.0	0.35	
Aniline	BVG2192-BLK1	ND	ug/L	5.0	0.69	
Anthracene	BVG2192-BLK1	ND	ug/L	2.0	0.30	
Benzidine	BVG2192-BLK1	ND	ug/L	20	7.1	
Benzo[a]anthracene	BVG2192-BLK1	ND	ug/L	2.0	0.38	
Benzo[b]fluoranthene	BVG2192-BLK1	ND	ug/L	2.0	0.41	
Benzo[k]fluoranthene	BVG2192-BLK1	ND	ug/L	2.0	0.31	
Benzo[a]pyrene	BVG2192-BLK1	ND	ug/L	2.0	0.20	
Benzo[g,h,i]perylene	BVG2192-BLK1	ND	ug/L	2.0	0.22	
Benzoic acid	BVG2192-BLK1	ND	ug/L	10	5.8	
Benzyl alcohol	BVG2192-BLK1	ND	ug/L	2.0	0.34	
Benzyl butyl phthalate	BVG2192-BLK1	ND	ug/L	2.0	0.47	
alpha-BHC	BVG2192-BLK1	ND	ug/L	2.0	0.27	
beta-BHC	BVG2192-BLK1	ND	ug/L	2.0	0.27	
delta-BHC	BVG2192-BLK1	ND	ug/L	2.0	0.30	
gamma-BHC (Lindane)	BVG2192-BLK1	ND	ug/L	2.0	0.22	
bis(2-Chloroethoxy)methane	BVG2192-BLK1	ND	ug/L	2.0	0.27	
bis(2-Chloroethyl) ether	BVG2192-BLK1	ND	ug/L	2.0	0.68	
bis(2-Chloroisopropyl)ether	BVG2192-BLK1	ND	ug/L	2.0	0.30	
bis(2-Ethylhexyl)phthalate	BVG2192-BLK1	ND	ug/L	5.0	3.0	
4-Bromophenyl phenyl ether	BVG2192-BLK1	ND	ug/L	2.0	0.23	
4-Chloroaniline	BVG2192-BLK1	ND	ug/L	2.0	0.69	
2-Chloronaphthalene	BVG2192-BLK1	ND	ug/L	2.0	0.34	
4-Chlorophenyl phenyl ether	BVG2192-BLK1	ND	ug/L	2.0	0.23	
Chrysene	BVG2192-BLK1	ND	ug/L	2.0	0.63	
4,4'-DDD	BVG2192-BLK1	ND	ug/L	2.0	0.48	
4,4'-DDE	BVG2192-BLK1	ND	ug/L	3.0	0.41	
4,4'-DDT	BVG2192-BLK1	ND	ug/L	2.0	0.43	
Dibenzo[a,h]anthracene	BVG2192-BLK1	ND	ug/L	3.0	0.26	
Dibenzofuran	BVG2192-BLK1	ND	ug/L	2.0	0.21	
1,2-Dichlorobenzene	BVG2192-BLK1	ND	ug/L	2.0	0.37	
1,3-Dichlorobenzene	BVG2192-BLK1	ND	ug/L	2.0	0.35	

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

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG2192						
1,4-Dichlorobenzene	BVG2192-BLK1	ND	ug/L	2.0	0.31	
3,3-Dichlorobenzidine	BVG2192-BLK1	ND	ug/L	10	8.2	
Dieldrin	BVG2192-BLK1	ND	ug/L	3.0	0.41	
Diethyl phthalate	BVG2192-BLK1	ND	ug/L	2.0	0.33	
Dimethyl phthalate	BVG2192-BLK1	ND	ug/L	2.0	0.39	
Di-n-butyl phthalate	BVG2192-BLK1	ND	ug/L	2.0	0.39	
2,4-Dinitrotoluene	BVG2192-BLK1	ND	ug/L	2.0	0.26	
2,6-Dinitrotoluene	BVG2192-BLK1	ND	ug/L	2.0	0.41	
Di-n-octyl phthalate	BVG2192-BLK1	ND	ug/L	2.0	0.46	
1,2-Diphenylhydrazine	BVG2192-BLK1	ND	ug/L	2.0	0.34	
Endosulfan I	BVG2192-BLK1	ND	ug/L	10	1.7	
Endosulfan II	BVG2192-BLK1	ND	ug/L	10	1.2	
Endosulfan sulfate	BVG2192-BLK1	ND	ug/L	3.0	0.58	
Endrin	BVG2192-BLK1	ND	ug/L	2.0	1.1	
Endrin aldehyde	BVG2192-BLK1	ND	ug/L	10	0.52	
Fluoranthene	BVG2192-BLK1	ND	ug/L	2.0	0.20	
Fluorene	BVG2192-BLK1	ND	ug/L	2.0	0.28	
Heptachlor	BVG2192-BLK1	ND	ug/L	2.0	0.32	
Heptachlor epoxide	BVG2192-BLK1	ND	ug/L	2.0	0.27	
Hexachlorobenzene	BVG2192-BLK1	ND	ug/L	2.0	0.20	
Hexachlorobutadiene	BVG2192-BLK1	ND	ug/L	2.0	0.24	
Hexachlorocyclopentadiene	BVG2192-BLK1	ND	ug/L	2.0	0.30	
Hexachloroethane	BVG2192-BLK1	ND	ug/L	2.0	0.32	
Indeno[1,2,3-cd]pyrene	BVG2192-BLK1	ND	ug/L	2.0	0.26	
Isophorone	BVG2192-BLK1	ND	ug/L	2.0	0.31	
2-Methylnaphthalene	BVG2192-BLK1	ND	ug/L	2.0	0.28	
Naphthalene	BVG2192-BLK1	ND	ug/L	2.0	0.21	
2-Naphthylamine	BVG2192-BLK1	ND	ug/L	20	4.8	
2-Nitroaniline	BVG2192-BLK1	ND	ug/L	2.0	0.33	
3-Nitroaniline	BVG2192-BLK1	ND	ug/L	2.0	0.66	
4-Nitroaniline	BVG2192-BLK1	ND	ug/L	5.0	0.87	
Nitrobenzene	BVG2192-BLK1	ND	ug/L	2.0	0.26	
N-Nitrosodimethylamine	BVG2192-BLK1	ND	ug/L	2.0	0.61	
N-Nitrosodi-N-propylamine	BVG2192-BLK1	ND	ug/L	2.0	1.3	

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

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG2192						
N-Nitrosodiphenylamine	BVG2192-BLK1	ND	ug/L	2.0	0.44	
Phenanthrene	BVG2192-BLK1	ND	ug/L	2.0	0.20	
Pyrene	BVG2192-BLK1	ND	ug/L	2.0	0.26	
1,2,4-Trichlorobenzene	BVG2192-BLK1	ND	ug/L	2.0	0.27	
4-Chloro-3-methylphenol	BVG2192-BLK1	ND	ug/L	5.0	0.40	
2-Chlorophenol	BVG2192-BLK1	ND	ug/L	2.0	0.37	
2,4-Dichlorophenol	BVG2192-BLK1	ND	ug/L	2.0	0.43	
2,4-Dimethylphenol	BVG2192-BLK1	ND	ug/L	2.0	0.20	
4,6-Dinitro-2-methylphenol	BVG2192-BLK1	ND	ug/L	10	0.34	
2,4-Dinitrophenol	BVG2192-BLK1	ND	ug/L	10	0.20	
2-Methylphenol	BVG2192-BLK1	ND	ug/L	2.0	1.0	
3- & 4-Methylphenol	BVG2192-BLK1	ND	ug/L	2.0	1.6	
2-Nitrophenol	BVG2192-BLK1	ND	ug/L	2.0	0.28	
4-Nitrophenol	BVG2192-BLK1	ND	ug/L	2.0	0.73	
Pentachlorophenol	BVG2192-BLK1	ND	ug/L	10	0.79	
Phenol	BVG2192-BLK1	ND	ug/L	2.0	0.20	
2,4,5-Trichlorophenol	BVG2192-BLK1	ND	ug/L	5.0	0.31	
2,4,6-Trichlorophenol	BVG2192-BLK1	ND	ug/L	5.0	0.60	
2-Fluorophenol (Surrogate)	BVG2192-BLK1	53.2	%	30 - 120 (LCL - UCL)		
Phenol-d5 (Surrogate)	BVG2192-BLK1	35.0	%	12 - 110 (LCL - UCL)		
Nitrobenzene-d5 (Surrogate)	BVG2192-BLK1	88.9	%	60 - 130 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BVG2192-BLK1	109	%	55 - 125 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	BVG2192-BLK1	80.2	%	40 - 150 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BVG2192-BLK1	108	%	40 - 150 (LCL - UCL)		

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

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVG2192										
Acenaphthene	BVG2192-BS1	LCS	50.042	50.000	ug/L	100		50 - 120		
1,4-Dichlorobenzene	BVG2192-BS1	LCS	43.658	50.000	ug/L	87.3		50 - 120		
2,4-Dinitrotoluene	BVG2192-BS1	LCS	47.059	50.000	ug/L	94.1		50 - 120		
Hexachlorobenzene	BVG2192-BS1	LCS	56.769	50.000	ug/L	114		60 - 120		
Hexachlorobutadiene	BVG2192-BS1	LCS	38.368	50.000	ug/L	76.7		40 - 110		
Hexachloroethane	BVG2192-BS1	LCS	41.544	50.000	ug/L	83.1		40 - 120		
Nitrobenzene	BVG2192-BS1	LCS	43.615	50.000	ug/L	87.2		50 - 120		
N-Nitrosodi-N-propylamine	BVG2192-BS1	LCS	38.724	50.000	ug/L	77.4		50 - 120		
Pyrene	BVG2192-BS1	LCS	52.050	50.000	ug/L	104		40 - 140		
1,2,4-Trichlorobenzene	BVG2192-BS1	LCS	42.409	50.000	ug/L	84.8		45 - 120		
4-Chloro-3-methylphenol	BVG2192-BS1	LCS	46.052	50.000	ug/L	92.1		50 - 120		
2-Chlorophenol	BVG2192-BS1	LCS	41.213	50.000	ug/L	82.4		50 - 120		
2-Methylphenol	BVG2192-BS1	LCS	33.070	50.000	ug/L	66.1		40 - 110		
3- & 4-Methylphenol	BVG2192-BS1	LCS	66.947	100.00	ug/L	66.9		40 - 110		
4-Nitrophenol	BVG2192-BS1	LCS	25.456	50.000	ug/L	50.9		10 - 110		
Pentachlorophenol	BVG2192-BS1	LCS	29.456	50.000	ug/L	58.9		30 - 120		
Phenol	BVG2192-BS1	LCS	18.506	50.000	ug/L	37.0		20 - 110		
2,4,6-Trichlorophenol	BVG2192-BS1	LCS	43.884	50.000	ug/L	87.8		54 - 120		
2-Fluorophenol (Surrogate)	BVG2192-BS1	LCS	44.400	80.000	ug/L	55.5		30 - 120		
Phenol-d5 (Surrogate)	BVG2192-BS1	LCS	29.710	80.000	ug/L	37.1		12 - 110		
Nitrobenzene-d5 (Surrogate)	BVG2192-BS1	LCS	71.020	80.000	ug/L	88.8		60 - 130		
2-Fluorobiphenyl (Surrogate)	BVG2192-BS1	LCS	83.430	80.000	ug/L	104		55 - 125		
2,4,6-Tribromophenol (Surrogate)	BVG2192-BS1	LCS	70.440	80.000	ug/L	88.0		40 - 150		
p-Terphenyl-d14 (Surrogate)	BVG2192-BS1	LCS	42.300	40.000	ug/L	106		40 - 150		

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

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG2192	Used client sample: N										
Acenaphthene	MS	1210608-44	ND	51.391	50.000	ug/L		103		50 - 120	
	MSD	1210608-44	ND	52168	51020	ug/L	200	102	30	50 - 120	
1,4-Dichlorobenzene	MS	1210608-44	ND	43.895	50.000	ug/L		87.8		47 - 120	
	MSD	1210608-44	ND	43651	51020	ug/L	200	85.6	30	47 - 120	
2,4-Dinitrotoluene	MS	1210608-44	ND	47.425	50.000	ug/L		94.9		50 - 130	
	MSD	1210608-44	ND	48340	51020	ug/L	200	94.7	30	50 - 130	
Hexachlorobenzene	MS	1210608-44	ND	55.708	50.000	ug/L		111		62 - 120	
	MSD	1210608-44	ND	58350	51020	ug/L	200	114	30	62 - 120	
Hexachlorobutadiene	MS	1210608-44	ND	39.245	50.000	ug/L		78.5		40 - 110	
	MSD	1210608-44	ND	39175	51020	ug/L	200	76.8	30	40 - 110	
Hexachloroethane	MS	1210608-44	ND	41.922	50.000	ug/L		83.8		40 - 120	
	MSD	1210608-44	ND	41259	51020	ug/L	200	80.9	30	40 - 120	
Nitrobenzene	MS	1210608-44	ND	43.606	50.000	ug/L		87.2		50 - 120	
	MSD	1210608-44	ND	45047	51020	ug/L	200	88.3	30	50 - 120	
N-Nitrosodi-N-propylamine	MS	1210608-44	ND	39.044	50.000	ug/L		78.1		50 - 120	
	MSD	1210608-44	ND	18542	51020	ug/L	199	36.3	30	50 - 120	Q03
Pyrene	MS	1210608-44	ND	51.125	50.000	ug/L		102		40 - 140	
	MSD	1210608-44	ND	51708	51020	ug/L	200	101	30	40 - 140	
1,2,4-Trichlorobenzene	MS	1210608-44	ND	41.683	50.000	ug/L		83.4		43 - 120	
	MSD	1210608-44	ND	40300	51020	ug/L	200	79.0	30	43 - 120	
4-Chloro-3-methylphenol	MS	1210608-44	ND	46.210	50.000	ug/L		92.4		50 - 120	
	MSD	1210608-44	ND	47737	51020	ug/L	200	93.6	30	50 - 120	
2-Chlorophenol	MS	1210608-44	ND	41.096	50.000	ug/L		82.2		50 - 120	
	MSD	1210608-44	ND	42930	51020	ug/L	200	84.1	30	50 - 120	
2-Methylphenol	MS	1210608-44	ND	35.542	50.000	ug/L		71.1		40 - 110	
	MSD	1210608-44	ND	36524	51020	ug/L	200	71.6	30	40 - 110	
3- & 4-Methylphenol	MS	1210608-44	ND	69.282	100.00	ug/L		69.3		40 - 110	
	MSD	1210608-44	ND	70777	102040	ug/L	200	69.4	30	40 - 110	
4-Nitrophenol	MS	1210608-44	ND	24.777	50.000	ug/L		49.6		10 - 110	
	MSD	1210608-44	ND	27254	51020	ug/L	200	53.4	30	10 - 110	
Pentachlorophenol	MS	1210608-44	ND	29.935	50.000	ug/L		59.9		30 - 120	
	MSD	1210608-44	ND	29818	51020	ug/L	200	58.4	30	30 - 120	
Phenol	MS	1210608-44	ND	18.138	50.000	ug/L		36.3		20 - 110	
	MSD	1210608-44	ND	19485	51020	ug/L	200	38.2	30	20 - 110	
2,4,6-Trichlorophenol	MS	1210608-44	ND	44.439	50.000	ug/L		88.9		50 - 120	
	MSD	1210608-44	ND	44029	51020	ug/L	200	86.3	30	50 - 120	

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

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

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG2192	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1210608-44	ND	43.730	80.000	ug/L		54.7		30 - 120	
	MSD	1210608-44	ND	46673	81633	ug/L	200	57.2		30 - 120	
Phenol-d5 (Surrogate)	MS	1210608-44	ND	28.900	80.000	ug/L		36.1		12 - 110	
	MSD	1210608-44	ND	31194	81633	ug/L	200	38.2		12 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1210608-44	ND	69.890	80.000	ug/L		87.4		60 - 130	
	MSD	1210608-44	ND	74133	81633	ug/L	200	90.8		60 - 130	
2-Fluorobiphenyl (Surrogate)	MS	1210608-44	ND	83.620	80.000	ug/L		105		55 - 125	
	MSD	1210608-44	ND	80663	81633	ug/L	200	98.8		55 - 125	
2,4,6-Tribromophenol (Surrogate)	MS	1210608-44	ND	71.570	80.000	ug/L		89.5		40 - 150	
	MSD	1210608-44	ND	75316	81633	ug/L	200	92.3		40 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1210608-44	ND	40.790	40.000	ug/L		102		40 - 150	
	MSD	1210608-44	ND	42378	40816	ug/L	200	104		40 - 150	

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG1352						
Total Cyanide	BVG1352-BLK1	ND	mg/L	0.0050	0.0016	

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVG1352										
Total Cyanide	BVG1352-BS1	LCS	0.14026	0.15000	mg/L	93.5		90 - 110		

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG1352	Used client sample: N										
Total Cyanide	DUP	1213018-04	ND	ND		mg/L			10		
	MS	1213018-04	ND	0.096255	0.10000	mg/L		96.3		90 - 110	
	MSD	1213018-04	ND	0.094398	0.10000	mg/L	1.9	94.4	10	90 - 110	

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Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (Metals)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVG1725						
Total Mercury	BVG1725-BLK1	0.037500	ug/L	0.20	0.030	J
QC Batch ID: BVG1834						
Total Recoverable Arsenic	BVG1834-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Lead	BVG1834-BLK1	ND	ug/L	1.0	0.10	
Total Recoverable Selenium	BVG1834-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Thallium	BVG1834-BLK1	0.19600	ug/L	1.0	0.10	J
QC Batch ID: BVG1862						
Total Antimony	BVG1862-BLK1	ND	ug/L	100	13	
Total Beryllium	BVG1862-BLK1	ND	ug/L	10	1.0	
Total Cadmium	BVG1862-BLK1	ND	ug/L	10	1.0	
Total Chromium	BVG1862-BLK1	ND	ug/L	10	1.0	
Total Copper	BVG1862-BLK1	ND	ug/L	10	2.3	
Total Nickel	BVG1862-BLK1	ND	ug/L	10	1.2	
Total Silver	BVG1862-BLK1	ND	ug/L	10	1.0	
Total Zinc	BVG1862-BLK1	ND	ug/L	50	2.9	

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (Metals)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVG1725										
Total Mercury	BVG1725-BS1	LCS	1.0425	1.0000	ug/L	104		85 - 115		
QC Batch ID: BVG1834										
Total Recoverable Arsenic	BVG1834-BS1	LCS	93.908	100.00	ug/L	93.9		85 - 115		
Total Recoverable Lead	BVG1834-BS1	LCS	100.66	100.00	ug/L	101		85 - 115		
Total Recoverable Selenium	BVG1834-BS1	LCS	96.271	100.00	ug/L	96.3		85 - 115		
Total Recoverable Thallium	BVG1834-BS1	LCS	40.245	40.000	ug/L	101		85 - 115		
QC Batch ID: BVG1862										
Total Antimony	BVG1862-BS1	LCS	393.03	400.00	ug/L	98.3		85 - 115		
Total Beryllium	BVG1862-BS1	LCS	205.45	200.00	ug/L	103		85 - 115		
Total Cadmium	BVG1862-BS1	LCS	205.57	200.00	ug/L	103		85 - 115		
Total Chromium	BVG1862-BS1	LCS	210.36	200.00	ug/L	105		85 - 115		
Total Copper	BVG1862-BS1	LCS	408.39	400.00	ug/L	102		85 - 115		
Total Nickel	BVG1862-BS1	LCS	424.77	400.00	ug/L	106		85 - 115		
Total Silver	BVG1862-BS1	LCS	101.74	100.00	ug/L	102		85 - 115		
Total Zinc	BVG1862-BS1	LCS	527.66	500.00	ug/L	106		85 - 115		

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (Metals)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG1725	Used client sample: N										
Total Mercury	DUP	1213285-01	4.9375	5.1875		ug/L	4.9		20		
	MS	1213285-01	4.9375	5.8875	1.0000	ug/L		95.0		70 - 130	
	MSD	1213285-01	4.9375	5.8750	1.0000	ug/L	0.2	93.8	20	70 - 130	
QC Batch ID: BVG1834	Used client sample: N										
Total Recoverable Arsenic	DUP	1213662-01	3.9980	4.3430		ug/L	8.3		20		
	MS	1213662-01	3.9980	102.38	100.00	ug/L		98.4		70 - 130	
	MSD	1213662-01	3.9980	103.35	100.00	ug/L	0.9	99.4	20	70 - 130	
Total Recoverable Lead	DUP	1213662-01	ND	ND		ug/L			20		
	MS	1213662-01	ND	96.788	100.00	ug/L		96.8		70 - 130	
	MSD	1213662-01	ND	94.879	100.00	ug/L	2.0	94.9	20	70 - 130	
Total Recoverable Selenium	DUP	1213662-01	0.70600	0.77800		ug/L	9.7		20		J
	MS	1213662-01	0.70600	99.317	100.00	ug/L		98.6		70 - 130	
	MSD	1213662-01	0.70600	99.769	100.00	ug/L	0.5	99.1	20	70 - 130	
Total Recoverable Thallium	DUP	1213662-01	ND	ND		ug/L			20		
	MS	1213662-01	ND	39.129	40.000	ug/L		97.8		70 - 130	
	MSD	1213662-01	ND	38.136	40.000	ug/L	2.6	95.3	20	70 - 130	
QC Batch ID: BVG1862	Used client sample: N										
Total Antimony	DUP	1213387-01	ND	ND		ug/L			20		
	MS	1213387-01	ND	399.54	400.00	ug/L		99.9		75 - 125	
	MSD	1213387-01	ND	404.73	400.00	ug/L	1.3	101	20	75 - 125	
Total Beryllium	DUP	1213387-01	ND	ND		ug/L			20		
	MS	1213387-01	ND	214.67	200.00	ug/L		107		75 - 125	
	MSD	1213387-01	ND	207.42	200.00	ug/L	3.4	104	20	75 - 125	
Total Cadmium	DUP	1213387-01	ND	ND		ug/L			20		
	MS	1213387-01	ND	211.33	200.00	ug/L		106		75 - 125	
	MSD	1213387-01	ND	205.06	200.00	ug/L	3.0	103	20	75 - 125	
Total Chromium	DUP	1213387-01	3.7070	3.5658		ug/L	3.9		20		J
	MS	1213387-01	3.7070	219.99	200.00	ug/L		108		75 - 125	
	MSD	1213387-01	3.7070	211.42	200.00	ug/L	4.0	104	20	75 - 125	
Total Copper	DUP	1213387-01	38.869	41.229		ug/L	5.9		20		
	MS	1213387-01	38.869	490.09	400.00	ug/L		113		75 - 125	
	MSD	1213387-01	38.869	474.32	400.00	ug/L	3.3	109	20	75 - 125	
Total Nickel	DUP	1213387-01	2.1277	1.6455		ug/L	25.6		20		J,A02
	MS	1213387-01	2.1277	432.68	400.00	ug/L		108		75 - 125	
	MSD	1213387-01	2.1277	416.19	400.00	ug/L	3.9	104	20	75 - 125	
Total Silver	DUP	1213387-01	ND	ND		ug/L			20		
	MS	1213387-01	ND	105.62	100.00	ug/L		106		75 - 125	
	MSD	1213387-01	ND	102.37	100.00	ug/L	3.1	102	20	75 - 125	

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

Water Analysis (Metals)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVG1862	Used client sample: N										
Total Zinc	DUP	1213387-01	36.366	37.698		ug/L	3.6		20		J
	MS	1213387-01	36.366	587.66	500.00	ug/L		110		75 - 125	
	MSD	1213387-01	36.366	565.70	500.00	ug/L	3.8	106	20	75 - 125	

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

Reported: 08/16/2012 11:55
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Bonnie Luke

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
A02	The difference between duplicate readings is less than the PQL.
A10	PQL's and MDL's were raised due to matrix interference.
A17	Surrogate not reportable due to sample dilution.
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.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 08/16/2012

Doug Coats

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

Project: Semi-Annual Eff
BC Work Order: 1214632
Invoice ID: B128000

Enclosed are the results of analyses for samples received by the laboratory on 8/7/2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tina Green

Contact Person: Tina Green
Client Services Manager

Authorized Signature

Table of Contents

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949.

Chain of Custody Form

Report To: Client: Marine Research Specialists	Project #:
Attn: Bonnie Luke	Project Name: MBCSD Semiann
Street Address: 3140 Telegraph Rd. Suite A	Global ID #:
City, State, Zip: Ventura, CA 93003	Sampler(s):
Phone: 805-289-3926	
Email Address: bonnie.luke@mrsenv.com	
Work Order# 12-141632	

Analysis Requested

Sample #	Description	Date Sampled	Time Sampled	4,4' DDT (EPA 608)	Soil	Sludge	Drinking Water	Ground Water	Waste Water	Other	Are there any tests with holding times less than or equal to 48 hours? Notes
1	COMP EFF A.R.S. - DDTA	8/7/12	0900	✓					✓		See Comments.

Comments:
Perform extraction and then HOLD sample until further notice. Do not analyze until authorization given. Analyze and report for 4,4' DDT only.

Sample Matrix

DISTRIBUTION
SWM
SUB-OUT

Billing
☑ Same as above
Client:
Address:
City: State Zip
Attn:
PO#:

EDF Required? ☐ Yes ☐ No

Send Copy to State of CA? ☐ Yes ☐ No

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

Special Reporting ☐ QC ☐ EDF ☐ Raw Data

1. Relinquished By	Date	Time	1. Relinquished By	Date	Time
[signature]	8/7/12	1325	[signature]	8/7/12	1325
2. Relinquished By	Date	Time	2. Relinquished By	Date	Time
[signature]	8/7/12	1800	Kom	8/7/12	1800
3. Relinquished By	Date	Time	3. Relinquished By	Date	Time

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1214632 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 12 12/30/10 Page 1 Of 1

Submission #: 12-14632

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

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

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

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

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

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: QtA Thermometer ID: 307

Temperature: (A) 2.0 °C / (C) 2.0 °C

Date/Time 8/7/12 1800

Analyst Init JNW

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA ~~508/608/8080~~	A									
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments:_____

Sample Numbering Completed By: JNW Date/Time: 8/7/12 1947

A = Actual / C = Corrected

I:\MyDOCS\WordPerfect\LAB_DOCS\FORMS\SAMREC2I

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

Reported: 08/16/2012 14:05
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1214632-01	**COC Number:**	---	**Receive Date:**	08/07/2012 18:00
	Project Number:	---	**Sampling Date:**	08/07/2012 09:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	COMP EFF A.R.S.-DDTA	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Wastewater

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

Reported: 08/16/2012 14:05
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

BCL Sample ID: 1214632-01 | **Client Sample Name:** COMP EFF A.R.S.-DDTA, 8/7/2012 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
4,4'-DDD	ND	ug/L	0.0050	0.0017	EPA-608	ND	V11	1
4,4'-DDE	ND	ug/L	0.0050	0.0019	EPA-608	ND		1
4,4'-DDT	ND	ug/L	0.0050	0.00076	EPA-608	ND		1
TCMX (Surrogate)	110	%	40 - 126 (LCL - UCL)		EPA-608			1
Dibutyl chlorendate (Surrogate)	40.8	%	40 - 140 (LCL - UCL)		EPA-608		V11	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-608	08/14/12	08/15/12 19:09	VH1	GC-1	1	BVH1242

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

Reported: 08/16/2012 14:05
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: BVH1242						
4,4'-DDD	BVH1242-BLK1	ND	ug/L	0.0050	0.0017	
4,4'-DDE	BVH1242-BLK1	ND	ug/L	0.0050	0.0019	
4,4'-DDT	BVH1242-BLK1	ND	ug/L	0.0050	0.00076	
TCMX (Surrogate)	BVH1242-BLK1	64.5	%	40 - 126 (LCL - UCL)		
Dibutyl chlorendate (Surrogate)	BVH1242-BLK1	88.8	%	40 - 140 (LCL - UCL)		

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

Reported: 08/16/2012 14:05
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVH1242										
4,4'-DDT	BVH1242-BS1	LCS	0.14933	0.15000	ug/L	99.6		40 - 140		
TCMX (Surrogate)	BVH1242-BS1	LCS	0.12643	0.20000	ug/L	63.2		40 - 126		
Dibutyl chlorendate (Surrogate)	BVH1242-BS1	LCS	0.64654	0.75000	ug/L	86.2		40 - 140		

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

Reported: 08/16/2012 14:05
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Organochlorine Pesticides and PCB's (EPA Method 608)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVH1242	Used client sample: N										
4,4'-DDT	MS	1213312-74	ND	0.15454	0.15000	ug/L		103		40 - 140	
	MSD	1213312-74	ND	0.15804	0.15000	ug/L	2.2	105	30	40 - 140	
TCMX (Surrogate)	MS	1213312-74	ND	0.12845	0.20000	ug/L		64.2		40 - 126	
	MSD	1213312-74	ND	0.13102	0.20000	ug/L	2.0	65.5		40 - 126	
Dibutyl chlorendate (Surrogate)	MS	1213312-74	ND	0.67448	0.75000	ug/L		89.9		40 - 140	
	MSD	1213312-74	ND	0.66426	0.75000	ug/L	1.5	88.6		40 - 140	

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

Reported: 08/16/2012 14:05
Project: Semi-Annual Eff
Project Number: [none]
Project Manager: Doug Coats

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.

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

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

Lab Number: AA90043

Collection Date/Time: 7/18/2012 8:30 Sample Collector: ASCHENBRENER,
Submittal Date/Time: 7/19/2012 14:15 Sample ID

Sample Description: Grab Eff ARS M1

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed
Nitrate as NO3-N	EPA300.0	mg/L	**0.12**		0.10	7/19/2012
o-Phosphate-P	EPA300.0	mg/L	**2.83**		0.10	7/19/2012

Sample Comments:

Lab Number: AA90044

Collection Date/Time: 7/18/2012 8:30 Sample Collector: ASCHENBRENER,
Submittal Date/Time: 7/19/2012 14:15 Sample ID

Sample Description: Grab Eff ARS M2

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed
Urea-N	Mulvenna&Savid	ug/L	**37**		10	8/2/2012

Sample Comments:

Lab Number: AA90045

Collection Date/Time: 7/18/2012 8:30 Sample Collector: ASCHENBRENER,
Submittal Date/Time: 7/19/2012 14:15 Sample ID

Sample Description: Grab Eff ARS M3

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed
Silica as SiO2, Total	EPA200.7	mg/L	**12**		0.5	7/24/2012

Sample Comments:

Report Approved by:

David Holland
Laboratory Director

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

Chain of Custody / Analysis Request

MBAS
MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY

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

Client / Company Name: **Marine Research Specialists**

email address to sent report & invoice: **bonnie.luke@mrsenv.com**

Attn: Bonnie Luke

Drinking water [ ] Wastewater [X] Monitoring Well [ ] Soil [ ] Sludge [ ]

Mailing Address: 3140 Telegraph Rd. Suite A, Ventura, CA 93003

For State or Local Health Department reporting, the System # is _____

Billing Address: same as above

Phone # **805-289-3926** Fax # **805-289-3935**

MBAS Lab #	Project ID or #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sampling Date	Sampling Time	Receiving Temp	Coliform Analysis: CL2 Residual	Coliform Analysis: Routine	Coliform Analysis: Other	Coliform Analysis: Repeat	# Cont.	Container Type	Container Size	Analysis Requested: Nitrate as NO3/EPA 300.0	Analysis Requested: O-Phosphate-P/EPA 300.0	Analysis Requested: Silica as SiO2/EPA 4500-SI-E	Analysis Requested: Urea/Mulvenna & Savid		
90043	MBCSD Semi ann	Grab Eff A.R.S. M1	7/18 2012	0830						1			X	X				
90044	MBCSD Semi ann	Grab Eff A.R.S. M2	7/18 2012	0830						1						X		
90045	MBCSD Semi ann	Grab Eff A.R.S. M3	7/18 2012	0830						1					X			

	Printed Name	Signature	Date	Time
Sampled by:	Steve Aschenbrener	Steve R. Aschenbrener		
Relinquished by:	Steve Aschenbrener	Steve R. Aschenbrener	7/18/12	1430
Received by:	Kaiuni Lunsford	Kaiuni Lunsford	7/19/12	1415
Relinquished by:				
Received by:				

Comment

Is sample for regulatory purposes?
(Yes) / No

*pour off 50 ml & freeze to hold for Urea test

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

RL

LABORATORY REPORT

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

Date: July 21, 2012

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

Laboratory No.: A-12071701-001
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:	07/16/12 (composite)
Date Received:	07/17/12
Temp. Received:	2.4°C
Chlorine (TRC):	0.0 mg/l
Dates Tested:	07/17/12 to 07/19/12

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

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

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

Result Summary:

Test	NOEC	TUc
Abalone Development:	5.6%	17.9

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

ABALONE LARVAL DEVELOPMENT
SHORT-TERM TOXICITY TEST

Lab No.: A-12071701-001
Client/ID: Morro Bay WWTP

Date tested: 07/17/12 - 07/19/12

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-120717 (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)	97.0%	
Control (Dilution)	97.2%	
3.2%	96.7%	
5.6%	96.8%	
10.0%	8.1%	*
18.0%	0%	*
32.0%	0%	*
* Statistically significantly less than control at P = 0.05 level		

CHRONIC TOXICITY

NOEC	5.6%
TUc	17.9

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥80%	PASSED (97.2%)
%MSD <20% relative to control	PASSED (%MSD = 2.1%)
Please see RT-120717 report for additional test acceptability criteria.	

Abalone Larval Development Test-Proportion Normal

Start Date:	7/17/2012 15:00	Test ID:	12071701ab	Sample ID:	Morro Bay
End Date:	7/19/2012 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF1-POTW
Sample Date:	7/16/2012 09:30	Protocol:	WCCH-EPA-600-R-95-136	Test Species:	HR-Haliotis rufescens

Comments:

Conc-%	1	2	3	4	5
B-Control	0.9815	0.9533	0.9636	0.9811	0.9722
D-Control	0.9533	0.9813	0.9636	0.9905	0.9709
3.2	0.9722	0.9541	0.9712	0.9720	0.9636
5.6	0.9537	0.9630	0.9630	0.9813	0.9810
10	0.0561	0.1091	0.0571	0.0901	0.0940
18	0.0000	0.0000	0.0000	0.0000	0.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000

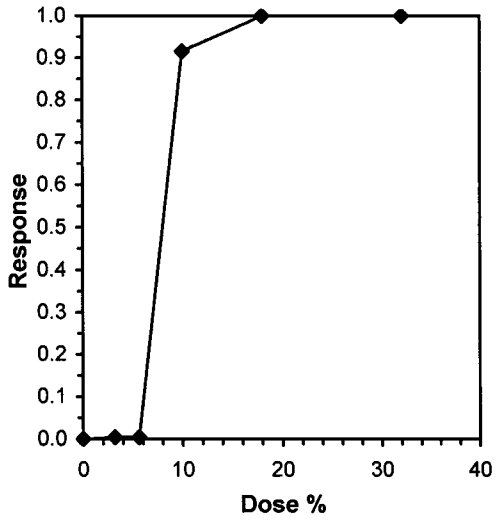
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
B-Control	0.9703	0.9984	1.4005	1.3529	1.4343	2.508	5					
D-Control	0.9719	1.0000	1.4076	1.3529	1.4731	3.341	5	*			0.9718	1.0000
3.2	0.9666	0.9946	1.3880	1.3549	1.4033	1.515	5	0.806	2.230	0.0542	0.9674	0.9955
5.6	0.9684	0.9964	1.3948	1.3539	1.4336	2.588	5	0.524	2.230	0.0542	0.9674	0.9955
*10	0.0813	0.0836	0.2867	0.2391	0.3366	15.367	5	46.153	2.230	0.0542	0.0818	0.0842
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)	0.96015	0.905	0.07892	-1.0518
Bartlett's Test indicates equal variances (p = 0.50)	2.34468	11.3449		
The control means are not significantly different (p = 0.79)	0.26937	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	5.6	10	7.48331	17.8571	0.02011	0.02065	1.54069	0.00147	1.5E-18	3, 16

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05	5.8196	0.0252	5.7436	5.8501	-0.7425
IC10	6.0610	0.0239	5.9847	6.0938	-0.7087
IC15	6.3024	0.0230	6.2260	6.3375	-0.6341
IC20	6.5438	0.0225	6.4717	6.5811	-0.5204
IC25	6.7853	0.0224	6.7141	6.8248	-0.3809
IC40	7.5095	0.0245	7.4393	7.5578	-0.0148
IC50	7.9923	0.0276	7.9180	8.0526	0.0863



ABALONE CHRONIC BIOASSAY

Aquatic Testing Laboratories

Lab No.: A-12071701-001
Client ID: MRS - Morro Bay Effluent

Start Date: 07/17/2012

WATER QUALITY READINGS

	Initial Readings				24 Hrs		Final Readings			
Sample	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)	Temp (°C)	pH	Temp (°C)	DO (mg/l)	pH	Salinity (o/oo)
Control (brine)	14.7	7.9	8.1	34	14.7	8.3	14.7	7.8	8.1	34
Control (lab)	14.7	7.8	8.2	34	14.6	8.2	14.6	7.6	8.1	34
3.2%	14.6	7.7	8.2	34	14.6	8.2	14.6	7.7	8.1	34
5.6%	14.6	7.7	8.2	34	14.6	8.2	14.6	7.6	8.1	34
10%	14.6	7.7	8.2	34	14.6	8.2	14.6	7.7	8.1	34
18%	14.7	7.8	8.2	34	14.7	8.1	14.6	7.8	8.1	34
32%	14.8	7.8	8.3	34	14.7	8.1	14.7	7.7	8.2	34

Sample as received: Chlorine: 0 mg/l; pH: 8.0; Salinity: 0 ppt; Temp: 24 °C; DO: 4.5 mg/l.

Initial readings: [signature] Date/Time: 7-17-12 1500 Final readings: [signature] Date/Time: 7-19-12 1500

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	BC	106	2	13	3.2	104	5	25	C	104	1
2	5.6	103	5	14	5.6	104	4	26	BC	104	2
3	10	6	101	15	32	0	100	27	5.6	105	2
4	32	0	100	16	10	6	99	28	32	0	100
5	C	102	5	17	C	106	4	29	5.6	103	2
6	3.2	105	3	18	18	0	100	30	10	11	106
7	18	0	100	19	3.2	101	3	31	3.2	106	4
8	BC	102	5	20	5.6	104	4	32	BC	105	3
9	32	0	100	21	BC	106	4	33	32	0	100
10	18	0	100	22	10	10	101	34	18	0	100
11	C	105	2	23	3.2	104	3	35	C	100	3
12	10	12	98	24	18	0	102				

Microscopic examination: Analyst: [signature] Date: 7-20-12 Time: 1400

Aquatic Testing Laboratories

ABALONE CHRONIC BIOASSAY

Lab No.: A-12071701-001
Client ID: MRS - Morro Bay Effluent

Start Date: 07/17/2012

RANDOMIZATION WORKSHEET

Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Beaker No.	Sample Conc.	Notes
1	BC	13	3.2	25	CC	Add 1600 fertilized eggs per 200 ml test volume.
2	5.86	14	5.86	26	BC	
3	10	15	32	27	5.86	
4	32	16	10	28	32	
5	CC	17	CC	29	5.86	
6	3.2	18	18	30	10	
7	18	19	3.2	31	3.2	
8	BC	20	5.86	32	BC	
9	32	21	BC	33	32	
10	18	22	10	34	18	
11	CC	23	3.2	35	CC	
12	10	24	18			

Analyst: _____ Date: 7/16/12 Time: 1400

Aquatic
Testing
Laboratories

CHAIN OF CUSTODY

CHAIN OF CUSTODY

Client: City of Morro Bay

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

Project Manager: Doug Coats - MRS

Phone: (805) 644-1180

Fax: (805) 289-3935

Purchase Order No:

Aquatic Testing Laboratories

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

Sample ID	Sample Date	Sample Time	Sample Type *	Chlorine (TRC)**	Number of Containers	Testing Requested
Comp. Eff.	16 July 12	0930	E	<.05	1 (one gallon)	Abalone Chronic

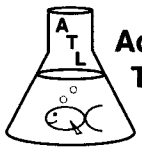
Special Instructions:

**** 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)
Shawn R Aschenbrenner	Fed Ex	16JUL12	1430	Yes	—
Fed Ex		7-17-12	1000	NT	2.4°



Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

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

Aquatic Testing Laboratories

QA/QC Batch No.: RT-120717

Date tested: 07/17/12 - 07/19/12

TEST SUMMARY

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

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

RESULTS SUMMARY

SAMPLE CONCENTRATION	PERCENT NORMAL DEVELOPMENT
Control	96.1%
10 µg/l	96.6%
18 µg/l	96.2%
32 µg/l	11.8% *
56 µg/l	0% *
100 µg/l	0% *

* Statistically significantly less than control at P = 0.05 level

CHRONIC TOXICITY

NOEC	18 µg/l
IC25	22.0 µg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Average control normality ≥80%	Yes (96.1%)
56 µg/l treatment response significantly less than control response	Yes (NOEC = 18 µg/l)
%MSD <20% relative to control	Yes (%MSD = 4.1%)

Abalone Larval Development Test-Proportion Normal

Start Date:	7/17/2012 15:00	Test ID:	RT120717ab	Sample ID:	REF-Ref Toxicant
End Date:	7/19/2012 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	ZNSO-Zinc sulfate
Sample Date:	7/17/2012	Protocol:	WCCH-EPA-600-R-95-136	Test Species:	HR-Haliotis rufescens
Comments:					

Conc-ug/L	1	2	3	4	5
D-Control	0.9903	0.9364	0.9811	0.9541	0.9444
10	0.9528	0.9439	0.9813	0.9712	0.9806
18	0.9813	0.9541	0.9352	0.9640	0.9730
32	0.1712	0.1509	0.0734	0.1373	0.0561
56	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0000	0.0000	0.0000	0.0000	0.0000

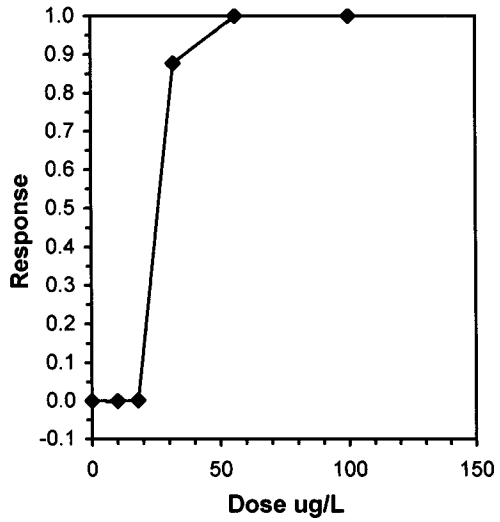
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-ug/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.9613	1.0000	1.3817	1.3158	1.4721	4.889	5				0.9633	1.0000
10	0.9660	1.0049	1.3897	1.3317	1.4336	3.325	5	-0.201	2.230	0.0880	0.9633	1.0000
18	0.9615	1.0002	1.3775	1.3134	1.4336	3.360	5	0.108	2.230	0.0880	0.9615	0.9981
*32	0.1178	0.1225	0.3437	0.2391	0.4265	23.888	5	26.297	2.230	0.0880	0.1178	0.1222
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)	0.94689	0.905	-0.1285	-1.2059
Bartlett's Test indicates equal variances (p = 0.62)	1.78445	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		0.03951	0.04096	1.35021	0.0039	9.2E-15	3, 16

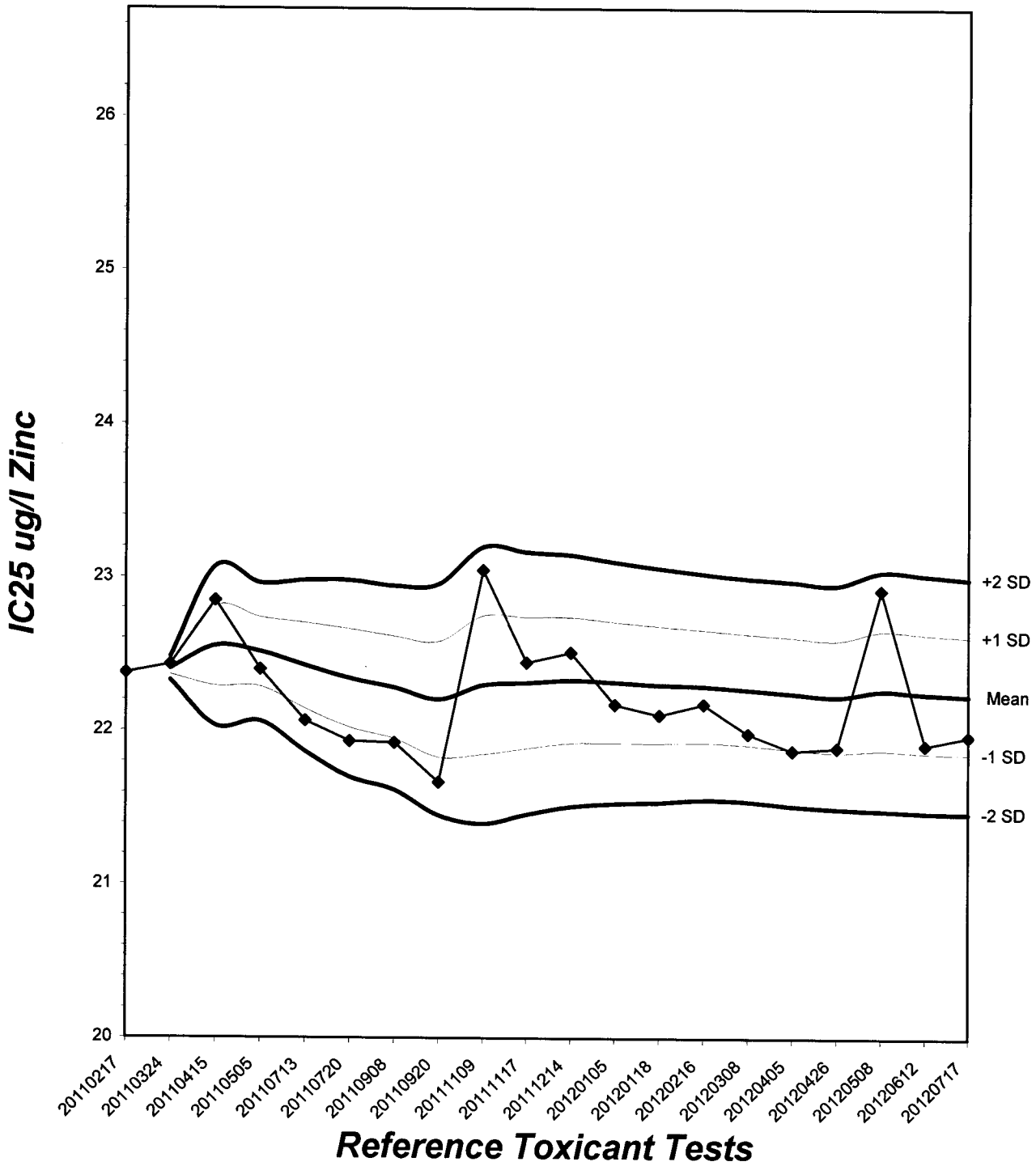
Linear Interpolation (200 Resamples)

Point	ug/L	SD	95% CL(Exp)		Skew
IC05	18.769	0.102	18.368	18.862	-1.2112
IC10	19.569	0.102	19.163	19.709	-1.0492
IC15	20.368	0.106	19.960	20.555	-0.7980
IC20	21.167	0.113	20.753	21.407	-0.5320
IC25	21.966	0.123	21.547	22.270	-0.3053
IC40	24.364	0.161	23.855	24.848	0.0562
IC50	25.962	0.191	25.394	26.557	0.1336



Abalone Larval Development Laboratory Control Chart

CV% = 1.71



ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate

Aquatic Testing Laboratories

QA/QC No.: RT-120717

Start Date: 07/17/2012

WATER QUALITY READINGS

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

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

Initial readings: _____ Date/Time: 7-17-12 1500 Final readings: _____ Date/Time: 7-19-12 1500

MICROSCOPIC EXAMINATION

Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal	Beaker No.	Sample Conc.	Number Normal	Number Abnormal
1	C	102	1	11	100	0	100	21	10	101	3
2	18	105	2	12	32	16	90	22	100	0	100
3	56	0	100	13	56	0	100	23	18	107	4
4	32	19	92	14	32	8	101	24	C	104	5
5	10	101	5	15	C	104	2	25	56	0	100
6	100	0	100	16	18	101	7	26	32	6	101
7	18	104	5	17	100	0	100	27	18	108	3
8	10	101	6	18	10	105	2	28	10	101	2
9	56	0	100	19	56	0	100	29	100	0	100
10	C	103	7	20	32	14	88	30	C	102	6

Microscopic examination: Analyst: _____ Date: 7-20-12 Time: 0900

ABALONE CHRONIC BIOASSAY
Reference Toxicant - Zinc Sulfate

Aquatic Testing Laboratories

QA/QC No.: RT-120717

Start Date: 07/17/2012

RANDOMIZATION WORKSHEET

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

Notes

Number Males used: 4

Number females used: 6

Time H_2O_2 added: 12:00

Time water changed: 14:30

Time spawned: ♂ 15:00 ♀ 15:30

Time placed in test: 1600

Add 1600 fertilized eggs per 200 ml..

Time glutaraldehyde added: 1600

Analyst: JM Date: 7-16-12 Time: 1400

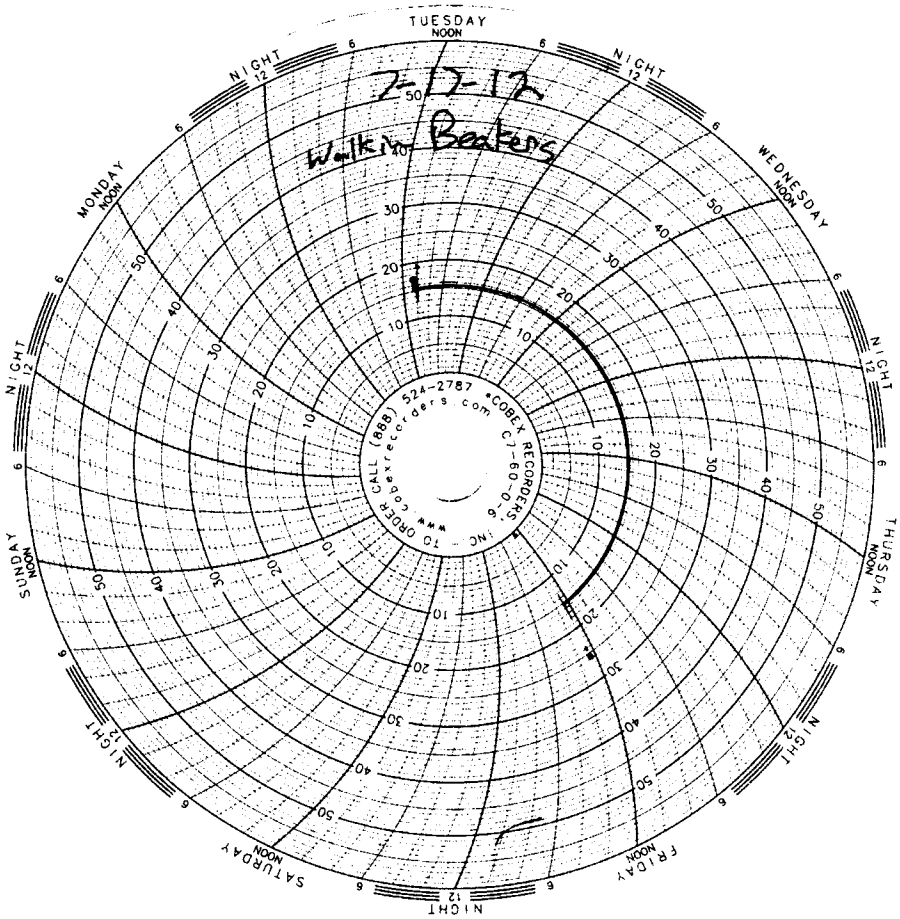
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-120717

Date Tested: 07/17/12 to 07/19/12

Acceptable Range: 15+/- 1°C



CERTIFICATE OF ANALYSIS

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

Attention: Bonnie Luke

Phone: (805) 644-1180

Fax:

Work Order(s): 2G19007

Report Date: 08/10/12 11:22

Received Date: 07/19/12 09:10

Turn Around: Normal

Client Project: MBCSD SemiAnnual Effluent July 2012

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 07/19/12 09:10 with the Chain of Custody document. The samples were received in good condition, at 3.9 °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: 07/19/12 09:10
Date Reported: 08/10/12 11:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
COMP EFF A.R.S. W1	Client		2G19007-01	Water	07/18/12 08:30
COMP EFF A.R.S. W2	Client		2G19007-02	Water	07/18/12 08:30

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: 07/19/12 09:10
Date Reported: 08/10/12 11:22

2G19007-01 **COMP EFF A.R.S. W1**

Sampled: 07/18/12 08:30 **Sampled By:** Client **Matrix:** Water

Organo Tin by GC/MS

Method: GC/MS Batch: W2G0965 Prepared: 07/24/12 11:12 Analyst: css

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Tri-n-butyltin	ND		0.050	ug/l	1	08/07/12 14:26	
Surr: Tripentyltin	*129 %*	Conc:*0.516*	*23-146*	%			

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

Date Received: 07/19/12 09:10
Date Reported: 08/10/12 11:22

2G19007-02 COMP EFF A.R.S. W2

Sampled: 07/18/12 08:30 **Sampled By:** Client **Matrix:** Water

Radiological Parameters by APHA/EPA Methods

Method: EPA 900.0 Batch: W2G1094 Prepared: 07/26/12 13:46 Analyst: abd

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Gross Beta	**16**		pCi/L	1	07/31/12 17:24	
Counting Error (+/-): 1.426	MDA: 1.774					

Method: SM7110C Batch: W2G1205 Prepared: 07/30/12 12:49 Analyst: abd

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Gross Alpha	ND	0.00	pCi/L	1	08/06/12 10:54	
Counting Error (+/-): 0.176	MDA: 0.016					

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

Date Received: 07/19/12 09:10
Date Reported: 08/10/12 11:22

QUALITY CONTROL SECTION

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

Date Received: 07/19/12 09:10
Date Reported: 08/10/12 11:22

Organo Tin by GC/MS - Quality Control

Batch W2G0965 - GC/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W2G0965-BLK1)				Analyzed: 08/07/12 14:26						
Tri-n-butyltin	ND	0.050	ug/l							
Surr: Tripentyltin	*0.258*		*ug/l*	*0.200*		*129*	*23-146*			
LCS (W2G0965-BS1)				Analyzed: 08/07/12 14:26						
Tri-n-butyltin	0.0639	0.050	ug/l	0.0500		128	53-154			
Surr: Tripentyltin	*0.275*		*ug/l*	*0.200*		*137*	*23-146*			
LCS Dup (W2G0965-BSD1)				Analyzed: 08/07/12 14:26						
Tri-n-butyltin	0.0598	0.050	ug/l	0.0500		120	53-154	7	30	
Surr: Tripentyltin	*0.242*		*ug/l*	*0.200*		*121*	*23-146*			

Radiological Parameters by APHA/EPA Methods - Quality Control

Batch W2G1094 - EPA 900.0

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W2G1094-BLK1)				Analyzed: 07/31/12 17:24						
Gross Beta	0.27		pCi/L							
Counting Error (+/-): 0.428	MDA: 0.726									
LCS (W2G1094-BS1)				Analyzed: 07/31/12 17:24						
Gross Beta	17		pCi/L	16.0		107	70-130			
Counting Error (+/-): 0.864	MDA: 0.865									
Duplicate (W2G1094-DUP1)	**Source: 2G18037-01**			Analyzed: 07/31/12 17:24						
Gross Beta	2.08		pCi/L		2.12			2	30	
Counting Error (+/-): 0.69	MDA: 1.057									

Batch W2G1205 - SM7110C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W2G1205-BLK1)				Analyzed: 08/06/12 10:54						
Gross Alpha	0.441	0.00	pCi/L							
Counting Error (+/-): 0.201	MDA: 0.016									
LCS (W2G1205-BS1)				Analyzed: 08/06/12 10:54						
Gross Alpha	4.51	0.00	pCi/L	4.80		94	70-130			
Counting Error (+/-): 0.347	MDA: 0.016									
Duplicate (W2G1205-DUP1)	**Source: 2G26007-01**			Analyzed: 08/06/12 10:54						
Gross Alpha	ND	0.00	pCi/L		ND			NR	30	R-03
Counting Error (+/-): 0.178	MDA: 0.016									

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

Date Received: 07/19/12 09:10
Date Reported: 08/10/12 11:22

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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

Date Received: 07/19/12 09:10
Date Reported: 08/10/12 11:22

Notes and Definitions

R-03	The RPD is not applicable for result below the reporting limit (either ND or J value).
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.

Vista
Analytical Laboratory

August 05, 2012

Vista Project I.D.: 33896

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

Dear Ms. Luke,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on July 19, 2012 under your Project Name "MBCSD SemiAnnual Effluent 2012". This sample was extracted and analyzed using EPA Method 1613 for tetra- through octa-chlorinated dioxins and furans. A standard turnaround time was provided for this work. Per your request, the Travel Blank was placed on HOLD.

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 calvin@vista-analytical.com.
Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Calvin Tanaka
Senior Scientist

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

Table of Contents

Section I: Sample Inventory Report

Date Received: **7/19/2012**

Vista Lab. ID	Client Sample ID
33896-001	COMP EFF A.E.S. V1
33896-002	Travel Blank

ANALYTICAL RESULTS

Method Blank **EPA Method 1613**

Matrix: Aqueous QC Batch No.: 4565 Lab Sample: 0-MB001

Sample Size: 1.00 L Date Extracted: 23-Jul-12 Date Analyzed DB-5: 30-Jul-12 Date Analyzed DB-225: NA

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	MDL [c]	Qualifiers
2,3,7,8-TCDD	ND	0.543		0.534	
1,2,3,7,8-PeCDD	ND	0.598		1.11	
1,2,3,4,7,8-HxCDD	ND	0.594		0.751	
1,2,3,6,7,8-HxCDD	ND	0.680		0.731	
1,2,3,7,8,9-HxCDD	ND	0.721		1.70	
1,2,3,4,6,7,8-HpCDD	ND	1.26		0.930	
OCDD	ND	1.14		2.09	
2,3,7,8-TCDF	ND	0.662		0.340	
1,2,3,7,8-PeCDF	ND	0.461		1.42	
2,3,4,7,8-PeCDF	ND	0.468		1.51	
1,2,3,4,7,8-HxCDF	ND	0.422		1.20	
1,2,3,6,7,8-HxCDF	ND	0.422		0.757	
2,3,4,6,7,8-HxCDF	ND	0.484		1.24	
1,2,3,7,8,9-HxCDF	ND	0.653		1.26	
1,2,3,4,6,7,8-HpCDF	ND	0.603		1.43	
1,2,3,4,7,8,9-HpCDF	ND	0.796		1.15	
OCDF	ND	5.94		1.78	

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	83.7	25 - 164	
	13C-1,2,3,7,8-PeCDD	79.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	93.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	96.2	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	91.4	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	86.0	23 - 140	
	13C-OCDD	84.9	17 - 157	
	13C-2,3,7,8-TCDF	83.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	83.2	24 - 185	
	13C-2,3,4,7,8-PeCDF	81.8	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	80.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	82.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	81.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	78.9	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	71.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	71.4	26 - 138	
	13C-OCDF	73.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	91.5	35 - 197	

Totals

Total TCDD	ND	0.543
Total PeCDD	ND	0.598
Total HxCDD	ND	0.721
Total HpCDD	ND	1.26
Total TCDF	ND	0.662
Total PeCDF	ND	0.468
Total HxCDF	ND	0.653
Total HpCDF	ND	0.796

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1997) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: FEB

Approved By: Calvin Tanaka 03-Aug-2012 15:21

OPR Results **EPA Method 1613**

Matrix:	Aqueous	QC Batch No.:	4565	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	23-Jul-12	Date Analyzed DB-5:	30-Jul-12	Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits		Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	9.67	6.7 - 15.8	IS	13C-2,3,7,8-TCDD	80.3	20 - 175	
1,2,3,7,8-PeCDD	50.0	48.2	35 - 71		13C-1,2,3,7,8-PeCDD	77.6	21 - 227	
1,2,3,4,7,8-HxCDD	50.0	48.6	35 - 82		13C-1,2,3,4,7,8-HxCDD	88.2	21 - 193	
1,2,3,6,7,8-HxCDD	50.0	48.8	38 - 67		13C-1,2,3,6,7,8-HxCDD	89.4	25 - 163	
1,2,3,7,8,9-HxCDD	50.0	47.7	32 - 81		13C-1,2,3,7,8,9-HxCDD	87.4	21 - 193	
1,2,3,4,6,7,8-HpCDD	50.0	47.9	35 - 70		13C-1,2,3,4,6,7,8-HpCDD	82.3	26 - 166	
OCDD	100	97.0	78 - 144		13C-OCDD	81.8	13 - 198.5	
2,3,7,8-TCDF	10.0	9.56	7.5 - 15.8		13C-2,3,7,8-TCDF	79.5	22 - 152	
1,2,3,7,8-PeCDF	50.0	46.0	40 - 67		13C-1,2,3,7,8-PeCDF	81.0	21 - 192	
2,3,4,7,8-PeCDF	50.0	45.3	34 - 80		13C-2,3,4,7,8-PeCDF	79.5	13 - 328	
1,2,3,4,7,8-HxCDF	50.0	47.1	36 - 67		13C-1,2,3,4,7,8-HxCDF	76.2	19 - 202	
1,2,3,6,7,8-HxCDF	50.0	46.3	42 - 65		13C-1,2,3,6,7,8-HxCDF	78.8	21 - 159	
2,3,4,6,7,8-HxCDF	50.0	45.3	35 - 78		13C-2,3,4,6,7,8-HxCDF	77.4	22 - 176	
1,2,3,7,8,9-HxCDF	50.0	45.4	39 - 65		13C-1,2,3,7,8,9-HxCDF	74.6	17 - 205	
1,2,3,4,6,7,8-HpCDF	50.0	45.9	41 - 61		13C-1,2,3,4,6,7,8-HpCDF	68.8	21 - 158	
1,2,3,4,7,8,9-HpCDF	50.0	46.5	39 - 69		13C-1,2,3,4,7,8,9-HpCDF	71.1	20 - 186	
OCDF	100	87.9	63 - 170		13C-OCDF	72.6	13 - 198.5	
				CRS	37Cl-2,3,7,8-TCDD	91.7	31 - 191	

Analyst: FEB

Approved By: Calvin Tanaka 03-Aug-2012 15:21

Sample ID: **COMP EFF A.E.S. V1** **EPA Method 1613**

Client Data
Name: Marine Research Specialists
Project: MBCSD SemiAnnual Effluent 2012
Date Collected: 18-Jul-12
Time Collected: 0830

Sample Data
Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 33896-001
QC Batch No.: 4565
Date Analyzed DB-5: 1-Aug-12
Date Received: 19-Jul-12
Date Extracted: 23-Jul-12
Date Analyzed DB-225: NA

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	MDL [c]	Qualifiers
2,3,7,8-TCDD	ND	0.587		0.534	
1,2,3,7,8-PeCDD	ND	0.828		1.11	
1,2,3,4,7,8-HxCDD	ND	0.876		0.751	
1,2,3,6,7,8-HxCDD	ND	0.945		0.731	
1,2,3,7,8,9-HxCDD	ND	1.00		1.70	
1,2,3,4,6,7,8-HpCDD	5.55			0.930	J
OCDD	52.4			2.09	
2,3,7,8-TCDF	ND	0.818		0.340	
1,2,3,7,8-PeCDF	ND	0.531		1.42	
2,3,4,7,8-PeCDF	ND	0.531		1.51	
1,2,3,4,7,8-HxCDF	ND	0.435		1.20	
1,2,3,6,7,8-HxCDF	ND	0.428		0.757	
2,3,4,6,7,8-HxCDF	ND	0.496		1.24	
1,2,3,7,8,9-HxCDF	ND	0.644		1.26	
1,2,3,4,6,7,8-HpCDF	1.08			1.43	J
1,2,3,4,7,8,9-HpCDF	ND	0.764		1.15	
OCDF	1.86			1.78	J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	74.5	25 - 164	
	13C-1,2,3,7,8-PeCDD	70.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	60.7	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	63.6	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	59.9	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	59.9	23 - 140	
	13C-OCDD	52.7	17 - 157	
	13C-2,3,7,8-TCDF	77.2	24 - 169	
	13C-1,2,3,7,8-PeCDF	81.2	24 - 185	
	13C-2,3,4,7,8-PeCDF	78.6	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	68.2	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	69.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	67.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	65.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	63.5	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	62.4	26 - 138	
	13C-OCDF	56.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	88.3	35 - 197	

Totals

Total TCDD	4.92		
Total PeCDD	1.99		
Total HxCDD	ND	1.00	
Total HpCDD	12.8		
Total TCDF	ND	0.818	
Total PeCDF	ND	0.531	
Total HxCDF	ND		0.623
Total HpCDF	1.08		

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0.0717

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1997) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: FEB

Approved By: Calvin Tanaka 03-Aug-2012 15:21

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	CA00413
Alabama Dept of Environmental Management	41610
Arizona Department Of Health Services	AZ0639
Arkansas Dept of Environmental Quality	11-035-0
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 Dept of Health	E87777
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA110017
Maine Department of Health	2010021
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132011-1
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
Oklahoma Dept of Environmental Quality	2011-120
Oregon Laboratory Accreditation Program	CA200001
Pennsylvania Dept of Environmental Protection	68-00490
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-11-2
Utah Dept of Health	CA16400
Virginia Dept of General Services	00013
Washington Department of Ecology	C584
Wisconsin Dept of Natural Resources	998036160

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 33896 Temp 1.3 °C
Storage ID: WR 2 Storage Secured: Yes ☑ No ☐

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

Project I.D.: **MBCSD Semi-Annual Effluent 2012** P.O. #: Sampler: Steve Aschenbrener (Name)

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

Relinquished by: (Printed Name and Signature) Steven R. Aschenbrener Date: 7/18/12 Time: 1430 Received by: (Signature and Printed Name) B. Benedict Date: 7/19/12 Time: 0952

Relinquished by: (Printed Name and Signature) Date: Time: Received by: (Signature and Printed Name) Date: Time:

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

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

ATTN:

Method of Shipment: **fedex**

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1614 PBDE	CARB429 PAH	CARB429 WHO-29
COMP EFF A.R.S. V1	7/18/12	0830	A.R.S. / 24 hr. COMP EFF	1		ww															
TRAVEL BLANK	7/18/12			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 Analytical Laboratory

Vista Project #: 33896 **TAT** Std

Samples Arrival:	**Date/Time** 7/19/12 0950	**Initials:** BLB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 7/19/12 1302	**Initials:** BLB	**Location:** WR-2 **Shelf/Rack:** B3

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice	Dry Ice	None		
Temp °C 1.3°C	**Time:** 0953	**Thermometer ID:** DT-1				

	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 # 7938 0584 0760	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

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

Comments:

Comp Eff A.R.S. V1

DI H_2O Travel Blank