



January 28, 2013

Ms. Carol Wies-Brewer  
U.S. Army Corps of Engineers, Albuquerque District  
4101 Jefferson Plaza, NE  
Albuquerque, NM 87109-3435

**SUBJECT: FINAL SEPTEMBER 2012 GROUNDWATER SAMPLING AND ANALYSIS REPORT  
FOR CITY WELLS, BROWN & BRYANT SUPERFUND SITE  
600 S. DERBY STREET, ARVIN, CALIFORNIA  
CONTRACT NO. W912PL-10-D-0014 TASK ORDER 0013**

Dear Ms. Wies-Brewer:

This letter presents a summary of the September 2012 monthly sampling results for City Well numbers CW-1, CW-5, CW-6, CW-8, CW-9, and CW-10. This report contains the results of the 12th monthly sampling event for these wells since the first event in October 2011. This work has been conducted in general accordance with the USACE Contract No. W912PP-10-D-0014 Task Order 0013.

## **OBJECTIVE**

The objective of sampling and analysis of water from all City Wells in Arvin, CA is to identify presence of B&B Superfund Site Contaminants of Concern (COCs). Results of this water sampling will allow an assessment of regional concentrations of these contaminants, if present in the deeper zone being pumped by the City Wells.

## **WATER SAMPLING**

The Arvin Water District operates 10 wells (CW-1 through CW-10) in the Arvin, California area; see Site Vicinity Map, Figure 1. The locations of the city wells are shown on Figure 2. Six of the ten wells (CW-1, CW-5, CW-6, CW-8, CW-9, and CW-10) were sampled on September 24, 2012. The remaining four wells (CW-2, CW-3, CW-4, and CW-7) were not available for sampling: CW-2, CW-3, and CW-4 have been abandoned and CW-7 has not been operational since the sampling was started in October 2011. The wells were sampled by using a faucet at the well outlet. The sampling procedure was in accordance with the Site-Specific Work Plan [Monthly Groundwater Sampling & Analysis — City Wells] dated September 9, 2011.

The sample container type, size, and preservatives for each specific analysis are provided in Table 1.

**TABLE 1: SAMPLE CONTAINERS, SIZES & PRESERVATIVES**

Contaminants of Concern	EPA Analytical Method	Container Type	Container Size	Volume Required	Preservative
<b>Chloroform</b>	8260B or 8260 SIM	Glass (VOA vial)	40 mL	120 mL (3 vials)	HCl
<b>1,2-Dibromo-3-Chloropropane (DBCP)</b>					
<b>1,2-Dichloropropane (1,2-DCP)</b>					
<b>1,3-Dichloropropane</b>					
<b>1,2,3-Trichloropropane (TCP)</b>					
<b>Ethylene Dibromide (EDB)</b>	8151A	Amber glass	1 L	1 L	None
<b>Dinoseb</b>					

*Notes:*

VOA        volatile organic analysis  
mL        milliliter  
L         liter  
HCl       hydrochloric acid

At each sampling location, all bottles designated for a particular analysis were filled sequentially before bottles designated for the next analysis were filled. If a matrix spike and matrix spike duplicate sample was to be collected at this location, all bottles designated for a particular analysis for both sample designations were filled sequentially before bottles for another analysis were filled.

Because the City wells are municipal supply wells and are in service during the sampling event, no purging of the well was necessary. Groundwater samples were collected at each well location by turning the faucet on and letting it run for 30 to 60 seconds. This allowed clearing of the sampling faucet prior to sampling and the development of a steady discharge for sampling. The water was then put into the appropriate sample containers with preservative (if required). The samples were chilled and processed for shipment to the laboratory.

Vials for volatile organic compound (VOC) analysis were filled first to minimize aeration of water in the well. The vials were inverted and checked for air bubbles to ensure zero headspace. If any air bubbles appeared, the vial contents were emptied into the container and transferred to the portable on-site storage tank. The vial was discarded and a new sample collected.

**SAMPLE ANALYSES**

All groundwater samples collected were analyzed for the seven COCs as well as any other constituents reported for each analytical method. EMAX Laboratories, Inc. (EMAX), accredited under the National Environmental Laboratory Accreditation Program (NELAP), performed the laboratory analytical services. The COCs and test methods are provided in Table 2.

All samples were collected using approved techniques following proper chain-of-custody protocols.

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**TABLE 2: ANALYTICAL METHODS FOR CONTAMINATION OF CONCERN**

<b>Contamination of Concern</b>	<b>EPA Analytical Method</b>
<b>Chloroform</b>	8260B
<b>1,2-Dibromo-3-Chloropropane (DBCP)</b>	8260 SIM
<b>1,2-Dichloropropane (1,2-DCP)</b>	8260B
<b>1,3-Dichloropropane</b>	8260B
<b>1,2,3-Trichloropropane (TCP)</b>	8260 SIM
<b>Ethylene Dibromide (EDB)</b>	8260 SIM
<b>Dinoseb</b>	8151A

### **QUALITY CONTROL SAMPLES**

A field duplicate was collected for the samples collected from City well (CW-1). The field duplicate is used to measure the sampling and analytical variability (precision) associated with the sample concentrations. The field duplicate was submitted as a “blind” sample to the laboratory. The relative percent difference (RPD) between the original sample and field duplicate is calculated for each parameter as part of the data evaluation. Both the sample and the corresponding field duplicate sample were reported as non-detect except for 1,2,3-TCP where the %RPD was reported to be 2.82%. This is well within the acceptable limits of 30%.

A matrix spike and matrix spike duplicate (MS/MSD) was performed on the sample collected from CW-6. The MS/MSD is used to monitor the precision and accuracy of the results of the laboratory’s analytical procedures. Analytical results for the MS/MSD were reviewed and the results were evaluated to be acceptable.

A trip blank was also submitted along with the remaining samples of water collected during this sampling event.

### **DATA VALIDATION**

The water samples analytical results were subject to data validation. The data were delivered in one package as Level III and Level IV deliverables. Ten percent (10%) of the data were subjected to validation to equivalent of EPA Level IV data validation. Raw data for one sample from this sample group (09-24-12-CW-5) was submitted at level IV for all the requested analytical methods. Level III data validation examines quality assurance/quality control (QA/QC) elements such as holding time, (both extraction and analysis), critical quality control measures, extraction logs, instrument injection logs, completeness of the results, and summaries of initial and continuing calibrations for the analytical methods. The analytical results, QC results, initial calibration, and related continuing calibration data were then comprehensively compared with the corresponding raw data and chromatograms presented for Level IV data validation.

The Data Validation Report is presented in Attachment 3 of this report.

The sample analytical data were reported to be acceptable for all of the EPA analysis methods used. The data were found reliable for use on the project.

## SUMMARY OF THE ANALYTICAL RESULTS

The field notes taken during sampling are presented in Attachment 1, the laboratory analytical results in Attachment 2, and as stated above, the Data Validation and ADR information in Attachment 3. Site photographs taken during well sampling are presented in Attachment 4. A summary of the laboratory data results are provided in Table 4.

1,2,3-TCP and 1,2-DCP were the only COCs reported in concentrations above their respective laboratory detection limits. 1,2-DCP was reported in the CW-9 sample at 0.34 micrograms per liter ( $\mu\text{g/L}$ ) (J-flagged). This compound has been reported in samples from this well for all seven events when the well has been sampled at similar concentrations below its B-zone Comparative Number of 5  $\mu\text{g/L}$ . 1,2,3-TCP was reported in water samples from CW-1, CW-5, CW-6, CW-8, and CW-9 at concentrations summarized in Table 3 below. Most of the 1,2,3-TCP concentrations are above its drinking water Notification Level of 0.005  $\mu\text{g/L}$ . Notification levels are health-based advisory levels established by the California Department of Public Health (CDPH) for chemicals in drinking water that lack maximum contaminant levels (MCLs). More information on this subject is available at the following CDPH website: <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/123tcp.aspx>.

**TABLE 3: SUMMARY OF RESULTS FOR 1,2,3-TCP**

Well No.	September 2012 Result	Mean of Results	95 Percent Upper Confidence Limit for the Mean Concentration
	$\mu\text{g/L}$		
<b>CW-1</b>	0.035	0.0854	0.1056
<b>CW-5</b>	0.078	0.0724	0.0840
<b>CW-6</b>	0.031	0.0251	0.0294
<b>CW-8</b>	0.0044J	0.0078	0.0130
<b>CW-9</b>	0.300	0.3200	0.3729

Note:  $\mu\text{g/L}$  micrograms per liter

Figures 3 and 4 present plots of the 1,2,3-TCP results for running mean and 95% Upper Confidence Limit of the mean for the sampling events.

If you have any questions or wish to discuss this report, please feel free to contact me at (714) 228-1286.

Sincerely,  
ECO & ASSOCIATES, INC.



Mitra Fiuzat, Ph.D.  
Project Manager

Table 4  
Figures

Attachments: 1 – Field Notes  
2 – Laboratory Analytical Results  
3 – Data Validation and Automatic Data Review Reports  
4 – Photographs of the City Wells

# TABLE

**TABLE 4: CONTAMINANTS OF CONCERN IN CITY WELLS GROUNDWATER**  
(Sampling through September 2012)

Well No.	Constituent	DATE SAMPLED & CONCENTRATION (µg/L)												B-zone Comparative Number (µg/L)	Comparative Basis
		Oct 2011	Nov 2011	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012		
CW-1	1,2-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	FNPDWS
	1,3-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	CSDRA
	1,2,3-TCP	0.072	0.099	0.098	0.097	0.11	0.13	0.12	0.11	0.054	0.045	0.055	0.035	0.005*	CDPH
	Chloroform	0.63J	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	80	FNPDWS
	Dinoseb	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	FNPDWS
	DBCP	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	FNPDWS
	EDB	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	FNPDWS
CW-2	1,2-DCP	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	Well Abandoned in 1995	5	FNPDWS
	1,3-DCP													0.5	CSDRA
	1,2,3-TCP													0.005*	CDPH
	Chloroform													80	FNPDWS
	Dinoseb													7	FNPDWS
	DBCP													0.2	FNPDWS
	EDB													0.05	FNPDWS
CW-3	1,2-DCP	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	Well Abandoned in 1989	5	FNPDWS
	1,3-DCP													0.5	CSDRA
	1,2,3-TCP													0.005*	CDPH
	Chloroform													80	FNPDWS
	Dinoseb													7	FNPDWS
	DBCP													0.2	FNPDWS
	EDB													0.05	FNPDWS
CW-4	1,2-DCP	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	Well Abandoned in 1998	5	FNPDWS
	1,3-DCP													0.5	CSDRA
	1,2,3-TCP													0.005*	CDPH
	Chloroform													80	FNPDWS
	Dinoseb													7	FNPDWS
	DBCP													0.2	FNPDWS
	EDB													0.05	FNPDWS
CW-5	1,2-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	FNPDWS
	1,3-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	CSDRA
	1,2,3-TCP	0.068	0.058	0.049	0.049	0.063	0.068	0.076	0.087	0.096	0.067	0.11	0.078	0.005*	CDPH
	Chloroform	0.40J	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	80	FNPDWS
	Dinoseb	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	FNPDWS
	DBCP	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	FNPDWS
	EDB	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	FNPDWS
CW-6	1,2-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	FNPDWS
	1,3-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	CSDRA
	1,2,3-TCP	0.022	0.019	0.018	0.019	0.018	0.024	0.023	0.032	0.035	0.023	0.037	0.031	0.005*	CDPH
	Chloroform	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	80	FNPDWS
	Dinoseb	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	FNPDWS
	DBCP	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	FNPDWS
	EDB	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	FNPDWS

**TABLE 4: CONTAMINANTS OF CONCERN IN CITY WELLS GROUNDWATER  
(Sampling through September 2012)**

Well No.	Constituent	DATE SAMPLED & CONCENTRATION (µg/L)												B-zone Comparative Number (µg/L)	Comparative Basis						
		Oct 2011	Nov 2011	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012								
CW-7	1,2-DCP	Not Sampled; Well not in operation.	5	FNPDWS																	
	1,3-DCP													0.5	CSDRA						
	1,2,3-TCP													0.005*	CDPH						
	Chloroform													80	FNPDWS						
	Dinoseb													7	FNPDWS						
	DBCP													0.2	FNPDWS						
	EDB													0.05	FNPDWS						
CW-8	1,2-DCP	<0.2	<0.2	<0.2	<0.2	Not Sampled; Well was under repair.	Not Sampled; Well was under repair.	Not Sampled; Well was under repair.	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	FNPDWS					
	1,3-DCP	<0.2	<0.2	<0.2	<0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	CSDRA				
	1,2,3-TCP	<0.0025	<0.0025	<0.0025	<0.0025				<0.0025	0.0063	0.0086	0.012	0.0044J	0.005*	CDPH						
	Chloroform	0.24J	<0.2	<0.2	<0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	80	FNPDWS			
	Dinoseb	<0.2	<0.2	<0.2	<0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	FNPDWS			
	DBCP	<0.02	<0.02	<0.02	<0.02				<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	FNPDWS			
	EDB	<0.02	<0.02	<0.02	<0.02				<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	FNPDWS			
CW-9	1,2-DCP	Not Sampled; Well not in operation.	0.35J	0.39J	0.35J	0.39J	0.36J	0.39J	0.34J	5	FNPDWS										
	1,3-DCP								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	CSDRA	
	1,2,3-TCP								0.23	0.27	0.35	0.35	0.34	0.4	0.3	0.005*	CDPH				
	Chloroform								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	80	FNPDWS
	Dinoseb								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	FNPDWS
	DBCP								<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	FNPDWS
	EDB								<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	FNPDWS
CW-10	1,2-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	FNPDWS					
	1,3-DCP	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	CSDRA					
	1,2,3-TCP	0.0032J	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.005*	CDPH						
	Chloroform	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	80	FNPDWS					
	Dinoseb	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	FNPDWS					
	DBCP	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	FNPDWS					
	EDB	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	FNPDWS					

**Notes:**

Contaminants of Concern & Basis for Comparative Number:

FNPDWS = Federal National Primary Drinking Water Standards - 40 Code of Federal Regulations, Part 141 or 40CFR141

CSDRA = California Safe Drinking Water Act (CCR, Title 22, Sec 64444)

\* = Drinking Water Notification Level set by California Department of Public Health (CDPH)

1,2-DCP = 1,2-Dichloropropane

DBCP = 1,2-Dibromo-3-chloropropane

1,3-DCP = 1,3-Dichloropropane

EDB = Ethylene dibromide, also

1,2,3-TCP = 1,2,3-Trichloropropane

called 1,2-Dibromoethane

Chloroform: Total trihalomethanes (sum of bromodichloromethane, dibromochloromethane, bromoform and chloroform)

Analytical Methods:

Method 8260 – 1,2-DCP & 1,3-DCP

Method 8260SIM – 1,2,3-TCP, DBCP, & EDB

Method 8151 – Dinoseb

Results:

Reported results in white on black font are in excess of compound Comparative Number.

Reported results in bold font are laboratory reported results above detection limits.

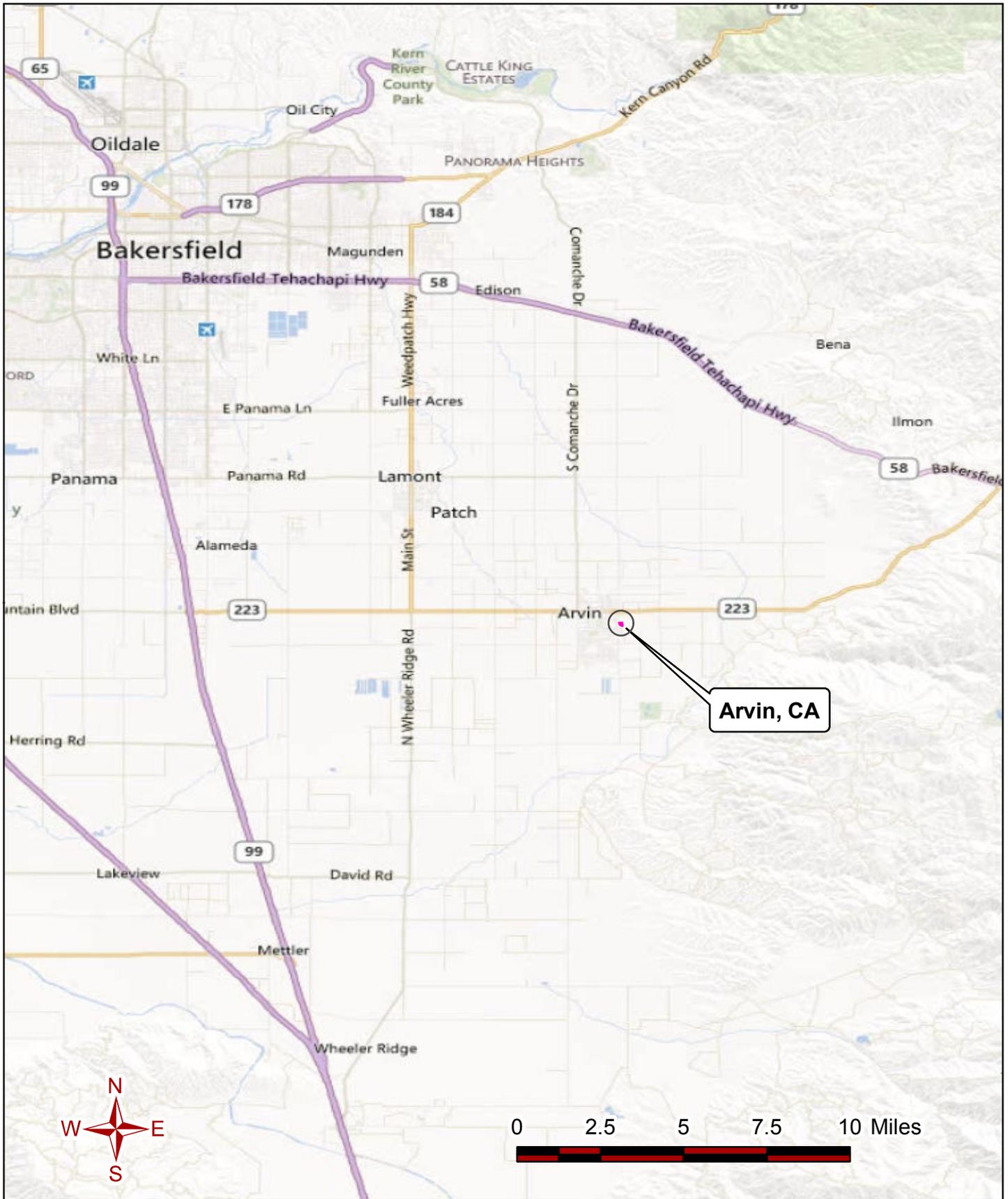
"ND <" = non-detect analytes are reported as less than the method detection limit (MDL).

J = Laboratory reported qualifier: estimated concentration below the method reporting limit

µg/L = micrograms per liter

Analyses performed by EMAX Laboratories, Inc.

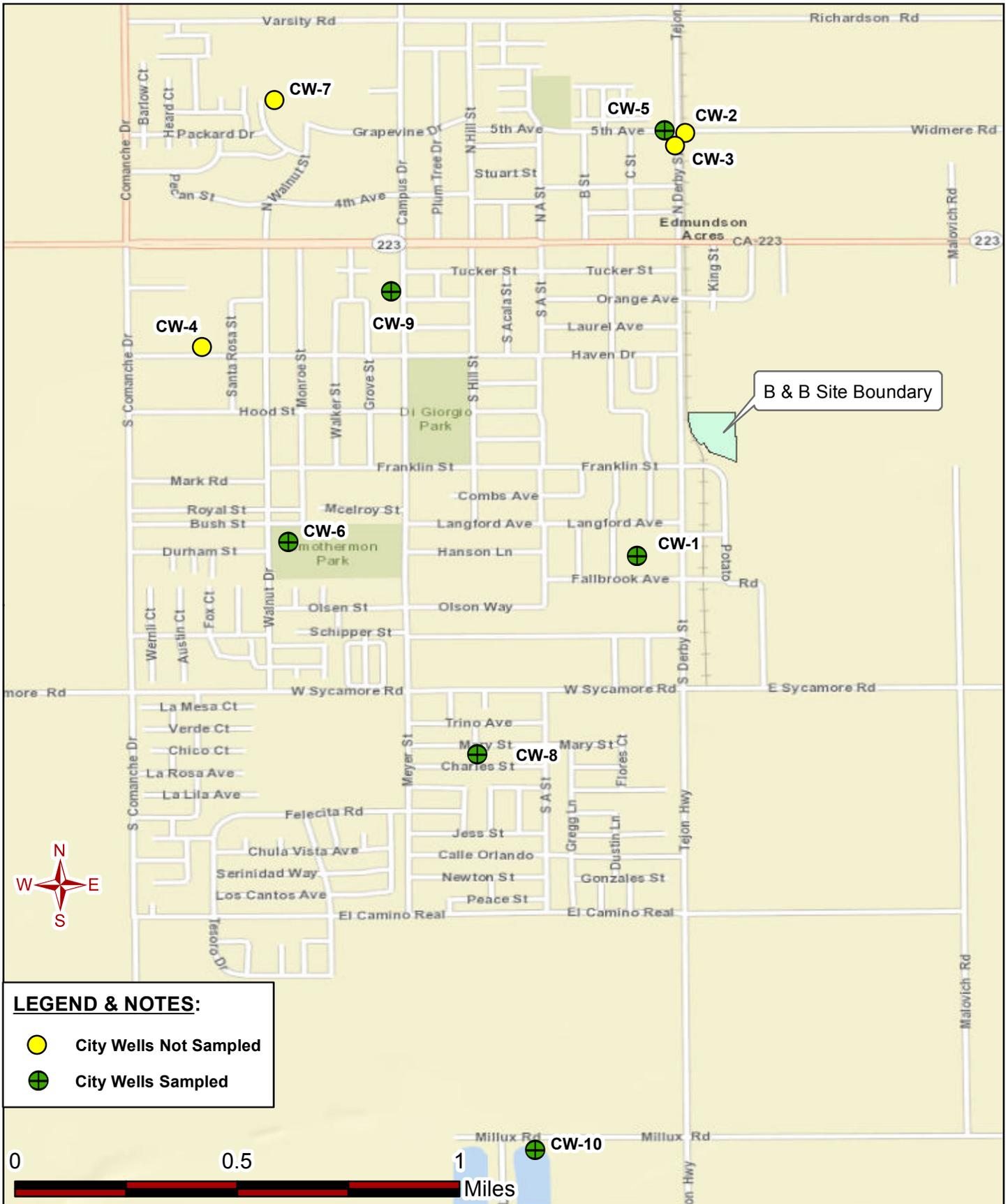
## FIGURES



**Eco & Associates, Inc.**  
 1855 W. Katella Avenue, Suite 340  
 Orange, California 92867  
 Phone: 714.289.0995 Fax: 714.289.0965

**REGIONAL MAP**  
**Brown & Bryant Superfund Site**  
**600 South Derby Street**  
**Arvin, CA**  
 Project No. Eco-11-482.1 Dated September 2012

FIGURE  
**1**



**LEGEND & NOTES:**

- City Wells Not Sampled
- City Wells Sampled

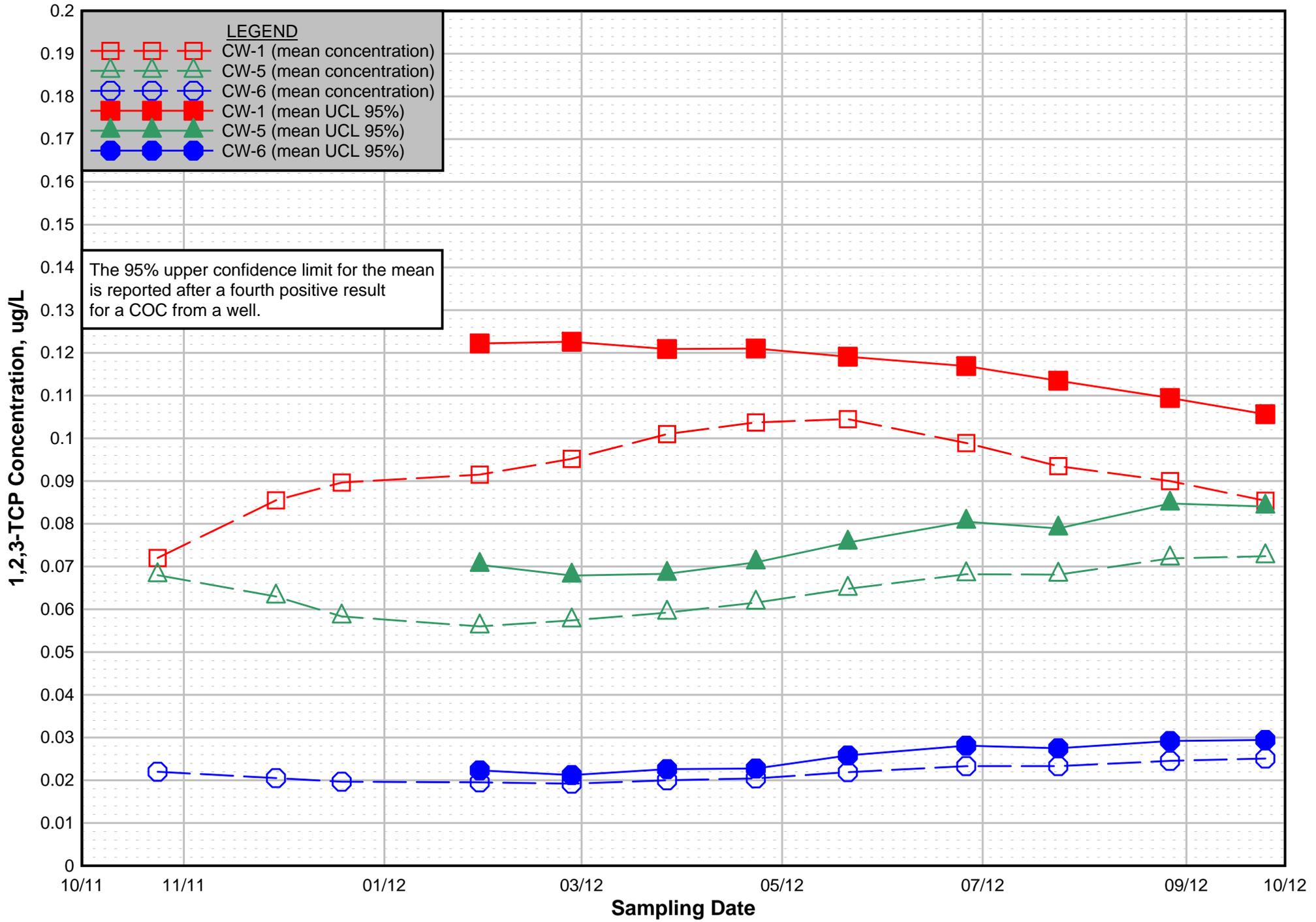


Eco & Associates, Inc.  
 1855 W. Katella Avenue, Suite 340  
 Orange, California 92867  
 Phone: 714.289.0995 Fax: 714.289.0965

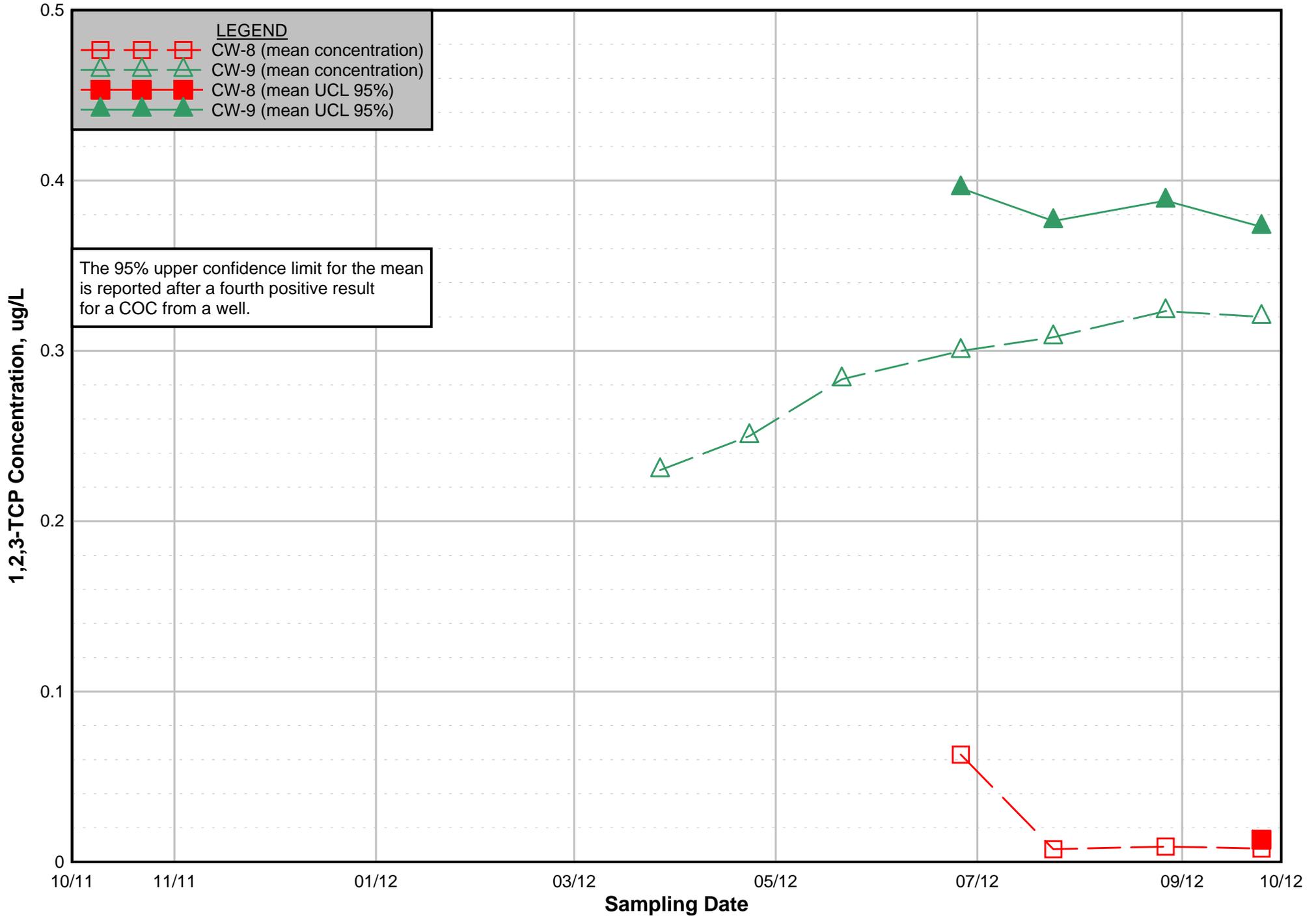
**MUNICIPAL WATER SUPPLY WELLS  
 IN ARVIN AREA**  
**Brown & Bryant Superfund Site**  
**600 South Derby Street, Arvin, CA**  
 Project No. Eco-11-482.1 Dated September 2012

FIGURE  
**2**

**Figure 3: 1,2,3-TCP Results for CW-1, CW-5, & CW-6**  
 B&B Superfund Site - Monthly City Well Sampling (September 2012)



**Figure 4: 1,2,3-TCP Results for CW-8 & CW-9**  
B&B Superfund Site - Monthly City Well Sampling (September 2012)



# ATTACHMENT 1

FIELD NOTES

# ECO & ASSOCIATES, INC. – QUALITY CONTROL REPORT

## DAILY LOG OF ACTIVITIES

<b>ECO PROJECT:</b> Eco-11-482	<b>REPORT NO.:</b>
<b>PROJECT LOCATION:</b> Brown & Bryant Superfund Site	<b>DATE:</b> 09-25-2012
<b>DESCRIPTION:</b> Monthly City Well Sampling	<b>CONTRACT NO.:</b>
<b>ONSITE PERSONNEL:</b> OA, SCS	<b>TASK ORDER NO.:</b>
<b>SIGNATURE:</b> 	<b>WEATHER CONDITION:</b> Sunny and warm

**1. ANY DELAYS IN WORK PROGRESS TODAY?**       No     Yes    If yes, explain:

**2. ANY VERBAL INSTRUCTION GIVEN BY THE GOVERNMENT, REGULATOR, OR CLIENT?**     No     Yes    If yes, to whom and explain:

**3. ANY CONDITION DEVELOPED WHICH MIGHT LEAD TO A CHANGE ORDER OR CLAIM OR FINDINGS OF FACTS?**  
 No     Yes    If yes, explain:  
  
 ANY POTENTIAL CHANGE ORDER OR CLAIM MUST BE REPORTED TO THE PROJECT DIRECTOR/MANAGER.

**4. ANY DEFICIENCIES, ACTIONS TAKEN TO CORRECT THE DEFICIENCIES?**       No     Yes    If yes, explain:

**5. SAFETY MEETING/TAILGATE MEETING HELD TODAY?**       No     Yes  
  
 ANY LOST TIME ACCIDENT TODAY?       No     Yes    If yes, attach an accident report.

**6. PRIME CONTRACTOR AND SUBCONTRACTOR WORK FORCE SIGN IN AND OUT IN THE SPACE BELOW.**

NAME	INITIAL	COMPANY	TRADE	IN	OUT	IN	OUT	TOTAL HOURS
Steven Saunders	SCS	Eco & Associates	Geologist	9:30	1205			
Omid Rabbani	OR	Eco & Associates	Engineer	9:30	1205			

<b>7A. CUMULATIVE HOURS WORKED PREVIOUSLY:</b>	<b>7B. TOTAL HOURS WORKED TODAY:</b>	<b>TOTAL HOURS WORKED TO DATE (7A+7B):</b>
--	--------------------------------------	--

## JOBSITE SAFETY INSPECTION CHECKLIST

Note: The following jobsite safety inspection checklist is to be used only at locations where Eco & Associates, Inc. (Eco) controls the work jobsite. It is not to be used at locations where others control the work and/or site.

Project Name/Number: B & B Superfund Eco-11-482 Report: Monthly City Well Monitoring

Location: Brown & Bryant Superfund Site Project Manager: Mitra Fiazat

Date: August 27, 2012 Inspector: Omid Rabbani

Check "Yes" For Items Complete	Yes	No	N/A
<b>HOUSEKEEPING</b>			
1. Material storage yard:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Stacked neatly and properly	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Aisle, walkways, roads clear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Check work areas for:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a. Loose and waste materials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Vicinity of ladders, stairs, ramps, and machinery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Empty bottles, containers, papers, trash, bands, brick-bats, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Trash cans, dumpsters available and emptied regularly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Trash chutes and surrounding areas clear	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Nails, boards, debris removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Trash receptacles provided for drinking cups	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>PERSONAL PROTECTIVE EQUIPMENT (PPE)</b>			
1. Hard hats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Safety shoes/boots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Eye/face protection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Safety belts/lanyards	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Ear Protection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
a. Noise level areas of 90 dBA and above identified	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Signs notifying personnel of "Hearing Protection Required" posted as required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Specialized equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Gloves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Respirators	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Chemical-resistant clothing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Handles in good shape	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Tool guards in place	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## ECO & ASSOCIATES, INC. – QUALITY CONTROL REPORT

### DAILY LOG OF CONSTRUCTION ACTIVITIES

#### 8. VISITOR'S LOG

NAME	INITIAL	COMPANY	IN	OUT	IN	OUT	IN	OUT
Joe Carlos	JC	Arvin (ACSO)	9:30	1205				

#### 9. WELL STATUS QUESTIONNAIRE.

Well No.	Operational ? (Y or N)	Reason for nonoperation	Can the well be put into operation for sampling?	If not, give reason	Well visited today?	Comments and/or Description
CW-1	Y		Y		Y	
CW-5	Y		Y		Y	
CW-6	Y		Y		Y	
CW-8	Y		Y		Y	
CW-9	Y		Y		Y	
CW-10	Y		Y		Y	

TIME	DESCRIPTION							
<b>0941</b>	Arrive at well CW-5	<u>pH</u>	<u>COND</u>	<u>TURB</u>	<u>DO</u>	<u>TEMP</u>	<u>TDS</u>	<u>ORP</u>
<b>0942</b>	Run water for 60s, measure parameters	--	mS/cm	NTU	mg/L	°C	g/L	mV
<b>0943</b>	First reading	4.07	0.453	107	9.14	23.55	0.2	253
<b>0944</b>	Second reading	4.31	0.492	101	7.82	24.07	0.2	262
<b>0945</b>	Third reading	4.72	0.426	103	7.22	24.23	0.2	224
<b>0946</b>	Sample collected at CW-5							
<b>1001</b>	Arrive at well CW-1	<u>pH</u>	<u>COND</u>	<u>TURB</u>	<u>DO</u>	<u>TEMP</u>	<u>TDS</u>	<u>ORP</u>
<b>1002</b>	Run water for 60s, measure parameters	--	mS/cm	NTU	mg/L	°C	g/L	mV
<b>1003</b>	First reading	5.32	0.403	19	16.74	24.56	0.2	196
<b>1006</b>	Second reading	6.13	0.402	15.20	11.29	24.75	0.2	152
<b>1008</b>	Third reading	6.89	0.4	23.6	7.11	25.07	0.2	118
<b>1009</b>	Sample collected at CW-1							
<b>1012</b>	Duplicate sampling							

<b>1032</b>	Arrive at well CW-10	<u>pH</u>	<u>COND</u>	<u>TURB</u>	<u>DO</u>	<u>TEMP</u>	<u>TDS</u>	<u>ORP</u>
<b>1033</b>	Run water for 60s, measure parameters	--	mS/cm	NTU	mg/L	°C	g/L	mV
<b>1034</b>	First reading	7.78	0.818	44.6	9.65	24.91	0.4	64
<b>1036</b>	Second reading	7.91	1.06	14	7.66	25.13	0.5	64
<b>1038</b>	Third reading	7.11	0.704	88.6	6.55	25.09	0.3	88
<b>1039</b>	Sample Collected at CW-10							
<b>1051</b>	Arrive at well CW-8	<u>pH</u>	<u>COND</u>	<u>TURB</u>	<u>DO</u>	<u>TEMP</u>	<u>TDS</u>	<u>ORP</u>
<b>1052</b>	Run water for 60s, measure parameters	--	mS/cm	NTU	mg/L	°C	g/L	mV
<b>1053</b>	First reading	7.81	1.01	527	13.07	26.57	0.5	81
<b>1054</b>	Second reading	7.84	1.01	470	8.70	26.69	0.5	80
<b>1055</b>	Third reading	7.97	1.01	99.6	6.78	26.76	0.5	73
<b>1056</b>	Sample collected at CW-8							
<b>1112</b>	Arrive at well CW-6	<u>pH</u>	<u>COND</u>	<u>TURB</u>	<u>DO</u>	<u>TEMP</u>	<u>TDS</u>	<u>ORP</u>
<b>1115</b>	Run water for 60s, measure parameters	--	mS/cm	NTU	mg/L	°C	g/L	mV
<b>1116</b>	First reading	6.15	0.64	61.7	10.57	26.38	0.3	178
<b>1117</b>	Second reading	7.25	0.649	70.4	6.79	26.17	0.3	116
<b>1118</b>	Third reading	7.40	0.649	70.8	6.24	26.15	0.3	107
<b>1119</b>	Sample collected at CW-6							
<b>1142</b>	Arrive at well CW-9	<u>pH</u>	<u>COND</u>	<u>TURB</u>	<u>DO</u>	<u>TEMP</u>	<u>TDS</u>	<u>ORP</u>
<b>1151</b>	Run water for 60s, measure parameters	--	mS/cm	NTU	mg/L	°C	g/L	mV
<b>1152</b>	First reading	7.42	0.250	167	16.66	26.76	0.1	87
<b>1153</b>	Second reading	7.58	0.589	20.9	13.46	25.79	0.3	59
<b>1154</b>	Third reading	7.41	0.634	5.6	8.18	25.40	0.3	-3
<b>1155</b>	Sample collected at CW-9							

(Use additional sheets as needed.)

# ATTACHMENT 2

## LABORATORY ANALYTICAL RESULTS

# ATTACHMENT 2 – LABORATORY ANALYTICAL RESULTS

*Note:* The Laboratory Analytical Results are included on CD-ROM with this report.

# ATTACHMENT 3

## DATA VALIDATION AND AUTOMATED DATA REVIEW

# ATTACHMENT 3 – DATA VALIDATION AND AUTOMATED DATA REVIEW

*Note:* The **Automated Data Review** is included on CD-ROM with this report.

Data Validation Report

Monthly  
Groundwater Monitoring Data

for  
**Brown & Bryant**

Arvin, CA  
Project No.: Eco-11-482

**SDG#: 12I219**

**LEVEL III & IV**

Prepared for:

**Eco & Associate, Inc.**  
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By  
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September 2012

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## EXECUTIVE SUMMARY

This data validation report presents the evaluation and validation of the analytical data for eight (8) ground water samples collected on 09-25-2012 as part of monthly city wells groundwater monitoring at Brown and Bryant, Arvin, California (CA). EMAX Laboratory in Torrance, California performed the chemical analysis of the samples. The United States Army Corps of Engineers and the State of California have certified EMAX Laboratory to perform the analysis described within this project. (Eco & Associates Inc., April 2011).

On 09-25-2012, eight ground water samples, which included one field duplicate sample and one trip blank sample, were collected. EMAX Laboratory received the samples on 09-25-2012. Trip blank sample accompanied the samples for volatile organic compounds analysis and was analyzed for EPA Method 8260B only. The data was delivered in one package as Level III and Level IV deliverables. 10% of the data was subjected to comprehensive evaluation equivalent to EPA Level IV data validation. Raw data for one sample from this sample group (09-25-12-CW-5) was submitted at level IV deliverable for all the requested analytical methods. Raw data for designated sample as MS/MSD (09-25-12-CW-6) together with all other QC samples were also submitted.

Level III data validation examined quality assurance/quality control (QA/QC) elements and critical quality control measures such as holding time, (both extraction and analysis), extraction logs, instrument injection logs, completeness of the results and summaries of initial and continuing calibration tables for the following EPA methods of analysis:

Volatile Organic Compounds by EPA Method 8260B

Fumigants (EDB, DBCP and 1, 2, 3-Trichloropropane) by EPA Method 8260B SIM

Dinoseb by EPA Method 8151A

The sample designated as level IV in the chain of custody (09-25-12-CW-5) went through EPA level IV data validation. The analytical results, QC results, initial calibration and related continuing calibration data were comprehensively compared with the corresponding raw data and chromatograms presented for Level IV data validation.

All samples were analyzed for each of the components listed in the corresponding EPA Methods. The evaluation indicated that all the analytical work was performed as requested on the chain of custody. The extraction and analytical holding times were met for all samples in each method and subsequent dilutions if any.

Generally, data presented with this data package was considered acceptable and met quality control acceptance limits for each requested EPA Method with very few technical variations. The deviations are discussed in section 4.0 for each method. The results of sample analysis are tabulated in Appendix A.

## 1.0 INTRODUCTION

This report presents the evaluation and validation of analytical data collected as part of monthly groundwater monitoring at Brown and Bryant Superfund Site at Arvin, CA.

### 1.1 Objectives and Scope of Data Validation

The main objective of this report is to evaluate the acceptability of the data generated for groundwater samples. The data validation was performed according to the analytical requirements of the method in the *Quality Assurance Project Plan, final Draft, Brown and Bryant, Arvin, CA*, (Project No: Eco-11-482, Eco & Associates Inc. April 2011), EM 200-1-10 Guidance for Evaluation Performance-based Chemical Data, US Army Corps of Engineers (USACE), June 2005, *USEPA Analytical Operations/Data Quality Center (AOC) National Functional Guidelines for Organic Data Review* (USEPA, August 2002) and Department of Defense Quality Systems Manual (DoD QSM) Version 4.2, 2010 .

### 1.2 Organization of the Report

Section 2.0 describes the components of the data review. Section 3.0 provides the qualitative quality assurance objectives. Section 4.0 summarizes the findings and conclusions of the data validation.

## 2.0 DATA REVIEW AND VALIDATION

Data validation is a systematic method for reviewing and qualifying the presented analytical data for their intended use. The objective of this data validation report is to identify any unacceptable or faulty measurements, as reported by the laboratory.

EMAX Laboratory in Torrance, California performed the chemical analysis of the samples. Army Corps of Engineers and the State of California have certified EMAX laboratory to perform the EPA Methods of analysis described within this report.

Eight (8) ground water samples, which included one field duplicate sample and one trip blank sample, were collected on 09-25-2012. EMAX Laboratory received the samples on 09-25-2012.

### 2.1 Data Reporting

The data was delivered in one package as Level III and Level IV deliverables. Ten percent of the data was subjected to validation to the equivalent of EPA Level IV. EMAX Laboratory provided the following information in one data package for both LEVEL III and LEVEL IV deliverable.

- Field sample identification number;
- Project name and location
- Laboratory sample identification number
- Date of sample collection;
- Sample matrix type;
- Analysis method;
- Target lists and results of analysis;
- Quantitation limits and/or Reporting Limits;
- Laboratory qualifiers and qualifier definitions;
- Copies of sample logs and chain-of-custody logs;
- Sample preparation log (with the sample extraction date)
- Sample Analysis log (Instrument injection log)

- Summary of initial calibration, initial calibration verification and continuing calibration tables;
- Quality control results with corresponding control limits.
- Case narrative for each method.
- Raw data for all the initial calibration standards, Initial calibration verification standards (ICV), continuing calibration standards (CCV), scans for positive results, internal standard area counts and retention time window width, where applicable. Raw data for one sample designated as level IV (09-25-12-CW-5) as well as sample designated as MS/MSD (09-25-12-CW-6), together with the associated QC samples were also included.

Data validation was performed in three stages: first an initial review of the analytical reports and QA/QC information was performed using summary results and summary tables only. Then, a full review of all analytical reports, QA/QC information, as well as the corresponding raw and analytical data was carried out. Finally, summary tables and corresponding raw data of initial and continuing calibration standards, the extraction log, and injection (sequence) log were fully reviewed. Overall review assessed the effects of QA/QC results on the data usability. The review included such parameters as holding times, initial and continuing calibration method requirements, equipment performance check standards (tune check and degradation standards), surrogate recoveries, method blank results, lab control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) for accuracy and precision.

Level IV review compared the reported analytical results with those obtained from the raw data. Raw data was submitted for one sample at Level IV data deliverable for all the analytical methods requested on the chain of custody. Calculations and corresponding equations, as well as analyte identification criteria were all verified.

## 2.2 Data Evaluation

The following parameters were evaluated in the preliminary data review:

- Analysis performed and sample identifications were verified to be in accordance with the information provided on the chain-of-custody (COC);

- Technical holding times were confirmed for all samples with regard to the requested method of analysis (collection to extraction and extraction to analysis);
- Reported quantitation limits were compared with the project measurement objectives;
- Equipment performance standards (tuning check standard and system performance check standards) were evaluated;
- Initial and continuing calibration standards were evaluated;
- Field and laboratory blank results were evaluated;
- LCS/LCSD and MS/MSD results were evaluated;
- Field and laboratory matrix duplicate results, trip blank results as well as surrogate recoveries, internal standard area counts and corresponding retention time window width were evaluated; and
- Chromatograms and mass spectrum results were evaluated

The following is a list of sample identifications and corresponding laboratory sample identification numbers:

CLIENT ID	EMAX ID#
09-25-12- CW-1	I219-01
09-25-12- CW-5	I219-02
09-25-12- CW-6	I219-03
09-25-12- CW-8	I219-04
09-25-12- CW-9	I219-05
09-25-12- CW-10	I219-06
09-25-12- FDUP-1	I219-07
09-25-12- TB-1	I219-08
09-25-12- CW-6 MS	I219-03 MS
09-25-12- CW-6 MSD	I219-03 MSD

Field duplicate and associated sample	
09-25-12-FDUP-1	09-25-12- CW-1

Table 2-1 below shows the specified analysis for constituents in the water samples, the corresponding Environmental Protection Agency (EPA) analytical method, the corresponding

practical quantitation limits (PQL/RL), regulatory levels, and the effluent discharge limits of specific constituents if available.

**TABLE 2-1**  
Summary of Analytical Parameters  
Brown & Bryant, Arvin, California

MATRIX	CONSTITUENT	EPA METHOD	RLs (µg/L)	REGULATORY LEVEL (µg/L)	EFFLUENT DISCHARGE LIMITS (µg/L)
Water	Volatile Organic Compounds	8260B	1	NA	NA
	Fumigants (EDB, DBCP and 1,2,3-Trichloropropane)	8260B SIM	0.05-0.05 0.005(1,2,3-TCP)	NA	NA
	Herbicides (Dinoseb)	8151A	0.40	NA	NA

Notes:

RL = Reporting Limit,

NA = Not Available

µg/L = microgram/Liter

### 2.2.1 Holding Times

Technical holding times are defined as the maximum time allowed between sample collection, extraction and analysis. A 14-day collection-to-analysis holding time was used for EPA Method 8260B and 8260B SIM. Sample containers for 8260B and 8260BSIM were preserved with Hydrochloric acid. A 7-day holding time from collection to extraction, and 40-day holding time from extraction-to-analysis was met, for EPA Method 8151A. Table 2-2 presents the summary of holding time requirements with qualifications if applied.

**TABLE 2-2**  
Summary of Analytical Methods and Holding Time Requirements  
Brown & Bryant, Arvin, California

ANALYSIS Method	MATRIX	HOLDING TIME REQUIREMENT	DATA QUALIFIED AS "J"	DATA QUALIFIED AS "R"
EPA Method 8260B	Water	14 days to analysis; (7 days if <b>not</b> acid preserved)	None. Holding times were met	None. Holding times were met
EPA Method 8260B SIM	Water	14 days to analysis	None. Holding times were met	None. Holding times were met
EPA Method 8151A	Water	7 days to extraction, 40 days to analysis	None. Holding times were met	None. Holding times were met

### **2.2.2 Laboratory and Field Blanks**

The objective of laboratory and field blanks is to determine the presence and extent of contamination resulting from laboratory or field activities. Blanks reported here included method and/or extraction blanks and trip blank. The result of analysis of method blank is discussed in section 4.0 for each method. All samples were transported in three ice preserved coolers and were stored in a refrigerator upon arrival to the laboratory. The temperatures of the coolers were recorded as 4.0°C to 5.0°C for each upon arrival. All samples were received intact and in good condition. The trip blank sample was associated with the samples for volatile organic compounds analysis by EPA method 8260B.

### **3.0 QUALITY ASSURANCE OBJECTIVES**

Quality assurance (QA) objectives define analytical parameters that validate the conclusions drawn from the results. Quality assurance was assessed through the following means: precision, accuracy, representativeness, completeness, and comparability (PARCC).

#### **3.1 Qualitative QA Objectives**

Qualitative aspects of QA for analytical data are characterized by completeness and representativeness.

##### **3.1.1 Comparability**

Comparability defines the level of confidence with which one data set can be compared with another. Comparability is related to accuracy and precision. It is also a measure of the data's reliability. All units for comparability are in accordance with standard procedures so that the results could be compared with other laboratories if necessary.

##### **3.1.2 Representativeness**

Representativeness is a quantity, which presents whether the results of analysis accurately portray the actual site conditions. Representativeness is a qualitative parameter, which signifies the extent of accuracy and precision, to which the data represent a characteristic population, parameter variations at a sampling point, process condition, or environmental conditions. The sampling procedures described within the approved QAPP (Eco & Associates, Inc., final version, April 2011) are designed to provide samples representative of the site conditions.

#### **3.2 Quantitative QA Objectives**

Quantitative QA Objectives for analytical data are defined as precision, accuracy, completeness, and method quantitation limits. These quantitative parameters are established in order to monitor the overall quality of analytical data produced by the laboratory. The laboratory performing the analytical methods specified in Table 2-1, and the case narratives, which is included in the data package from the laboratory, ensures the quality of the analytical data.

### 3.2.1 Precision

Precision is a measure of the closeness with which multiple analyses of a given sample agree with each other. It describes the agreement between two or more measurements that have been made in exactly the same way. Precision is measured through matrix spike/matrix spike duplicate samples, surrogate standards, and laboratory control samples. The relative percent difference (RPD) is calculated as a means of quantifying precision. The following equation is used for this purpose:

$$\text{RPD} = \frac{R_1 - R_2}{(R_1 + R_2)/2} \times 100$$

Where:

RPD = Relative percent difference

R<sub>1</sub> = Result of the first duplicate or measured sample concentration

R<sub>2</sub> = Result of the second duplicate or known sample or duplicate concentration

When analytes are present at concentrations below or near the quantitation limit, precision is measured, using MS/MSD, and/or LCS/LCSD results.

Precision results are discussed in Section 4.0 of this report.

### 3.2.2 Accuracy

Accuracy indicates the closeness of the measurement to its true or accepted value. Accuracy measures agreement between a result and its true value. Method-specific QA objectives for precision and accuracy were based on the quality control limits developed by the laboratory for the analytical methods, specified in Table 2-1. These procedures may affect the accuracy of the data presented. Additionally, initial and continuing calibrations were used to verify that the analytical instrument accurately measured the compound concentrations. Calculations were independently verified for the response factors and percent differences (%Ds).

### 3.2.3 Completeness

Completeness is defined as the percentage of total measurements, which are judged to be valid. The completeness objective is to obtain a sufficient amount of valid data to enable the goals and objectives of the project to be achieved.

Completeness is quantified by computing the fraction of reports, which remained valid after the sampling procedures were reviewed and the results conformed to QA/QC protocols. The following equation was used to calculate completeness:

$$\text{Completeness} = \frac{\text{Number of valid field samples analyzed}}{\text{Number of requested field samples collected}} \times 100$$

Completeness is affected by anything that reduces the number of samples analyzed (such as a sample bottle breaking), as well as acceptance or non-acceptance of analytical results.

#### 4.0 DATA VALIDATION

This data review covers eight (8) water samples listed on page 8 including dilutions and reanalysis if applicable. The analyses were according to the following EPA Methods:

EPA Method **8260B** for volatile organic compounds

EPA Method **8260B SIM** for fumigants (EDB, DBCP and 1, 2, 3-Trichloropropane)

EPA Method **8151A** for Chlorinated Herbicides (Dinoseb only)

This review follows USEPA Analytical Operations/Data Quality Center (*AOC National Functional Guidelines for Organic Data Review* (USEPA, August 2002); and EM 200-1-10 Guidance for Evaluating Performance-based Chemical Data, US Army Corps of Engineers (USACE), June 2005. The following subsections correlate to the above guidelines.

A summary table summarizing all data and qualification, if any is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

**The following are definitions of the data qualifiers:**

- U Indicates the compound was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None indicates the finding did not significantly impact the data; therefore qualification was not required.

#### **4.1. VOC (EPA Method 5030B/8260B)**

##### **Technical Holding Times**

A 14-day technical holding time requirement was met for all ground water samples. A total of eight (8) water samples were collected on 09-25-12. Samples were all analyzed on 10-01-12. Samples and QC samples were analyzed with reference to one analytical batch (preparation batch: VO06J01).

The chain-of-custody was reviewed for documentation of sample information and method of analysis.

Table 1 in appendix A summarizes the list of samples with the results and qualification notations.

##### **Tuning criteria**

Performance of the instrument was checked by injection of a single component tune check standard (BFB: Bromofluorobenzene) prior to initial calibration analysis on 08-15-12 and at the start of analytical batch, before sample analysis on 10-01-12. All the mass ratios were within method assigned criteria.

##### **Initial Calibration**

Ground water samples were analyzed with reference to one set of initial calibration. Initial calibration curve was generated on 08-15-12 using instrument ID # T-O06 for analysis. A multilevel calibration curve ranging from 0.3 $\mu$ g/L to 100 $\mu$ g/L was used for this purpose. Internal standard curve type was used for initial calibration. Minimum response factor for system performance check compounds (SPCCs) were within the method acceptable limits. Response factors at each level were randomly recalculated and all agreed with the response factors submitted in the initial calibration summary table.

Minimum average response factors for the system performance check compounds (SPCCs) for each instrument were recognized according to the following tables:

**Table 4.1.1: System Performance Check Compounds (Initial calibration)**

<b>System Performance check compounds (SPCCs)</b>	<b>Min. Ave. Response Factor (Method limits)</b>	<b>Ave. Res. Factor 08-15-12 (Calculated) Instrument ID#: T-O06</b>
Chloromethane	≥ 0.10	0.310
1,1-Dichloroethane	≥ 0.10	0.637
Bromoform	≥ 0.10	0.348
Chlorobenzene	≥ 0.30	0.939
1,1,2,2-Tetrachloroethane	≥ 0.30	0.625

Average response factor curve fit was mainly used to show linearity within initial calibration levels for each compound. Maximum 15% RSD limit was met for most of the target compounds.

Least square linear regression curve fit was used for the following compounds where %RSD exceeded the maximum 15 percent limit.

<b>Target Analytes</b>	<b>Least Square Linear Regression (CCF) 08-15-12 Instrument ID#: T-O06</b>
Methylene chloride	0.9963
Tetrahydrofuran	0.9958
Bromoform	0.9971

Calibration check compounds (CCCs) met the acceptance criteria for %RSD among the response factors calculated for each level. The method acceptance limits and the calculated %RSD among the response factors for initial calibration are listed in table 4.1.2.

**Table 4.1.2 Calibration Check Compounds (CCCs): Initial Calibration**

<b>Calibration Check Compounds (CCCs)</b>	<b>Response Factors %RSD (Limit)</b>	<b>Response Factors %RSD 08-15-12 Instrument ID#: T-O06</b>
1,1-Dichloroethene	≤ 30%	4.54
Chloroform	≤ 30%	6.39
1,2-Dichloropropane	≤ 30%	4.61
Toluene	≤ 30%	6.76
Ethyl benzene	≤ 30%	9.90
Vinyl chloride	≤ 30%	13.2

### Initial Calibration Verification and Continuing Calibration (Daily Calibration)

The initial calibration was verified by a second source standard at the end of calibration and before sample analysis on 08-16-12. Percent differences (%D) between initial calibration average response factors (RRFs) and the initial calibration verification response factors (RFs) were less than or equal to 20% for all target compounds.

One continuing calibration check standard was analyzed at the beginning of analytical shift on 10-01-12. Prior to analysis of continuing calibration standard, **instrument performance check standard** (BFB tune check) was carried out. It passed all the method tuning criteria.

The minimum average response factors for the system performance check compounds (SPCCs) calculated for continuing calibration standards were within the method limits. Average response factors are listed in the following table for system performance check compounds.

**Table 4.1.3: System Performance Check Compounds: ICV and CCV (Daily calibration)**

System Performance Check compounds (SPCCs)	Minimum response factor (Method limits)	Second source Std. (ICV) Response factors (Calculated) 08-16-12	Continuing cal. Response factors (Calculated) CCRF 10-01-12
Chloromethane	≥ 0.10	0.325	0.357
1,1-Dichloroethane	≥ 0.10	0.608	0.626
Chlorobenzene	≥ 0.10	0.936	1.00
Bromoform	≥ 0.30	0.393	0.378
1,1,2,2-Tetrachloroethane	≥ 0.30	0.672	0.626

Calculated percent differences (%drift) between initial calibration RRFs (average response factors) and the continuing calibration response factors (CCRF) for each analyte were less than or equal to 20% for all the Calibration Check Compounds (CCCs). The area counts for all internal standards were within ± 50-150 percent of the same level in the initial calibration. The calculated % difference between RFs from continuing calibration and average response factors from initial calibration is summarized in Table 4.1.4 for continuing calibration compounds as follows:

**Table 4.1.4 Calibration Check Compounds (CCCs): ICV and Daily Calibration**

Calibration Check Compounds (CCCs)	%Deviation From Initial calibration (Acceptance Limit)	Deviation from Initial calibration 2 <sup>nd</sup> source (ICV) (08-16-12)	Deviation from Initial calibration Daily calibration (10-01-12)
Vinyl chloride	≤ 20%	3.0%	13.7%
1,1-Dichloroethene	≤ 20%	1.3%	1.9%
Chloroform	≤ 20%	2.8%	3.1%
1,2-Dichloropropane	≤ 20%	0.3%	0.30%
Toluene	≤ 20%	1.3%	1.3%
Ethyl benzene	≤ 20%	0.60%	3.2%

Deviation from the initial calibration was less than 20 percent for the rest of VOC target list. However, Tetrahydrofuran exceeded 20% difference limit (D=23.4%)

**Quality Control:** The QC samples reported consisted of one method blank, one set of LCS/LCSD and MS/MSD. Client's designated sample (09-25-12-CW-6) was spiked for precision as MS/MSD. The full list of target compounds were spiked and reported for LCS/LCSD and MS/MSD. Percent recoveries and percent RPDs for all the QC samples reported were within the project acceptance limits for all of the reported compounds. However, percent recovery for one compound exceeded the upper level of control limits in MS as follows:

Target compound	09-25-12-CW-6 MS %Recovery	09-25-12-CW-6 MS %Recovery	Acceptante limits%
Chloromethane	126*	124	75-125

\* Failed the QC limits

The results, percent recoveries and RPDs were recalculated randomly and all agreed with the reported QC summary table.

**Method blank:** One method blank was presented with the data package (batch# VO06J01) analyzed on 10-01-12. Method blank was reported as non-detected for all the analytes in the target list.

**Field duplicate sample** and its associated sample: Sample 09-25-12-FDUP-1 was identified as field duplicate of sample 09-25-12-CW-1. Both sample and associated field duplicate sample were reported as non-detected for all volatile organic compounds.

**Surrogate** recoveries were all within the method's acceptance limits. The reported results for each sample are incorporated in table 1 in appendix A.

Raw data for one sample (09-25-12-CW-5) was submitted for level IV data validation. Raw data for all associated QC samples were also included as Level IV data deliverable. The results calculated from the raw data, agreed with all the results reported in data summary reports. The sample results together with the surrogate recoveries are tabulated in table 1 appendix A. Tetrachloroethene was detected in samples 09-25-12-CW-6 (0.25 µg/L) and 09-25-12-CW-9 (3.5 µg/L). A trace of 1,2-Dichloropropane was detected in sample 09-25-12-CW-9 (0.34µg/L). A trace of Benzene (0.26µg/L) was reported for sample 09-25-12-CW-8.

#### **4.2. EPA Method 5030B/8260B SIM (FUMIGANTS)**

##### **Technical Holding Times**

A 14-day technical holding time requirement was met for all the samples. A total of seven (7) ground water samples were collected on 09-25-12. All samples and QC samples were analyzed with one analytical batch on 10-05-12. Samples, QC samples and sample dilutions were analyzed with reference to one preparation batch (VOF4J01).

The chain-of-custody was reviewed for documentation of sample information and method of analysis. Samples were analyzed for three fumigants; 1, 2-Dibromomethane (EDB), 1,2,3-Trichloropropane (TCP), and 1,2-Dibromo-3-chloropropane (DBCP). A Mass selective detector at Selected Ion Monitoring mode (SIM) was used to achieve low detection limits required for the target compounds.

Table 2 in appendix A summarizes the list of samples with the results and qualification notations.

### **Tuning criteria**

Performance of the instrument was checked by injection of a single component tune check standard (BFB: Bromofluorobenzene) prior to generation of initial calibration curve on 03-12-12, and at the start of analytical batch, before sample analysis on 10-05-12. All the instrument mass ratios were within the assigned criteria.

### **Initial Calibration**

Ground water samples were analyzed with reference to one set of initial calibration using purge and trap together with GC/MSD at selected ion monitoring mode (SIM). Initial calibration curve was generated on 03-12-12, using instrument ID # T-OF4 for analysis. A multilevel calibration curve ranging from 5.0ng/L (ppt) to 1000ng/L (ppt) was used for this purpose. (1,2 Dibromo-3-chloropropane was calibrated from 10ng/L to 1000ng/L). Instrument performance check standard (BFB) was analyzed prior to initial calibration. It passed all the tuning criteria.

Modified version of SW-846 8260B (SIM) was used for generation of calibration curve and data. Internal standard curve type was used for initial calibration. Minimum response factors for all the target compounds were within the method acceptable limits. Average response factor curve fit was used to show linearity. Percent relative standard deviation (%RSD) among response factors was less than 15% for all target analytes.

Response factors at each level were randomly recalculated and all agreed with the response factors submitted in the initial calibration summary table.

### **Initial Calibration Verification and Continuing Calibration (Daily calibration)**

Initial calibration was verified by a second source standard at the end of calibration on 03-12-12. Quality control criteria regarding minimum response factors were within method's acceptance limits. Percent differences (%D) between initial calibration average response factors (RRFs) and the initial calibration verification response factors (RFs) were less than or equal to 20% for all target compounds.

One continuing calibration check standard was analyzed at the beginning of analytical shift on 10-05-12. Prior to analysis of continuing calibration standard, instrument performance

check standard (BFB tune check) was analyzed and evaluated. It passed all the method tuning criteria.

Calculated % difference (%D) between response factors from continuing calibration (CCRF) and average response factors from initial calibration is summarized in Table 4.2.1 for the targets of interest in this method as follows:

**Table 4.2.1: Percent difference from initial calibration: (Daily calibration)**

<b>Target Compounds</b>	<b>% Deviation From Initial Calibration Method Criteria</b>	<b>% Deviation From Initial Calibration 2<sup>nd</sup> Source St. (Calculated) (03-12-12)</b>	<b>% Deviation From Initial Calibration Daily St. (Calculated) (10-05-12)</b>
1,2-Dibromomethane (EDB)	≤ 20%	10.8	9.2
1,2,3-Trichloropropane(TCP)	≤ 20%	9.2	18.5
1,2-Dibromo-3-chloropropene (DBCP)	≤ 20%	5.6	12.5

Calculated percent differences (%drift) between initial calibration RRFs (average response factors) and the continuing calibration response factors (CCRF) were less than or equal to 20% for all target analytes. The area counts for all internal standards were within ± 50-150 percent of the same level in the initial calibration.

**Quality Control:** The QC samples reported consisted of one method blank, one set of LCS/LCSD and MS/MSD. Client's designated sample (09-25-12-CW-6) was spiked for precision as MS/MSD. All three target compounds were spiked and reported for LCS/LCSD and MS/MSD. Percent recoveries and percent RPDs for all the QC samples reported were within the project acceptance limits for all reported compounds.

The results, percent recoveries and RPDs were recalculated randomly and all agreed with the reported QC summary table.

**Method blank:** One method blank was presented with the data package (QC batch # VOF4J01 analyzed on 10-05-12). Method blank was reported as non-detected for all analytes in the target list.

**Surrogate** recoveries were all within the method's acceptance limits. The reported results for each sample are incorporated in table 2 in appendix A.

**Field duplicate sample** and its associated sample: Sample 09-25-12-FDUP-1 was identified as field duplicate of sample 09-25-12-CW-1. Results of positive response for each sample and its corresponding duplicate are shown in the following table:

	09-25-12 FDUP-1 µg/L	09-25-12 CW-1 µg/L	%RPD
1,2-Dibromomethane (EDB)	ND	ND	<1%
1,2,3-Trichloropropane (TCP)	<b>0.036</b>	<b>0.035</b>	<b>2.82%</b>
1,2-Dibromo- 3-chloropropane (DBCP)	ND	ND	<1%

Raw data for one sample designated as level IV (09-25-12-CW-5) was submitted for level IV data validation. Raw data for all associated QC samples were also included as Level IV data deliverable. Samples and QC samples went through comprehensive level IV data validation. The results calculated from the raw data, agreed with all the results reported in data summary reports. The sample results together with the surrogate recoveries are tabulated in table 2 Appendix A.

### 4.3 DINOSEB BY GC/ECD (EPA Method 8151A)

#### Technical Holding Times

A 7-day technical holding time from sample collection to extraction and 40-day from extraction to analysis was met for all samples. A total of seven ground water samples were collected on 09-25-12. Samples were extracted with one preparation batch on 10-01-12 (preparation batch # HEJ001W). Sample extracts were analyzed on 10-02-12.

EPA Method 8151A uses GC equipped with two Electron Capture Detectors (ECDs) and two non-similar columns. Columns are connected to the same injection port through a guard column for analysis. Results and raw data generated from both columns were submitted. Dinoseb (a Chlorinated Herbicide), was determined by this method.

### **Initial Calibration**

Samples were analyzed with reference to one initial calibration generated on 09-26-12. Seven calibration levels (20-200 µg/L) were used in initial calibration. Channel A and B were both calibrated. External standard curve type was used for calibration. Calibration factor (area for each compound versus concentration) was used for calculation. Average response factor was used to show linearity for each channel. Percent relative standard deviation (%RSD) among calibration factors (CFs) for both channel A and B were less than 20%. Retention time window width was (0.02 to 0.04 minutes) established by using initial calibration standards at each level. All further sample and QC analysis identification were based on the assigned time windows set by initial calibration for each peak. The instrument was calibrated for the full list of Herbicides, both for initial calibration and continuing (daily calibrations), yet, the result of analysis was reported for Dinoseb only.

### **Initial Calibration Verification (ICV) and Continuing (Daily) Calibration**

Initial calibration was verified by a second source standard at the end of calibration and prior to sample analysis on 09-26-12. Percent difference between mean calibration factors from initial calibration and calibration factors calculated from the second source were less than 20% for both Dinoseb and 2, 4-DCPAA (used as surrogate). Data was presented for both channel A and B.

Three continuing calibration standards with 10-sample injection interval were analyzed with samples and all the QC samples. Analysis was carried out on 10-02-12. Percent difference between initial calibration average response factors and the response factors calculated for each analyte (Dinoseb and 2, 4-DCPAA) from continuing calibrations were less than 20% for primary column in all standards. However, %difference exceeded the 20% acceptance limit for Dinoseb

in the third continuing calibration standard for (column A). Results for surrogate recoveries and QC samples were reported from both channel A and B.

**Quality Control** samples consisted of one method blank, one set of LCS/LCSD and MS/MSD for preparation batch #HEJ001W. Client designated sample 09-25-12-CW-6 was spiked for accuracy and precision. Full herbicide list was spiked for LCS/LCSD and MS/MSD, but only Dinoseb and MCPP (as surrogate) were reported for precision and accuracy. Percent recoveries (%R) were within the project established QC limits for LCS/LCSD and MS/MSD. Calculated %RPD was less than 30% acceptance limit.

**Method blank** was reviewed for each component and no herbicide was found in the method blank for the extraction batch #HEJ001W.

**Surrogate** recoveries were all within the method's acceptable limits. The calculated result for each sample is incorporated in table 3 in Appendix A.

**Field duplicate sample** and its associated sample: Sample 09-25-12-FDUP-1 was identified as field duplicate of sample 09-25-12-CW-1. Both sample and corresponding field duplicate sample were reported as non-detected.

Raw data for one sample (09-25-12-CW-5) with related QC samples were submitted at level IV deliverable. This sample and QC samples were validated at EPA level IV data validation criteria. Raw data responses were used in recalculation and all verified the reported values.

## 5.0 Conclusion

Overall, the data presented for this sample group is generally regarded as acceptable for all the EPA methods listed in the chain of custody. The data can reliably be used for the purpose of this project.

## 6.0 References

1. *USEPA Analytical Operations/Data Quality Center (AOC) National Functional Guidelines for Organic Data Review* (USEPA, August 2002).
2. *Quality Assurance Project Plan, final Draft, Brown & Bryant, CA*, (Project No. Eco-11-482, Eco & Associates Inc., April 2011)
3. U.S. Environmental Protection Agency, Dec. 1996, *SW846 Laboratory Manual Physical/Chemical Methods*. Revision 3, Washington, D.C. 20460.
4. EM 200-1-10 Guidance for Evaluation Performance-based Chemical Data, US Army Corps of Engineers (USACE), June 2005.
5. Department of Defense Quality System Manual (DOD QSM), Version 4.2, 2010
6. EPA Methods for Chemical Analysis of Water and Wastes. EPA -600-4-79-020. Revised; March 1983.

## 7.0 APPENDIX A

Table 1-Volatile Organic Compounds component List: EPA Method 8260B

ANALYTE	RLs	09-25-12- CW-1	09-25-12- CW-5	09-25-12- CW-6	09-25-12- CW-8	09-25-12- CW-9
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Acetone	10	U	U	U	U	U
<b>Benzene</b>	1.0	U	U	U	<b>0.26J</b>	U
Bromobenzene	1.0	U	U	U	U	U
Bromochloromethane	1.0	U	U	U	U	U
Bromodichloromethane	1.0	U	U	U	U	U
Bromoform	1.0	U	U	U	U	U
Bromomethane	1.0	U	U	U	U	U
2-Butanone	10	U	U	U	U	U
n-Butylbenzene	1.0	U	U	U	U	U
sec-Butylbenzene	1.0	U	U	U	U	U
tert-Butylbenzene	1.0	U	U	U	U	U
Carbon Disulfide	1.0	U	U	U	U	U
Carbon Tetrachloride	1.0	U	U	U	U	U
Chlorobenzene	1.0	U	U	U	U	U
Chloroethane	1.0	U	U	U	U	U
2-Chloroethyl vinylether	1.0	U	U	U	U	U
Chloroform	1.0	U	U	U	U	U
Chloromethane	1.0	U	U	U	U	U
2-Chlorotoluene	1.0	U	U	U	U	U
4-Chlorotoluene	1.0	U	U	U	U	U
1,2Dibromo3Chloropropane	1.0	U	U	U	U	U
Dibromochloromethane	1.0	U	U	U	U	U
1,2-Dibromoethane(EDB)	1.0	U	U	U	U	U
Dibromomethane	1.0	U	U	U	U	U
1,2-Dichlorobenzene	1.0	U	U	U	U	U
1,3-Dichlorobenzene	1.0	U	U	U	U	U
1,4-Dichlorobenzene	1.0	U	U	U	U	U
Dichlorodifluoromethane	1.0	U	U	U	U	U
1,1-Dichloroethane	1.0	U	U	U	U	U
1,2-Dichloroethane	1.0	U	U	U	U	U
1,1-Dichloroethene	1.0	U	U	U	U	U
Cis-1,2-Dichloroethene	1.0	U	U	U	U	U
trans-1,2-Dichloroethene	1.0	U	U	U	U	U
<b>1,2-Dichloropropane</b>	1.0	U	U	U	U	<b>0.34J</b>
1,3-Dichloropropane	1.0	U	U	U	U	U
2,2-Dichloropropane	1.0	U	U	U	U	U
1,1-Dichloropropene	1.0	U	U	U	U	U
cis-1,3-Dichloropropene	1.0	U	U	U	U	U
trans-1,3-Dichloropropene	1.0	U	U	U	U	U
Ethylbenzene	1.0	U	U	U	U	U
Hexachlorobutadiene	1.0	U	U	U	U	U
2-Hexanone	10	U	U	U	U	U
Isopropylbenzene	1.0	U	U	U	U	U
p-Isopropyltoluene	1.0	U	U	U	U	U
MTBE	1.0	U	U	U	U	U

ANALYTE	RLs µg/L	09-25-12- CW-1	09-25-12- CW-5	09-25-12- CW-6	09-25-12- CW-8	09-25-12- CW-9
		µg/L	µg/L	µg/L	µg/L	µg/L
4-Methyl-2-Pentanone	10.0	U	U	U	U	U
Methylene chloride	1.0	U	U	U	U	U
Naphthalene	1.0	U	U	U	U	U
n- Propylbenzene	1.0	U	U	U	U	U
Styrene	1.0	U	U	U	U	U
1,1,1,2-Tetrachloroethane	1.0	U	U	U	U	U
1,1,2,2-Tetrachloroethane	1.0	U	U	U	U	U
<b>Tetrachloroethene</b>	1.0	U	U	<b>0.25J</b>	U	<b>3.5</b>
Toluene	1.0	U	U	U	U	U
1,2,3-Trichlorobenzene	1.0	U	U	U	U	U
1,2,4-Trichlorobenzene	1.0	U	U	U	U	U
1,1,1-Trichloroethane	1.0	U	U	U	U	U
1,1,2-Trichloroethane	1.0	U	U	U	U	U
Trichloroethene	1.0	U	U	U	U	U
Trichlorofluoromethane	1.0	U	U	U	U	U
1,2,3-Trichloropropane	1.0	U	U	U	U	U
1,2,4-Trimethylbenzene	1.0	U	U	U	U	U
1,3,5-Trimethylbenzene	1.0	U	U	U	U	U
Vinyl Chloride	1.0	U	U	U	U	U
o-Xylene	1.0	U	U	U	U	U
m- & p-Xylenes	1.0	U	U	U	U	U
<b>Surrogate (Limits)</b>	<b>(Limits)</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>
1,2Dichloroeth-d4	70-120	94.6	95.7	102	96.8	96.6
4-Bromofluorbenze	75-120	86.9	89.7	86.0	86.8	87.2
Toluene-d8	85-120	104	108	104	105	109
Dibromofluoromethane	85-115	104	109	110	107	106

Table 1-Volatile Organic Compounds component List: EPA Method 8260B

ANALYTE	RLs	09-25-12- CW-10	09-25-12- FDUP-1	09-25-12- TB-1		
	µg/L	µg/L	µg/L µg/L	µg/L		
Acetone	10	U	U	U		
Benzene	1.0	U	U	U		
Bromobenzene	1.0	U	U	U		
Bromochloromethane	1.0	U	U	U		
Bromodichloromethane	1.0	U	U	U		
Bromoform	1.0	U	U	U		
Bromomethane	1.0	U	U	U		
2-Butanone	10	U	U	U		
n-Butylbenzene	1.0	U	U	U		
sec-Butylbenzene	1.0	U	U	U		
tert-Butylbenzene	1.0	U	U	U		
Carbon Disulfide	1.0	U	U	U		
Carbon Tetrachloride	1.0	U	U	U		
Chlorobenzene	1.0	U	U	U		
Chloroethane	1.0	U	U	U		
2-ChloroethylVinylether	1.0	U	U	U		
Chloroform	1.0	U	U	U		
Chloromethane	1.0	U	U	U		
2-Chlorotoluene	1.0	U	U	U		
4-Chlorotoluene	1.0	U	U	U		
1,2Dibromo3Chloropropane	1.0	U	U	U		
Dibromochloromethane	1.0	U	U	U		
1,2-Dibromoethane(EDB)	1.0	U	U	U		
Dibromomethane	1.0	U	U	U		
1,2-Dichlorobenzene	1.0	U	U	U		
1,3-Dichlorobenzene	1.0	U	U	U		
1,4-Dichlorobenzene	1.0	U	U	U		
Dichlorodifluoromethan	1.0	U	U	U		
1,1-Dichloroethane	1.0	U	U	U		
1,2-Dichloroethane	1.0	U	U	U		
1,1-Dichloroethene	1.0	U	U	U		
Cis-1,2-Dichloroethene	1.0	U	U	U		
trans-1,2-Dichloroethene	1.0	U	U	U		
<b>1,2-Dichloropropane</b>	1.0	U	U	U		
1,3-Dichloropropane	1.0	U	U	U		
2,2-Dichloropropane	1.0	U	U	U		
1,1-Dichloropropene	1.0	U	U	U		
cis-1,3-Dichloropropene	1.0	U	U	U		
trans-1,3-Dichloropropene	1.0	U	U	U		
Ethylbenzene	1.0	U	U	U		
Hexachlorobutadiene	1.0	U	U	U		
2-Hexanone	10	U	U	U		

ANALYTE	RLs µg/L	09-25-12- CW-10	09-25-12- FDUP-1	09-25-12- TB-1		
		µg/L	µg/L µg/L	µg/L		
Isopropylbenzene	1.0	U	U	U		
p-Isopropyltoluene	1.0	U	U	U		
MTBE	1.0	U	U	U		
4-Methyl-2-Pentanone	10.0	U	U	U		
<b>Methylene chloride</b>	1.0	U	U	U		
Naphthalene	1.0	U	U	U		
n- Propylbenzene	1.0	U	U	U		
Styrene	1.0	U	U	U		
1,1,1,2-Tetrachloroethane	1.0	U	U	U		
1,1,2,2-Tetrachloroethane	1.0	U	U	U		
<b>Tetrachloroethene</b>	1.0	U	U	U		
Toluene	1.0	U	U	U		
1,2,3-Trichlorobenzene	1.0	U	U	U		
1,2,4-Trichlorobenzene	1.0	U	U	U		
1,1,1-Trichloroethane	1.0	U	U	U		
1,1,2-Trichloroethane	1.0	U	U	U		
Trichloroethene	1.0	U	U	U		
Trichlorofluoromethane	1.0	U	U	U		
1,2,3-Trichloropropane	1.0	U	U	U		
1,2,4-Trimethylbenzene	1.0	U	U	U		
1,3,5-Trimethylbenzene	1.0	U	U	U		
Vinyl Chloride	1.0	U	U	U		
o-Xylene	1.0	U	U	U		
<b>m- &amp; p-Xylenes</b>	1.0	U	U	U		
<b>Surrogate (Limits)</b>		% <b>Recovery</b>	% <b>Recovery</b>	% <b>Recovery</b>		
1,2Dichloroeth-d4	70-120	98.5	96.2	101		
4-Bromofluorbenze	75-120	87.2	89.5	90.0		
Toluene-d8	85-120	104	108	109		
Dibromofluoromethane	85-115	108	108	110		

**Table 2-Fumigants (EDB, DBCP & 1, 2, 3-Trichloropropane): EPA Method 8260B (SIM)**

<b>ANALYTE</b>	<b>RLs µg/L</b>	09-25-12- CW-1 µg/L	09-25-12- CW-5 µg/L	09-25-12- CW-6 µg/L	09-25-12- CW-8 µg/L	09-25-12- CW-9 µg/L	09-25-12- CW-10 µg/L	09-25-12- FDUP-1 µg/L
EDB	0.05	ND	ND	ND	ND	ND	ND	ND
DBCP	0.05	ND	ND	ND	ND	ND	ND	ND
<b>1,2,3-Trichloropropane</b>	<b>0.005</b>	<b>0.035</b>	<b>0.078</b>	<b>0.031</b>	<b>0.0044</b>	<b>0.30</b>	ND	<b>0.036</b>
<b>Surrogate parameters</b>	<b>Limits</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>
Toluene d8	80-120	87.1	89.2	99.5	102	93.4	89.9	92.2

**Table 3-Herbicides (Dinoseb): EPA Method 8151A**

<b>ANALYTE</b>	<b>RLs µg/L</b>	09-25-12- CW-1 µg/L	09-25-12- CW-5 µg/L	09-25-12- CW-6 µg/L	09-25-12- CW-8 µg/L	09-25-12- CW-9 µg/L	09-25-12- CW-10 µg/L	09-25-12- FDUP-1 µg/L
Dinoseb	0.05	ND	ND	ND	ND	ND	ND	ND
<b>Surrogate parameters</b>	<b>Limits</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>	<b>% Recovery</b>
MCPP (Surrogate)	80-120	102	91.9	92.7	90.7	97.5	103	92.2

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# Automatic Data Validation Report

## **Monthly Ground water Monitoring**

@  
Brown & Bryant, Arvin, California

**Project #: Eco-11-482**

**SDG # 12I219**

September, 2012

By

Ziba Hosseini

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**ADR LIBRARY**

**Ground water Monitoring**

@

**Brown & Bryant, Arvin, California**

**EPA Methods: 8260B; 8260B (SIM), 8151A  
300.0 and 415.1**

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# Library Validation Criteria: Holding Times

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Sampling To Extraction	Extraction To Analysis	Sampling To Analysis	Units	Rejection Point	Rejection Point Criteria
300.0			28	Days	2	GT
415.1			28	Days	2	GT
8151	7	40		Days	2	GT
8260B			14	Days	2	GT
8260B SIM			14	Days	2	GT

---

**Legend****Rejection Point Criteria**

LT : Less Than

GT : Greater Than

LE : Less Than or Equal

GE : Greater Than or Equal

# Library Validation Criteria: Holding Times

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Sampling To Extraction	Extraction To Analysis	Sampling To Analysis	Units	Rejection Point	Rejection Point Criteria
300.0			28	Days	2	GT
415.1			28	Days	2	GT
8151	14	40		Days	2	GT
8260B			14	Days	2	GT
8260B SIM			14	Days	2	GT

---

## Legend

### Rejection Point Criteria

LT : Less Than

GT : Greater Than

LE : Less Than or Equal

GE : Greater Than or Equal

## Library Validation Criteria: Method Blanks

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	5X or 10X Rule
300.0	17778-88-0	Nitrate-N	5
	14808-79-8	SULFATE	5
415.1	E-10195	TOC	5
8151	88-85-7	DINOSEB	5
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	5
	71-55-6	1,1,1-TRICHLOROETHANE	5
	79-34-5	1,1,2,2-TETRACHLOROETHANE	5
	79-00-5	1,1,2-TRICHLOROETHANE	5
	75-34-3	1,1-DICHLOROETHANE	5
	75-35-4	1,1-DICHLOROETHENE	5
	563-58-6	1,1-DICHLOROPROPENE	5
	87-61-6	1,2,3-TRICHLOROBENZENE	5
	96-18-4	1,2,3-TRICHLOROPROPANE	5
	120-82-1	1,2,4-TRICHLOROBENZENE	5
	95-63-6	1,2,4-TRIMETHYLBENZENE	5
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5
	106-93-4	1,2-DIBROMOETHANE	5
	95-50-1	1,2-DICHLOROBENZENE	5
	107-06-2	1,2-DICHLOROETHANE	5
	78-87-5	1,2-DICHLOROPROPANE	5
	108-67-8	1,3,5-TRIMETHYLBENZENE	5
	541-73-1	1,3-DICHLOROBENZENE	5
	142-28-9	1,3-DICHLOROPROPANE	5
	106-46-7	1,4-DICHLOROBENZENE	5
	594-20-7	2,2-DICHLOROPROPANE	5
	78-93-3	2-BUTANONE	5
	95-49-8	2-CHLOROTOLUENE	5
	591-78-6	2-HEXANONE	5
	106-43-4	4-CHLOROTOLUENE	5
	67-64-1	ACETONE	5
	71-43-2	BENZENE	5
	108-86-1	BROMOBENZENE	5
	74-97-5	BROMOCHLOROMETHANE	5
	75-27-4	BROMODICHLOROMETHANE	5
75-25-2	BROMOFORM	5	
74-83-9	BROMOMETHANE	5	
75-15-0	CARBON DISULFIDE	5	
56-23-5	CARBON TETRACHLORIDE	5	
108-90-7	CHLOROBENZENE	5	
75-00-3	CHLOROETHANE	5	
67-66-3	CHLOROFORM	5	
74-87-3	CHLOROMETHANE	5	
156-59-2	CIS-1,2-DICHLOROETHENE	5	

## Library Validation Criteria: Method Blanks

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	5X or 10X Rule	
8260B	10061-01-5	CIS-1,3-DICHLOROPROPENE	5	
	124-48-1	DIBROMOCHLOROMETHANE	5	
	74-95-3	DIBROMOMETHANE	5	
	75-71-8	DICHLORODIFLUOROMETHANE	5	
	100-41-4	ETHYLBENZENE	5	
	76-13-1	FREON113	5	
	87-68-3	HEXACHLOROBUTADIENE	5	
	98-82-8	Isopropyl benzene	5	
	136777-61-2	M,P-XYLENES	5	
	75-09-2	METHYLENE CHLORIDE	5	
	108-10-1	MIBK	5	
	1634-04-4	MTBE	5	
	91-20-3	NAPHTHALENE	5	
	104-51-8	N-BUTYLBENZENE	5	
	103-65-1	N-PROPYLBENZENE	5	
	95-47-6	O-XYLENE	5	
	99-87-6	P-ISOPROPYLTOLUENE	5	
	135-98-8	SEC-BUTYLBENZENE	5	
	100-42-5	STYRENE	5	
	98-06-6	TERT-BUTYLBENZENE	5	
	127-18-4	TETRACHLOROETHENE	5	
	108-88-3	TOLUENE	5	
	156-60-5	TRANS-1,2-DICHLOROETHENE	5	
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	
	79-01-6	TRICHLOROETHENE	5	
	75-69-4	TRICHLOROFLUOROMETHANE	5	
	108-05-4	VINYL ACETATE	5	
	75-01-4	VINYL CHLORIDE	5	
	8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	5
		96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5
106-93-4		1,2-DIBROMOETHANE	5	

## Library Validation Criteria: Method Blanks

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	5X or 10X Rule
300.0	17778-88-0	Nitrate-N	5
	14808-79-8	SULFATE	5
415.1	E-10195	TOC	5
8151	88-85-7	DINOSEB	5
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	5
	71-55-6	1,1,1-TRICHLOROETHANE	5
	79-34-5	1,1,2,2-TETRACHLOROETHANE	5
	79-00-5	1,1,2-TRICHLOROETHANE	5
	75-34-3	1,1-DICHLOROETHANE	5
	75-35-4	1,1-DICHLOROETHENE	5
	563-58-6	1,1-DICHLOROPROPENE	5
	87-61-6	1,2,3-TRICHLOROBENZENE	5
	96-18-4	1,2,3-TRICHLOROPROPANE	5
	120-82-1	1,2,4-TRICHLOROBENZENE	5
	95-63-6	1,2,4-TRIMETHYLBENZENE	5
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5
	106-93-4	1,2-DIBROMOETHANE	5
	95-50-1	1,2-DICHLOROBENZENE	5
	107-06-2	1,2-DICHLOROETHANE	5
	78-87-5	1,2-DICHLOROPROPANE	5
	108-67-8	1,3,5-TRIMETHYLBENZENE	5
	541-73-1	1,3-DICHLOROBENZENE	5
	142-28-9	1,3-DICHLOROPROPANE	5
	106-46-7	1,4-DICHLOROBENZENE	5
	594-20-7	2,2-DICHLOROPROPANE	5
	78-93-3	2-BUTANONE	5
	95-49-8	2-CHLOROTOLUENE	5
	591-78-6	2-HEXANONE	5
	106-43-4	4-CHLOROTOLUENE	5
	67-64-1	ACETONE	5
	71-43-2	BENZENE	5
	108-86-1	BROMOBENZENE	5
	74-97-5	BROMOCHLOROMETHANE	5
	75-27-4	BROMODICHLOROMETHANE	5
	75-25-2	BROMOFORM	5
	74-83-9	BROMOMETHANE	5
75-15-0	CARBON DISULFIDE	5	
56-23-5	CARBON TETRACHLORIDE	5	
108-90-7	CHLOROBENZENE	5	
75-00-3	CHLOROETHANE	5	
67-66-3	CHLOROFORM	5	
74-87-3	CHLOROMETHANE	5	
156-59-2	CIS-1,2-DICHLOROETHENE	5	

## Library Validation Criteria: Method Blanks

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	5X or 10X Rule	
8260B	10061-01-5	CIS-1,3-DICHLOROPROPENE	5	
	124-48-1	DIBROMOCHLOROMETHANE	5	
	74-95-3	DIBROMOMETHANE	5	
	75-71-8	DICHLORODIFLUOROMETHANE	5	
	100-41-4	ETHYLBENZENE	5	
	76-13-1	FREON113	5	
	87-68-3	HEXACHLOROBUTADIENE	5	
	98-82-8	Isopropyl benzene	5	
	136777-61-2	M,P-XYLENES	5	
	75-09-2	METHYLENE CHLORIDE	5	
	108-10-1	MIBK	5	
	1634-04-4	MTBE	5	
	91-20-3	NAPHTHALENE	5	
	104-51-8	N-BUTYLBENZENE	5	
	103-65-1	N-PROPYLBENZENE	5	
	95-47-6	O-XYLENE	5	
	99-87-6	P-ISOPROPYLTOLUENE	5	
	135-98-8	SEC-BUTYLBENZENE	5	
	100-42-5	STYRENE	5	
	98-06-6	TERT-BUTYLBENZENE	5	
	127-18-4	TETRACHLOROETHENE	5	
	108-88-3	TOLUENE	5	
	156-60-5	TRANS-1,2-DICHLOROETHENE	5	
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	
	79-01-6	TRICHLOROETHENE	5	
	75-69-4	TRICHLOROFLUOROMETHANE	5	
	108-05-4	VINYL ACETATE	5	
	75-01-4	VINYL CHLORIDE	5	
	8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	5
		96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5
		106-93-4	1,2-DIBROMOETHANE	5

## Library Acceptance Criteria: Surrogates

**Library Group ID :** ECO\_BrownandBryant\_110819

**Sample Matrix :** AQ

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery	
					Lower Limit	Upper Limit
8151	19719-28-9	2,4-DCPAA	10	LT	40	140
8260B	17060-07-0	1,2-DICHLOROETHANE-D4	10	LT	70	120
	460-00-4	4-Bromofluorobenzene	10	LT	75	120
	1868-53-7	DIBROMOFLUOROMETHANE	10	LT	85	115
	2037-26-5	TOLUENE-D8	10	LT	85	120
8260B SIM	2037-26-5	TOLUENE-D8	10	LT	80	120

**Legend**

*Rejection Point Criteria*

*LT : Less Than*

*GT : Greater Than*

*LE : Less Than or Equal*

*GE : Greater Than or Equal*

## Library Acceptance Criteria: Surrogates

Library Group ID : ECO\_BrownandBryant\_110819

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery	
					Lower Limit	Upper Limit
8151	19719-28-9	2,4-DCPAA	10	LT	10	150
8260B	17060-07-0	1,2-DICHLOROETHANE-D4	10	LT	60	160
	460-00-4	4-Bromofluorobenzene	10	LT	70	150
	1868-53-7	DIBROMOFLUOROMETHANE	10	LT	70	130
	2037-26-5	TOLUENE-D8	10	LT	70	140
8260B SIM	2037-26-5	TOLUENE-D8	10	LT	50	150

### Legend

#### Rejection Point Criteria

LT : Less Than

GT : Greater Than

LE : Less Than or Equal

GE : Greater Than or Equal

# Library Validation Criteria: Laboratory and Field Duplicate Criteria

**Library:** ECO\_BrownandBryant\_11

All Methods

**Matrix:** AQ

Analytical Method	Client Analyte ID	Analyte Name	Lab Duplicate RPD	Field Duplicate RPD
300.0	17778-88-0	Nitrate-N	20	
	14808-79-8	SULFATE	20	
415.1	E-10195	TOC	20	
8151	88-85-7	DINOSEB		
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE		
	71-55-6	1,1,1-TRICHLOROETHANE		
	79-34-5	1,1,2,2-TETRACHLOROETHANE		
	79-00-5	1,1,2-TRICHLOROETHANE		
	75-34-3	1,1-DICHLOROETHANE		
	75-35-4	1,1-DICHLOROETHENE		
	563-58-6	1,1-DICHLOROPROPENE		
	87-61-6	1,2,3-TRICHLOROBENZENE		
	96-18-4	1,2,3-TRICHLOROPROPANE		
	120-82-1	1,2,4-TRICHLOROBENZENE		
	95-63-6	1,2,4-TRIMETHYLBENZENE		
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE		
	106-93-4	1,2-DIBROMOETHANE		
	95-50-1	1,2-DICHLOROBENZENE		
	107-06-2	1,2-DICHLOROETHANE		
	78-87-5	1,2-DICHLOROPROPANE		
	108-67-8	1,3,5-TRIMETHYLBENZENE		
	541-73-1	1,3-DICHLOROBENZENE		
	142-28-9	1,3-DICHLOROPROPANE		
	106-46-7	1,4-DICHLOROBENZENE		
	594-20-7	2,2-DICHLOROPROPANE		
	78-93-3	2-BUTANONE		
	95-49-8	2-CHLOROTOLUENE		
	591-78-6	2-HEXANONE		
	106-43-4	4-CHLOROTOLUENE		
	67-64-1	ACETONE		
	71-43-2	BENZENE		
	108-86-1	BROMOBENZENE		
	74-97-5	BROMOCHLOROMETHANE		
	75-27-4	BROMODICHLOROMETHANE		
	75-25-2	BROMOFORM		
	74-83-9	BROMOMETHANE		
	75-15-0	CARBON DISULFIDE		
	56-23-5	CARBON TETRACHLORIDE		
	108-90-7	CHLOROBENZENE		
	75-00-3	CHLOROETHANE		
	67-66-3	CHLOROFORM		
	74-87-3	CHLOROMETHANE		
	156-59-2	CIS-1,2-DICHLOROETHENE		
	10061-01-5	CIS-1,3-DICHLOROPROPENE		
	124-48-1	DIBROMOCHLOROMETHANE		
	74-95-3	DIBROMOMETHANE		
	75-71-8	DICHLORODIFLUOROMETHANE		
100-41-4	ETHYLBENZENE			
76-13-1	FREON113			

# Library Validation Criteria: Laboratory and Field Duplicate Criteria

**Library:** ECO\_BrownandBryant\_11

All Methods

**Matrix:** AQ

Analytical Method	Client Analyte ID	Analyte Name	Lab Duplicate RPD	Field Duplicate RPD
8260B	87-68-3	HEXACHLOROBUTADIENE		
	98-82-8	Isopropyl benzene		
	136777-61-2	M,P-XYLENES		
	75-09-2	METHYLENE CHLORIDE		
	108-10-1	MIBK		
	1634-04-4	MTBE		
	91-20-3	NAPHTHALENE		
	104-51-8	N-BUTYLBENZENE		
	103-65-1	N-PROPYLBENZENE		
	95-47-6	O-XYLENE		
	99-87-6	P-ISOPROPYLTOLUENE		
	135-98-8	SEC-BUTYLBENZENE		
	100-42-5	STYRENE		
	98-06-6	TERT-BUTYLBENZENE		
	127-18-4	TETRACHLOROETHENE		
	108-88-3	TOLUENE		
	156-60-5	TRANS-1,2-DICHLOROETHENE		
	10061-02-6	TRANS-1,3-DICHLOROPROPENE		
	79-01-6	TRICHLOROETHENE		
	75-69-4	TRICHLOROFLUOROMETHANE		
	108-05-4	VINYL ACETATE		
	75-01-4	VINYL CHLORIDE		
	8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	
96-12-8		1,2-DIBROMO-3-CHLOROPROPANE		
106-93-4		1,2-DIBROMOETHANE		

## Library Validation Criteria: Laboratory and Field Duplicate Criteria

**Library:** ECO\_BrownandBryant\_11

All Methods

**Matrix:** SO

Analytical Method	Client Analyte ID	Analyte Name	Lab Duplicate RPD	Field Duplicate RPD
300.0	17778-88-0	Nitrate-N	20	
	14808-79-8	SULFATE	20	
415.1	E-10195	TOC	20	
8151	88-85-7	DINOSEB		
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE		
	71-55-6	1,1,1-TRICHLOROETHANE		
	79-34-5	1,1,2,2-TETRACHLOROETHANE		
	79-00-5	1,1,2-TRICHLOROETHANE		
	75-34-3	1,1-DICHLOROETHANE		
	75-35-4	1,1-DICHLOROETHENE		
	563-58-6	1,1-DICHLOROPROPENE		
	87-61-6	1,2,3-TRICHLOROBENZENE		
	96-18-4	1,2,3-TRICHLOROPROPANE		
	120-82-1	1,2,4-TRICHLOROBENZENE		
	95-63-6	1,2,4-TRIMETHYLBENZENE		
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE		
	106-93-4	1,2-DIBROMOETHANE		
	95-50-1	1,2-DICHLOROBENZENE		
	107-06-2	1,2-DICHLOROETHANE		
	78-87-5	1,2-DICHLOROPROPANE		
	108-67-8	1,3,5-TRIMETHYLBENZENE		
	541-73-1	1,3-DICHLOROBENZENE		
	142-28-9	1,3-DICHLOROPROPANE		
	106-46-7	1,4-DICHLOROBENZENE		
	594-20-7	2,2-DICHLOROPROPANE		
	78-93-3	2-BUTANONE		
	95-49-8	2-CHLOROTOLUENE		
	591-78-6	2-HEXANONE		
	106-43-4	4-CHLOROTOLUENE		
	67-64-1	ACETONE		
	71-43-2	BENZENE		
	108-86-1	BROMOBENZENE		
	74-97-5	BROMOCHLOROMETHANE		
	75-27-4	BROMODICHLOROMETHANE		
	75-25-2	BROMOFORM		
	74-83-9	BROMOMETHANE		
	75-15-0	CARBON DISULFIDE		
	56-23-5	CARBON TETRACHLORIDE		
	108-90-7	CHLOROBENZENE		
	75-00-3	CHLOROETHANE		
	67-66-3	CHLOROFORM		
	74-87-3	CHLOROMETHANE		
	156-59-2	CIS-1,2-DICHLOROETHENE		
	10061-01-5	CIS-1,3-DICHLOROPROPENE		
	124-48-1	DIBROMOCHLOROMETHANE		
	74-95-3	DIBROMOMETHANE		
	75-71-8	DICHLORODIFLUOROMETHANE		
100-41-4	ETHYLBENZENE			
76-13-1	FREON113			

# Library Validation Criteria: Laboratory and Field Duplicate Criteria

**Library:** ECO\_BrownandBryant\_11

All Methods

**Matrix:** SO

Analytical Method	Client Analyte ID	Analyte Name	Lab Duplicate RPD	Field Duplicate RPD
8260B	87-68-3	HEXACHLOROBUTADIENE		
	98-82-8	Isopropyl benzene		
	136777-61-2	M,P-XYLENES		
	75-09-2	METHYLENE CHLORIDE		
	108-10-1	MIBK		
	1634-04-4	MTBE		
	91-20-3	NAPHTHALENE		
	104-51-8	N-BUTYLBENZENE		
	103-65-1	N-PROPYLBENZENE		
	95-47-6	O-XYLENE		
	99-87-6	P-ISOPROPYLTOLUENE		
	135-98-8	SEC-BUTYLBENZENE		
	100-42-5	STYRENE		
	98-06-6	TERT-BUTYLBENZENE		
	127-18-4	TETRACHLOROETHENE		
	108-88-3	TOLUENE		
	156-60-5	TRANS-1,2-DICHLOROETHENE		
	10061-02-6	TRANS-1,3-DICHLOROPROPENE		
	79-01-6	TRICHLOROETHENE		
	75-69-4	TRICHLOROFLUOROMETHANE		
108-05-4	VINYL ACETATE			
75-01-4	VINYL CHLORIDE			
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE		
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE		
	106-93-4	1,2-DIBROMOETHANE		

# Library Validation Criteria: Laboratory Control Samples / Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
300.0	17778-88-0	Nitrate-N	50	LT	90	110	20
	14808-79-8	SULFATE	50	LT	90	110	20
415.1	E-10195	TOC	50	LT	80	120	20
8151	88-85-7	DINOSEB	10	LT	20	100	30
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	10	LT	80	130	30
	71-55-6	1,1,1-TRICHLOROETHANE	10	LT	65	130	30
	79-34-5	1,1,2,2-TETRACHLOROETHANE	10	LT	65	130	30
	79-00-5	1,1,2-TRICHLOROETHANE	10	LT	75	125	30
	75-34-3	1,1-DICHLOROETHANE	10	LT	70	135	30
	75-35-4	1,1-DICHLOROETHENE	10	LT	70	130	30
	563-58-6	1,1-DICHLOROPROPENE	10	LT	75	130	30
	87-61-6	1,2,3-TRICHLOROBENZENE	10	LT	55	140	30
	96-18-4	1,2,3-TRICHLOROPROPANE	10	LT	75	125	30
	120-82-1	1,2,4-TRICHLOROBENZENE	10	LT	65	135	30
	95-63-6	1,2,4-TRIMETHYLBENZENE	10	LT	75	130	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	LT	50	130	30
	106-93-4	1,2-DIBROMOETHANE	10	LT	80	120	30
	95-50-1	1,2-DICHLOROBENZENE	10	LT	70	120	30
	107-06-2	1,2-DICHLOROETHANE	10	LT	70	130	30
	78-87-5	1,2-DICHLOROPROPANE	10	LT	75	125	30
	108-67-8	1,3,5-TRIMETHYLBENZENE	10	LT	75	130	30
	541-73-1	1,3-DICHLOROBENZENE	10	LT	75	125	30
	142-28-9	1,3-DICHLOROPROPANE	10	LT	75	125	30
	106-46-7	1,4-DICHLOROBENZENE	10	LT	75	125	30
	594-20-7	2,2-DICHLOROPROPANE	10	LT	70	135	30
	78-93-3	2-BUTANONE	10	LT	30	150	30
	95-49-8	2-CHLOROTOLUENE	10	LT	75	125	30
	591-78-6	2-HEXANONE	10	LT	55	130	30
	106-43-4	4-CHLOROTOLUENE	10	LT	75	130	30
	67-64-1	ACETONE	10	LT	40	140	30
	71-43-2	BENZENE	10	LT	80	120	30
	108-86-1	BROMOBENZENE	10	LT	75	125	30
	74-97-5	BROMOCHLOROMETHANE	10	LT	65	130	30
	75-27-4	BROMODICHLOROMETHANE	10	LT	75	120	30
75-25-2	BROMOFORM	10	LT	70	130	30	
74-83-9	BROMOMETHANE	10	LT	30	145	30	
75-15-0	CARBON DISULFIDE	10	LT	35	160	30	
56-23-5	CARBON TETRACHLORIDE	10	LT	65	140	30	
108-90-7	CHLOROBENZENE	10	LT	80	120	30	
75-00-3	CHLOROETHANE	10	LT	60	135	30	
67-66-3	CHLOROFORM	10	LT	65	135	30	
74-87-3	CHLOROMETHANE	10	LT	40	125	30	

<b>Legend</b>	Rejection Point Criteria	
	LT : Less Than	GT : Greater Than
	LE : Less Than or Equal	GE : Greater Than or Equal

# Library Validation Criteria: Laboratory Control Samples / Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
8260B	156-59-2	CIS-1,2-DICHLOROETHENE	10	LT	70	125	30
	10061-01-5	CIS-1,3-DICHLOROPROPENE	10	LT	70	130	30
	124-48-1	DIBROMOCHLOROMETHANE	10	LT	60	135	30
	74-95-3	DIBROMOMETHANE	10	LT	75	125	30
	75-71-8	DICHLORODIFLUOROMETHANE	10	LT	30	155	30
	100-41-4	ETHYLBENZENE	10	LT	75	125	30
	76-13-1	FREON113	10	LT	65	135	30
	87-68-3	HEXACHLOROBUTADIENE	10	LT	50	140	30
	98-82-8	Isopropyl benzene	10	LT	75	125	30
	136777-61-2	M,P-XYLENES	10	LT	75	130	30
	75-09-2	METHYLENE CHLORIDE	10	LT	55	140	30
	108-10-1	MIBK	10	LT	60	135	30
	1634-04-4	MTBE	10	LT	65	125	30
	91-20-3	NAPHTHALENE	10	LT	55	140	30
	104-51-8	N-BUTYLBENZENE	10	LT	70	135	30
	103-65-1	N-PROPYLBENZENE	10	LT	70	130	30
	95-47-6	O-XYLENE	10	LT	80	120	30
	99-87-6	P-ISOPROPYLTOLUENE	10	LT	75	130	30
	135-98-8	SEC-BUTYLBENZENE	10	LT	70	125	30
	100-42-5	STYRENE	10	LT	65	135	30
	98-06-6	TERT-BUTYLBENZENE	10	LT	70	130	30
	127-18-4	TETRACHLOROETHENE	10	LT	45	150	30
	108-88-3	TOLUENE	10	LT	75	120	30
	156-60-5	TRANS-1,2-DICHLOROETHENE	10	LT	60	140	30
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	LT	55	140	30
	79-01-6	TRICHLOROETHENE	10	LT	70	125	30
	75-69-4	TRICHLOROFUOROMETHANE	10	LT	60	145	30
	108-05-4	VINYL ACETATE	10	LT	65	135	30
	75-01-4	VINYL CHLORIDE	10	LT	50	145	30
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	10	LT	75	125	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	LT	50	130	30
	106-93-4	1,2-DIBROMOETHANE	10	LT	80	120	30

**Legend**

Rejection Point Criteria	
LT : Less Than	GT : Greater Than
LE : Less Than or Equal	GE : Greater Than or Equal

# Library Validation Criteria: Laboratory Control Samples / Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
300.0	17778-88-0	Nitrate-N	50	LT	90	110	20
	14808-79-8	SULFATE	50	LT	90	110	20
415.1	E-10195	TOC	50	LT	80	120	20
8151	88-85-7	DINOSEB	10	LT	10	130	50
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	10	LT	75	125	30
	71-55-6	1,1,1-TRICHLOROETHANE	10	LT	70	135	30
	79-34-5	1,1,2,2-TETRACHLOROETHANE	10	LT	55	130	30
	79-00-5	1,1,2-TRICHLOROETHANE	10	LT	60	125	30
	75-34-3	1,1-DICHLOROETHANE	10	LT	75	125	30
	75-35-4	1,1-DICHLOROETHENE	10	LT	65	135	30
	563-58-6	1,1-DICHLOROPROPENE	10	LT	70	135	30
	87-61-6	1,2,3-TRICHLOROBENZENE	10	LT	60	135	30
	96-18-4	1,2,3-TRICHLOROPROPANE	10	LT	65	130	50
	120-82-1	1,2,4-TRICHLOROBENZENE	10	LT	65	130	30
	95-63-6	1,2,4-TRIMETHYLBENZENE	10	LT	65	135	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	LT	40	135	30
	106-93-4	1,2-DIBROMOETHANE	10	LT	70	125	30
	95-50-1	1,2-DICHLOROBENZENE	10	LT	75	120	30
	107-06-2	1,2-DICHLOROETHANE	10	LT	70	135	30
	78-87-5	1,2-DICHLOROPROPANE	10	LT	70	120	30
	108-67-8	1,3,5-TRIMETHYLBENZENE	10	LT	65	135	30
	541-73-1	1,3-DICHLOROBENZENE	10	LT	70	125	30
	142-28-9	1,3-DICHLOROPROPANE	10	LT	75	125	30
	106-46-7	1,4-DICHLOROBENZENE	10	LT	70	125	30
	594-20-7	2,2-DICHLOROPROPANE	10	LT	65	135	30
	78-93-3	2-BUTANONE	10	LT	30	160	30
	95-49-8	2-CHLOROTOLUENE	10	LT	70	130	30
	591-78-6	2-HEXANONE	10	LT	45	145	30
	106-43-4	4-CHLOROTOLUENE	10	LT	75	125	30
	67-64-1	ACETONE	10	LT	20	160	30
	71-43-2	BENZENE	10	LT	75	125	30
	108-86-1	BROMOBENZENE	10	LT	65	120	30
	74-97-5	BROMOCHLOROMETHANE	10	LT	70	125	30
	75-27-4	BROMODICHLOROMETHANE	10	LT	70	130	30
	75-25-2	BROMOFORM	10	LT	55	135	30
	74-83-9	BROMOMETHANE	10	LT	30	160	30
	75-15-0	CARBON DISULFIDE	10	LT	45	160	30
56-23-5	CARBON TETRACHLORIDE	10	LT	65	135	30	
108-90-7	CHLOROBENZENE	10	LT	75	125	30	
75-00-3	CHLOROETHANE	10	LT	40	155	30	
67-66-3	CHLOROFORM	10	LT	70	125	50	
74-87-3	CHLOROMETHANE	10	LT	50	130	50	

<b>Legend</b>	Rejection Point Criteria	
	LT : Less Than	GT : Greater Than
	LE : Less Than or Equal	GE : Greater Than or Equal

# Library Validation Criteria: Laboratory Control Samples / Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
8260B	156-59-2	CIS-1,2-DICHLOROETHENE	10	LT	65	125	30
	10061-01-5	CIS-1,3-DICHLOROPROPENE	10	LT	70	125	30
	124-48-1	DIBROMOCHLOROMETHANE	10	LT	65	130	30
	74-95-3	DIBROMOMETHANE	10	LT	75	130	30
	75-71-8	DICHLORODIFLUOROMETHANE	10	LT	35	135	30
	100-41-4	ETHYLBENZENE	10	LT	75	125	30
	76-13-1	FREON113	10	LT	50	140	50
	87-68-3	HEXACHLOROBUTADIENE	10	LT	55	140	30
	98-82-8	Isopropyl benzene	10	LT	75	130	30
	136777-61-2	M,P-XYLENES	10	LT	80	125	30
	75-09-2	METHYLENE CHLORIDE	10	LT	55	140	30
	108-10-1	MIBK	10	LT	45	145	30
	1634-04-4	MTBE	10	LT	60	150	50
	91-20-3	NAPHTHALENE	10	LT	40	125	30
	104-51-8	N-BUTYLBENZENE	10	LT	65	140	30
	103-65-1	N-PROPYLBENZENE	10	LT	65	135	30
	95-47-6	O-XYLENE	10	LT	75	125	30
	99-87-6	P-ISOPROPYLTOLUENE	10	LT	75	135	30
	135-98-8	SEC-BUTYLBENZENE	10	LT	65	130	30
	100-42-5	STYRENE	10	LT	75	125	30
	98-06-6	TERT-BUTYLBENZENE	10	LT	65	130	30
	127-18-4	TETRACHLOROETHENE	10	LT	65	140	30
	108-88-3	TOLUENE	10	LT	70	125	30
	156-60-5	TRANS-1,2-DICHLOROETHENE	10	LT	65	135	30
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	LT	65	125	30
	79-01-6	TRICHLOROETHENE	10	LT	75	125	30
	75-69-4	TRICHLOROFUOROMETHANE	10	LT	25	185	30
	108-05-4	VINYL ACETATE	10	LT	20	160	50
	75-01-4	VINYL CHLORIDE	10	LT	60	125	30
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	10	LT	50	150	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	LT	50	150	30
	106-93-4	1,2-DIBROMOETHANE	10	LT	50	150	30

**Legend**

Rejection Point Criteria	
LT : Less Than	GT : Greater Than
LE : Less Than or Equal	GE : Greater Than or Equal

# Library Validation Criteria: Matrix Spike /Matrix Spike Duplicates

**Library Group ID :** ECO\_BrownandBryant\_110819

All Methods

**Sample Matrix :** AQ

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
300.0	17778-88-0	Nitrate-N	30	LT	80	120	20
	14808-79-8	SULFATE	30	LT	80	120	20
415.1	E-10195	TOC	30	LT	75	125	20
8151	88-85-7	DINOSEB	0	LT	20	100	30
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	0	LT	80	130	30
	71-55-6	1,1,1-TRICHLOROETHANE	0	LT	65	130	30
	79-34-5	1,1,2,2-TETRACHLOROETHANE	0	LT	65	130	30
	79-00-5	1,1,2-TRICHLOROETHANE	0	LT	75	125	30
	75-34-3	1,1-DICHLOROETHANE	0	LT	70	135	30
	75-35-4	1,1-DICHLOROETHENE	0	LT	70	130	30
	563-58-6	1,1-DICHLOROPROPENE	0	LT	75	130	30
	87-61-6	1,2,3-TRICHLOROBENZENE	0	LT	55	140	30
	96-18-4	1,2,3-TRICHLOROPROPANE	0	LT	75	125	30
	120-82-1	1,2,4-TRICHLOROBENZENE	0	LT	65	135	30
	95-63-6	1,2,4-TRIMETHYLBENZENE	0	LT	75	130	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0	LT	50	130	30
	106-93-4	1,2-DIBROMOETHANE	0	LT	80	120	30
	95-50-1	1,2-DICHLOROBENZENE	0	LT	70	120	30
	107-06-2	1,2-DICHLOROETHANE	0	LT	70	130	30
	78-87-5	1,2-DICHLOROPROPANE	0	LT	75	125	30
	108-67-8	1,3,5-TRIMETHYLBENZENE	0	LT	75	130	30
	541-73-1	1,3-DICHLOROBENZENE	0	LT	75	125	30
	142-28-9	1,3-DICHLOROPROPANE	0	LT	75	125	30
	106-46-7	1,4-DICHLOROBENZENE	0	LT	75	125	30
	594-20-7	2,2-DICHLOROPROPANE	0	LT	70	135	30
	78-93-3	2-BUTANONE	0	LT	30	150	30
	95-49-8	2-CHLOROTOLUENE	0	LT	75	125	30
	591-78-6	2-HEXANONE	0	LT	55	130	30
	106-43-4	4-CHLOROTOLUENE	0	LT	75	130	30
	67-64-1	ACETONE	0	LT	40	140	30
	71-43-2	BENZENE	0	LT	80	120	30
	108-86-1	BROMOBENZENE	0	LT	75	125	30
	74-97-5	BROMOCHLOROMETHANE	0	LT	65	130	30
	75-27-4	BROMODICHLOROMETHANE	0	LT	75	120	30
	75-25-2	BROMOFORM	0	LT	70	130	30
	74-83-9	BROMOMETHANE	0	LT	30	145	30
	75-15-0	CARBON DISULFIDE	0	LT	35	160	30
	56-23-5	CARBON TETRACHLORIDE	0	LT	65	140	30
	108-90-7	CHLOROBENZENE	0	LT	80	120	30
	75-00-3	CHLOROETHANE	0	LT	60	135	30

**Legend**

*Rejection Point Criteria*

*LT : Less Than*

*LE : Less Than or Equal*

*GT : Greater Than*

*GE : Greater Than or Equal*

# Library Validation Criteria: Matrix Spike /Matrix Spike Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
8260B	67-66-3	CHLOROFORM	0	LT	65	135	30
	74-87-3	CHLOROMETHANE	0	LT	40	125	30
	156-59-2	CIS-1,2-DICHLOROETHENE	0	LT	70	125	30
	10061-01-5	CIS-1,3-DICHLOROPROPENE	0	LT	70	130	30
	124-48-1	DIBROMOCHLOROMETHANE	0	LT	60	135	30
	74-95-3	DIBROMOMETHANE	0	LT	75	125	30
	75-71-8	DICHLORODIFLUOROMETHANE	0	LT	30	155	30
	100-41-4	ETHYLBENZENE	0	LT	75	125	30
	76-13-1	FREON113	0	LT	65	135	30
	87-68-3	HEXACHLOROBUTADIENE	0	LT	50	140	30
	98-82-8	Isopropyl benzene	0	LT	75	125	30
	136777-61-2	M,P-XYLENES	0	LT	75	130	30
	75-09-2	METHYLENE CHLORIDE	0	LT	55	140	30
	108-10-1	MIBK	0	LT	60	135	30
	1634-04-4	MTBE	0	LT	65	125	30
	91-20-3	NAPHTHALENE	0	LT	55	140	30
	104-51-8	N-BUTYLBENZENE	0	LT	70	135	30
	103-65-1	N-PROPYLBENZENE	0	LT	70	130	30
	95-47-6	O-XYLENE	0	LT	80	120	30
	99-87-6	P-ISOPROPYLTOLUENE	0	LT	75	130	30
	135-98-8	SEC-BUTYLBENZENE	0	LT	70	125	30
	100-42-5	STYRENE	0	LT	65	135	30
	98-06-6	TERT-BUTYLBENZENE	0	LT	70	130	30
	127-18-4	TETRACHLOROETHENE	0	LT	45	150	30
	108-88-3	TOLUENE	0	LT	75	120	30
	156-60-5	TRANS-1,2-DICHLOROETHENE	0	LT	60	140	30
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	0	LT	55	140	30
	79-01-6	TRICHLOROETHENE	0	LT	70	125	30
	75-69-4	TRICHLOROFLUOROMETHANE	0	LT	60	145	30
	108-05-4	VINYL ACETATE	0	LT	65	135	30
	75-01-4	VINYL CHLORIDE	0	LT	50	145	30
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	0	LT	75	125	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0	LT	50	130	30
	106-93-4	1,2-DIBROMOETHANE	0	LT	80	120	30

**Legend**

Rejection Point Criteria

LT : Less Than

LE : Less Than or Equal

GT : Greater Than

GE : Greater Than or Equal

# Library Validation Criteria: Matrix Spike /Matrix Spike Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
300.0	17778-88-0	Nitrate-N	30	LT	80	120	20
	14808-79-8	SULFATE	30	LT	80	120	20
415.1	E-10195	TOC	30	LT	75	125	20
8151	88-85-7	DINOSEB	0	LT	10	130	50
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	0	LT	75	125	30
	71-55-6	1,1,1-TRICHLOROETHANE	0	LT	70	135	30
	79-34-5	1,1,2,2-TETRACHLOROETHANE	0	LT	55	130	30
	79-00-5	1,1,2-TRICHLOROETHANE	0	LT	60	125	30
	75-34-3	1,1-DICHLOROETHANE	0	LT	75	125	30
	75-35-4	1,1-DICHLOROETHENE	0	LT	65	135	30
	563-58-6	1,1-DICHLOROPROPENE	0	LT	70	135	30
	87-61-6	1,2,3-TRICHLOROBENZENE	0	LT	60	135	30
	96-18-4	1,2,3-TRICHLOROPROPANE	0	LT	65	130	50
	120-82-1	1,2,4-TRICHLOROBENZENE	0	LT	65	130	30
	95-63-6	1,2,4-TRIMETHYLBENZENE	0	LT	65	135	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0	LT	40	135	30
	106-93-4	1,2-DIBROMOETHANE	0	LT	70	125	30
	95-50-1	1,2-DICHLOROBENZENE	0	LT	75	120	30
	107-06-2	1,2-DICHLOROETHANE	0	LT	70	135	30
	78-87-5	1,2-DICHLOROPROPANE	0	LT	70	120	30
	108-67-8	1,3,5-TRIMETHYLBENZENE	0	LT	65	135	30
	541-73-1	1,3-DICHLOROBENZENE	0	LT	70	125	30
	142-28-9	1,3-DICHLOROPROPANE	0	LT	75	125	30
	106-46-7	1,4-DICHLOROBENZENE	0	LT	70	125	30
	594-20-7	2,2-DICHLOROPROPANE	0	LT	65	135	30
	78-93-3	2-BUTANONE	0	LT	30	160	30
	95-49-8	2-CHLOROTOLUENE	0	LT	70	130	30
	591-78-6	2-HEXANONE	0	LT	45	145	30
	106-43-4	4-CHLOROTOLUENE	0	LT	75	125	30
	67-64-1	ACETONE	0	LT	20	160	30
	71-43-2	BENZENE	0	LT	75	125	30
	108-86-1	BROMOBENZENE	0	LT	65	120	30
	74-97-5	BROMOCHLOROMETHANE	0	LT	70	125	30
	75-27-4	BROMODICHLOROMETHANE	0	LT	70	130	30
	75-25-2	BROMOFORM	0	LT	55	135	30
	74-83-9	BROMOMETHANE	0	LT	30	160	30
	75-15-0	CARBON DISULFIDE	0	LT	45	160	30
	56-23-5	CARBON TETRACHLORIDE	0	LT	65	135	30
	108-90-7	CHLOROBENZENE	0	LT	75	125	30
	75-00-3	CHLOROETHANE	0	LT	40	155	30

**Legend**

Rejection Point Criteria

LT : Less Than

LE : Less Than or Equal

GT : Greater Than

GE : Greater Than or Equal

# Library Validation Criteria: Matrix Spike /Matrix Spike Duplicates

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Rejection Point	Rejection Point Criteria	Percent Recovery		RPD
					Lower Limit	Upper Limit	
8260B	67-66-3	CHLOROFORM	0	LT	70	125	50
	74-87-3	CHLOROMETHANE	0	LT	50	130	50
	156-59-2	CIS-1,2-DICHLOROETHENE	0	LT	65	125	30
	10061-01-5	CIS-1,3-DICHLOROPROPENE	0	LT	70	125	30
	124-48-1	DIBROMOCHLOROMETHANE	0	LT	65	130	30
	74-95-3	DIBROMOMETHANE	0	LT	75	130	30
	75-71-8	DICHLORODIFLUOROMETHANE	0	LT	35	135	30
	100-41-4	ETHYLBENZENE	0	LT	75	125	30
	76-13-1	FREON113	0	LT	50	140	50
	87-68-3	HEXACHLOROBUTADIENE	0	LT	55	140	30
	98-82-8	Isopropyl benzene	0	LT	75	130	30
	136777-61-2	M,P-XYLENES	0	LT	80	125	30
	75-09-2	METHYLENE CHLORIDE	0	LT	55	140	30
	108-10-1	MIBK	0	LT	45	145	30
	1634-04-4	MTBE	0	LT	60	150	50
	91-20-3	NAPHTHALENE	0	LT	40	125	30
	104-51-8	N-BUTYLBENZENE	0	LT	65	140	30
	103-65-1	N-PROPYLBENZENE	0	LT	65	135	30
	95-47-6	O-XYLENE	0	LT	75	125	30
	99-87-6	P-ISOPROPYLTOLUENE	0	LT	75	135	30
	135-98-8	SEC-BUTYLBENZENE	0	LT	65	130	30
	100-42-5	STYRENE	0	LT	75	125	30
	98-06-6	TERT-BUTYLBENZENE	0	LT	65	130	30
	127-18-4	TETRACHLOROETHENE	0	LT	65	140	30
	108-88-3	TOLUENE	0	LT	70	125	30
	156-60-5	TRANS-1,2-DICHLOROETHENE	0	LT	65	135	30
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	0	LT	65	125	30
	79-01-6	TRICHLOROETHENE	0	LT	75	125	30
	75-69-4	TRICHLOROFLUOROMETHANE	0	LT	25	185	30
	108-05-4	VINYL ACETATE	0	LT	10	160	50
	75-01-4	VINYL CHLORIDE	0	LT	60	125	30
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	0	LT	50	150	30
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0	LT	50	150	30
	106-93-4	1,2-DIBROMOETHANE	0	LT	50	150	30

**Legend**

Rejection Point Criteria

LT : Less Than

LE : Less Than or Equal

GT : Greater Than

GE : Greater Than or Equal

# Library Validation Criteria: Reporting and Detection Limits

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	Reporting Limit		Units
			Criteria	Type	
300.0	17778-88-0	Nitrate-N	0.1	PQL	mg/L
	14808-79-8	SULFATE	0.5	PQL	mg/L
415.1	E-10195	TOC	1	PQL	mg/L
8151	88-85-7	DINOSEB	0.4	PQL	ug/L
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	1.0	PQL	ug/L
	71-55-6	1,1,1-TRICHLOROETHANE	1.0	PQL	ug/L
	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.0	PQL	ug/L
	79-00-5	1,1,2-TRICHLOROETHANE	1.0	PQL	ug/L
	75-34-3	1,1-DICHLOROETHANE	1.0	PQL	ug/L
	75-35-4	1,1-DICHLOROETHENE	1.0	PQL	ug/L
	563-58-6	1,1-DICHLOROPROPENE	1.0	PQL	ug/L
	87-61-6	1,2,3-TRICHLOROBENZENE	1.0	PQL	ug/L
	96-18-4	1,2,3-TRICHLOROPROPANE	1.0	PQL	ug/L
	120-82-1	1,2,4-TRICHLOROBENZENE	1.0	PQL	ug/L
	95-63-6	1,2,4-TRIMETHYLBENZENE	1.0	PQL	ug/L
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1.0	PQL	ug/L
	106-93-4	1,2-DIBROMOETHANE	1.0	PQL	ug/L
	95-50-1	1,2-DICHLOROBENZENE	1.0	PQL	ug/L
	107-06-2	1,2-DICHLOROETHANE	1.0	PQL	ug/L
	78-87-5	1,2-DICHLOROPROPANE	1.0	PQL	ug/L
	108-67-8	1,3,5-TRIMETHYLBENZENE	1.0	PQL	ug/L
	541-73-1	1,3-DICHLOROBENZENE	1.0	PQL	ug/L
	142-28-9	1,3-DICHLOROPROPANE	0.5	PQL	ug/L
	106-46-7	1,4-DICHLOROBENZENE	1.0	PQL	ug/L
	594-20-7	2,2-DICHLOROPROPANE	1.0	PQL	ug/L
	78-93-3	2-BUTANONE	10	PQL	ug/L
	95-49-8	2-CHLOROTOLUENE	1.0	PQL	ug/L
	591-78-6	2-HEXANONE	10	PQL	ug/L
	106-43-4	4-CHLOROTOLUENE	1.0	PQL	ug/L
	67-64-1	ACETONE	10	PQL	ug/L
	71-43-2	BENZENE	1.0	PQL	ug/L
	108-86-1	BROMOBENZENE	1.0	PQL	ug/L
	74-97-5	BROMOCHLOROMETHANE	1.0	PQL	ug/L
	75-27-4	BROMODICHLOROMETHANE	1.0	PQL	ug/L
	75-25-2	BROMOFORM	1.0	PQL	ug/L
	74-83-9	BROMOMETHANE	1.0	PQL	ug/L
	75-15-0	CARBON DISULFIDE	1.0	PQL	ug/L
	56-23-5	CARBON TETRACHLORIDE	1.0	PQL	ug/L
	108-90-7	CHLOROBENZENE	1.0	PQL	ug/L
	75-00-3	CHLOROETHANE	1.0	PQL	ug/L
	67-66-3	CHLOROFORM	1.0	PQL	ug/L
	74-87-3	CHLOROMETHANE	1.0	PQL	ug/L
	156-59-2	CIS-1,2-DICHLOROETHENE	1.0	PQL	ug/L
	10061-01-5	CIS-1,3-DICHLOROPROPENE	1.0	PQL	ug/L
	124-48-1	DIBROMOCHLOROMETHANE	1.0	PQL	ug/L
	74-95-3	DIBROMOMETHANE	1.0	PQL	ug/L
	75-71-8	DICHLORODIFLUOROMETHANE	1.0	PQL	ug/L
	100-41-4	ETHYLBENZENE	1.0	PQL	ug/L
	76-13-1	FREON113	1.0	PQL	ug/L

# Library Validation Criteria: Reporting and Detection Limits

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : AQ

Analytical Method	Client Analyte ID	Analyte Name	Reporting Limit		Units
			Criteria	Type	
8260B	87-68-3	HEXACHLOROBUTADIENE	1.0	PQL	ug/L
	98-82-8	Isopropyl benzene	1.0	PQL	ug/L
	136777-61-2	M,P-XYLENES	1.0	PQL	ug/L
	75-09-2	METHYLENE CHLORIDE	1.0	PQL	ug/L
	108-10-1	MIBK	10	PQL	ug/L
	1634-04-4	MTBE	1.0	PQL	ug/L
	91-20-3	NAPHTHALENE	1.0	PQL	ug/L
	104-51-8	N-BUTYLBENZENE	1.0	PQL	ug/L
	103-65-1	N-PROPYLBENZENE	1.0	PQL	ug/L
	95-47-6	O-XYLENE	1.0	PQL	ug/L
	99-87-6	P-ISOPROPYLTOLUENE	1.0	PQL	ug/L
	135-98-8	SEC-BUTYLBENZENE	1.0	PQL	ug/L
	100-42-5	STYRENE	1.0	PQL	ug/L
	98-06-6	TERT-BUTYLBENZENE	1.0	PQL	ug/L
	127-18-4	TETRACHLOROETHENE	1.0	PQL	ug/L
	108-88-3	TOLUENE	1.0	PQL	ug/L
	156-60-5	TRANS-1,2-DICHLOROETHENE	1.0	PQL	ug/L
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	1.0	PQL	ug/L
	79-01-6	TRICHLOROETHENE	1.0	PQL	ug/L
	75-69-4	TRICHLOROFLUOROMETHANE	1.0	PQL	ug/L
108-05-4	VINYL ACETATE	2.0	PQL	ug/L	
75-01-4	VINYL CHLORIDE	1.0	PQL	ug/L	
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	0.005	PQL	ug/L
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0.05	PQL	ug/L
	106-93-4	1,2-DIBROMOETHANE	0.05	PQL	ug/L

# Library Validation Criteria: Reporting and Detection Limits

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Reporting Limit		Units
			Criteria	Type	
300.0	17778-88-0	Nitrate-N	1	PQL	mg/Kg
	14808-79-8	SULFATE	5	PQL	mg/Kg
415.1	E-10195	TOC	10	PQL	mg/Kg
8151	88-85-7	DINOSEB	10	PQL	ug/Kg
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE	5	PQL	ug/Kg
	71-55-6	1,1,1-TRICHLOROETHANE	5	PQL	ug/Kg
	79-34-5	1,1,2,2-TETRACHLOROETHANE	5	PQL	ug/Kg
	79-00-5	1,1,2-TRICHLOROETHANE	5	PQL	ug/Kg
	75-34-3	1,1-DICHLOROETHANE	5	PQL	ug/Kg
	75-35-4	1,1-DICHLOROETHENE	5	PQL	ug/Kg
	563-58-6	1,1-DICHLOROPROPENE	5	PQL	ug/Kg
	87-61-6	1,2,3-TRICHLOROBENZENE	5	PQL	ug/Kg
	96-18-4	1,2,3-TRICHLOROPROPANE	5	PQL	ug/Kg
	120-82-1	1,2,4-TRICHLOROBENZENE	5	PQL	ug/Kg
	95-63-6	1,2,4-TRIMETHYLBENZENE	5	PQL	ug/Kg
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	PQL	ug/Kg
	106-93-4	1,2-DIBROMOETHANE	5	PQL	ug/Kg
	95-50-1	1,2-DICHLOROBENZENE	5	PQL	ug/Kg
	107-06-2	1,2-DICHLOROETHANE	5	PQL	ug/Kg
	78-87-5	1,2-DICHLOROPROPANE	5	PQL	ug/Kg
	108-67-8	1,3,5-TRIMETHYLBENZENE	5	PQL	ug/Kg
	541-73-1	1,3-DICHLOROBENZENE	5	PQL	ug/Kg
	142-28-9	1,3-DICHLOROPROPANE	5	PQL	ug/Kg
	106-46-7	1,4-DICHLOROBENZENE	5	PQL	ug/Kg
	594-20-7	2,2-DICHLOROPROPANE	5	PQL	ug/Kg
	78-93-3	2-BUTANONE	10	PQL	ug/Kg
	95-49-8	2-CHLOROTOLUENE	5	PQL	ug/Kg
	591-78-6	2-HEXANONE	10	PQL	ug/Kg
	106-43-4	4-CHLOROTOLUENE	5	PQL	ug/Kg
	67-64-1	ACETONE	10	PQL	ug/Kg
	71-43-2	BENZENE	5	PQL	ug/Kg
	108-86-1	BROMOBENZENE	5	PQL	ug/Kg
	74-97-5	BROMOCHLOROMETHANE	5	PQL	ug/Kg
	75-27-4	BROMODICHLOROMETHANE	5	PQL	ug/Kg
75-25-2	BROMOFORM	5	PQL	ug/Kg	
74-83-9	BROMOMETHANE	10	PQL	ug/Kg	
75-15-0	CARBON DISULFIDE	5	PQL	ug/Kg	
56-23-5	CARBON TETRACHLORIDE	5	PQL	ug/Kg	
108-90-7	CHLOROBENZENE	5	PQL	ug/Kg	
75-00-3	CHLOROETHANE	5	PQL	ug/Kg	
67-66-3	CHLOROFORM	5	PQL	ug/Kg	
74-87-3	CHLOROMETHANE	5	PQL	ug/Kg	
156-59-2	CIS-1,2-DICHLOROETHENE	5	PQL	ug/Kg	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	PQL	ug/Kg	
124-48-1	DIBROMOCHLOROMETHANE	5	PQL	ug/Kg	
74-95-3	DIBROMOMETHANE	5	PQL	ug/Kg	
75-71-8	DICHLORODIFLUOROMETHANE	5	PQL	ug/Kg	
100-41-4	ETHYLBENZENE	5	PQL	ug/Kg	
76-13-1	FREON113	5	PQL	ug/Kg	

# Library Validation Criteria: Reporting and Detection Limits

Library Group ID : ECO\_BrownandBryant\_110819

All Methods

Sample Matrix : SO

Analytical Method	Client Analyte ID	Analyte Name	Reporting Limit		Units
			Criteria	Type	
8260B	87-68-3	HEXACHLOROBUTADIENE	5	PQL	ug/Kg
	98-82-8	Isopropyl benzene	5	PQL	ug/Kg
	136777-61-2	M,P-XYLENES	10	PQL	ug/Kg
	75-09-2	METHYLENE CHLORIDE	5	PQL	ug/Kg
	108-10-1	MIBK	10	PQL	ug/Kg
	1634-04-4	MTBE	5	PQL	ug/Kg
	91-20-3	NAPHTHALENE	5	PQL	ug/Kg
	104-51-8	N-BUTYLBENZENE	5	PQL	ug/Kg
	103-65-1	N-PROPYLBENZENE	5	PQL	ug/Kg
	95-47-6	O-XYLENE	5	PQL	ug/Kg
	99-87-6	P-ISOPROPYLTOLUENE	5	PQL	ug/Kg
	135-98-8	SEC-BUTYLBENZENE	5	PQL	ug/Kg
	100-42-5	STYRENE	5	PQL	ug/Kg
	98-06-6	TERT-BUTYLBENZENE	5	PQL	ug/Kg
	127-18-4	TETRACHLOROETHENE	5	PQL	ug/Kg
	108-88-3	TOLUENE	5	PQL	ug/Kg
	156-60-5	TRANS-1,2-DICHLOROETHENE	5	PQL	ug/Kg
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	PQL	ug/Kg
	79-01-6	TRICHLOROETHENE	5	PQL	ug/Kg
	75-69-4	TRICHLOROFLUOROMETHANE	5	PQL	ug/Kg
108-05-4	VINYL ACETATE	5	PQL	ug/Kg	
75-01-4	VINYL CHLORIDE	5	PQL	ug/Kg	
8260B SIM	96-18-4	1,2,3-TRICHLOROPROPANE	0.005	PQL	ug/Kg
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0.05	PQL	ug/Kg
	106-93-4	1,2-DIBROMOETHANE	0.05	PQL	ug/Kg

## Library Validation Criteria: Inorganic Instrument Calibration

**Library Group ID :** ECO\_BrownandBryant\_110819

All Inorganic methods

Analytical Method	Client Analyte ID	Analyte Name	Initial Calibration			Initial Calibration Verification					Continuing Calibration Verification				
						RRF	Percent Recovery				RRF	Percent Recovery			
							Lower Rej Pt	Lower Limit	Upper Limit	Upper Rej Pt		Lower Rej Pt	Lower Limit	Upper Limit	Upper Rej Pt
RRF	%RSD	Corr Co	RRF	Lower Rej Pt	Lower Limit	Upper Limit	Upper Rej Pt	RRF	Lower Rej Pt	Lower Limit	Upper Limit	Upper Rej Pt			
300.0	17778-88-0	Nitrate-N													
	14808-79-8	SULFATE													
415.1	E-10195	TOC													

## Library Validation Criteria: Organic Instrument Calibration

Library : ECO\_BrownandBryant\_110819

Analytical Method	Client Analyte ID	Analyte Name	Initial Calibration			Initial Calibration Verification				Continuing Calibration				
			RRF	%RSD	Corr Co	RRF	Percent Difference			RRF	Percent Difference			
							Rej Pt.	Lower	Upper		Rej Pt.	Lower	Upper	
8151	88-85-7	DINOSEB												
8260B	630-20-6	1,1,1,2-TETRACHLOROETHANE												
	71-55-6	1,1,1-TRICHLOROETHANE												
	79-34-5	1,1,2,2-TETRACHLOROETHANE												
	79-00-5	1,1,2-TRICHLOROETHANE												
	75-34-3	1,1-DICHLOROETHANE												
	75-35-4	1,1-DICHLOROETHENE												
	563-58-6	1,1-DICHLOROPROPENE												
	87-61-6	1,2,3-TRICHLOROBENZENE												
	96-18-4	1,2,3-TRICHLOROPROPANE												
	120-82-1	1,2,4-TRICHLOROBENZENE												
	95-63-6	1,2,4-TRIMETHYLBENZENE												
	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE												
	106-93-4	1,2-DIBROMOETHANE												
	95-50-1	1,2-DICHLOROBENZENE												
	107-06-2	1,2-DICHLOROETHANE												
	78-87-5	1,2-DICHLOROPROPANE												
	108-67-8	1,3,5-TRIMETHYLBENZENE												
	541-73-1	1,3-DICHLOROBENZENE												
	142-28-9	1,3-DICHLOROPROPANE												
	106-46-7	1,4-DICHLOROBENZENE												
	594-20-7	2,2-DICHLOROPROPANE												
	78-93-3	2-BUTANONE												
	95-49-8	2-CHLOROTOLUENE												
	591-78-6	2-HEXANONE												
	106-43-4	4-CHLOROTOLUENE												
	67-64-1	ACETONE												
	71-43-2	BENZENE												
	108-86-1	BROMOBENZENE												
	74-97-5	BROMOCHLOROMETHANE												
	75-27-4	BROMODICHLOROMETHANE												

## Library Validation Criteria: Organic Instrument Calibration

Library : ECO\_BrownandBryant\_110819

Analytical Method	Client Analyte ID	Analyte Name	Initial Calibration			Initial Calibration Verification				Continuing Calibration				
			RRF	%RSD	Corr Co	RRF	Percent Difference			RRF	Percent Difference			
							Rej Pt.	Lower	Upper		Rej Pt	Lower	Upper	
8260B	75-25-2	BROMOFORM												
	74-83-9	BROMOMETHANE												
	75-15-0	CARBON DISULFIDE												
	56-23-5	CARBON TETRACHLORIDE												
	108-90-7	CHLOROBENZENE												
	75-00-3	CHLOROETHANE												
	67-66-3	CHLOROFORM												
	74-87-3	CHLOROMETHANE												
	156-59-2	CIS-1,2-DICHLOROETHENE												
	10061-01-5	CIS-1,3-DICHLOROPROPENE												
	124-48-1	DIBROMOCHLOROMETHANE												
	74-95-3	DIBROMOMETHANE												
	75-71-8	DICHLORODIFLUOROMETHANE												
	100-41-4	ETHYLBENZENE												
	76-13-1	FREON113												
	87-68-3	HEXACHLOROBUTADIENE												
	98-82-8	Isopropyl benzene												
	136777-61-2	M,P-XYLENES												
	75-09-2	METHYLENE CHLORIDE												
	108-10-1	MIBK												
	1634-04-4	MTBE												
	91-20-3	NAPHTHALENE												
	104-51-8	N-BUTYLBENZENE												
	103-65-1	N-PROPYLBENZENE												
	95-47-6	O-XYLENE												
	99-87-6	P-ISOPROPYLTOLUENE												
	135-98-8	SEC-BUTYLBENZENE												
	100-42-5	STYRENE												
	98-06-6	TERT-BUTYLBENZENE												
	127-18-4	TETRACHLOROETHENE												
	108-88-3	TOLUENE												

## Reason Code Library: Example 1

Category	Code	Category	Code
<b>Low Bias Indicator</b>	-	<b>Initial Calibration</b>	
<b>High Bias Indicator</b>	+	Initial Calibration RRF	Q
<b>Temperature</b>	A	Initial Calibration RSD	R
<b>Holding Times</b>		Initial Calibration Cor. Coef	S
Sampling to Analysis	C	<b>Initial Calibration Verification</b>	
Sampling to Extraction	D	Initial Calibration Verificaton RRF	T
Extaction to Analysis	E	Initial CalibrationVerification %D	U
<b>Method Blanks</b>	F	<b>Continuing Calibration</b>	
<b>Surrogate Recovery</b>	G	Continuing Calibraton RRF	V
		Continuing Calibration %D	W
<b>MS/MSD</b>		<b>GC/MS Tune</b>	
MS/MSD Recovery	H	GC/MS Tune for Initial Calibration	X
MS/MSD RPD	I	GC/MS Tune for Continuing Calibration	Y
<b>LCS</b>		<b>Laboratory Duplicate</b>	Z
LCS Recovery	J		
LCS RPD	K		
<b>Reporting Limits</b>	L		
<b>Field QC</b>			
Field Blank	M		
Equipment Blank	N		
Trip Blank	O		
Field Duplicate	P		

# EDD Non-Conformance Report

## Lab Reporting Batch ID: 12I219

Project Library: ECO\_BrownandBryant\_110819

Library Description: ECO - Brown and Bryant

Laboratory: EMXT

Report Date: 11/13/2012 22:33

### Non-Conformance Summary Page

Type	Count
0001	0
0002	0
0003	0
0004	0
0005	0
0006	0
0007	0
0008	0
0009	0
0010	0
0011	0
0012	0
0013	0
0014	0
0015	0
0016	0
0017	0
0018	0
0019	0

Type	Count
0020	0
0021	0
0022	0
0023	0
0024	0
0025	2
0026	0
0027	0
0028	0
0029	0
0030	0
0031	0
0032	0
0033	0
0034	0
0035	0
0036	0
0037	0
0038	0

**Total : 2**

# EDD Non-Conformance Detail Report

## Lab Reporting Batch ID: 12I219

Project Library: ECO\_BrownandBryant\_110819

Library Description: ECO - Brown and Bryant

Laboratory: EMXT

Report Date: 11/13/2012 22:33

### Discrepancies Between the Project Library and EDD

Table	Record	Field	Type	Description	Lab Comments
A3		Project Number	0025	The project name "B & B, MONTHLY CITY WELL SAMPLING" entered in one or more records does not match any of the project names entered in the standard values table.	
A3		Project Number	0025	The project number "1" entered in one or more records does not match any of the project numbers entered in the standard values table.	

# EDD Non-Conformance Detail Report

## Lab Reporting Batch ID: 12I219

Project Library: ECO\_BrownandBryant\_110819

Library Description: ECO - Brown and Bryant

Laboratory: EMXT

Report Date: 11/13/2012 22:33

0001	<i>The number of characters entered in the field exceeds the number allowed for that field</i>
0002	<i>Non-numeric entry in a numeric field</i>
0003	<i>Non-date entry or incorrectly formatted date in a date field</i>
0004	<i>Value entered was not found in the Standard Value List (see Appendix B and C)</i>
0005	<i>Analytical Method, Analyte ID, Analyte Name, Matrix, and Units not found in the reference project library</i>
0006	<i>RPD value is missing from a MSD, LCSD, or laboratory duplicate sample</i>
0007	<i>Target analyte specified in library files not found in the EDD</i>
0008	<i>Discrepancy in related records found between the tables Sample Analysis and Analytical Result</i>
0009	<i>Required field is missing information</i>
0010	<i>Surrogate compounds specified in the reference project library are not found in table Analytical Results</i>
0011	<i>Surrogate compounds not specified in the reference project library are found in table Analytical Results</i>
0012	<i>Spike compounds specified in the reference project library are not found in table Analytical Results or vice versa</i>
0013	<i>Target analyte not specified in the reference project library is found in Analytical Results table</i>
0014	<i>Handling Batch ID (for leachates) is missing in Table A3</i>
0015	<i>Lab_Sample_ID can not have more than one matrix type assigned to it</i>
0016	<i>Analysis_Batch ID present in the Sample Analysis table is missing from the Laboratory Instrument table</i>
0017	<i>Analysis_Batch ID present in the Laboratory Instrument table is missing from the Sample Analysis table</i>
0018	<i>Run_Batch present in the Sample Analysis table is missing from the Laboratory Instrument table</i>
0019	<i>Run_Batch present in the Laboratory Instrument table is missing from the Sample Analysis table</i>
0020	<i>Target analytes and surrogates not specified in the reference project library are found in the Laboratory Instrument table</i>
0021	<i>Analysis_Batch relationship missing between a GC/MS tune (QC_Type = IPC) and a GC/MS continuing calibration (QC_Type = CCV)</i>
0022	<i>Run_Batch relationship missing between a GC/MS tune (QC_Type = IPC) and a GC/MS initial calibration (QC_Type = IC)</i>
0023	<i>Incorrect naming or inconsistent collection date for MS/MSD sample and/or parent sample</i>
0024	<i>Problems with %RSD, Correlation Coefficient, and/or RRFs reported for GC/MS calibration records.</i>
0025	<i>Project Number or Project Name reported in the EDD not found in the Standard Value table</i>
0026	<i>Result value for a non-detected analyte does not match the Reporting_Limit value as reported in the EDD</i>
0027	<i>ClientSampleID present in Analytical Results table but missing in the Sample Analysis table or vice versa</i>
0028	<i>Missing associated Method Blank records for a specific Preparation Batch / Analytical Method</i>
0029	<i>Missing associated Laboratory Control Sample records for a specific Preparation Batch / Analytical Method</i>
0030	<i>Missing associated Matrix Spike / Duplicate records for a specific Method Batch / Analytical Method</i>
0031	<i>Record specified in the reference project library not found in the Analytical Results table where Reportable Result = Yes</i>
0032	<i>Duplicate records found in table Analytical Results for fields ClientSampleID, Collected, AnalyticalMethod, AnalyteID where Reportable_Result = Yes</i>
0033	<i>Missing calibration records in Table A2</i>

# EDD Non-Conformance Detail Report

## Lab Reporting Batch ID: 12I219

Project Library: ECO\_BrownandBryant\_110819

Laboratory: EMXT

Library Description: ECO - Brown and Bryant

Report Date: 11/13/2012 22:33

0034	<i>Report Limit from table Analytical Results exceeds the value in the reference project library (corrected for dilution and perc moist, if appl)</i>
0035	<i>Missing target analytes in IC, ICV, CV, or CCV</i>
0036	<i>Surrogate Recovery has a value greater than zero but the Lab Qualifier is like "*U*"</i>
0037	<i>Duplicate records in Table A1, A2, or A3</i>
0038	<i>Problems with QC Batch assignment</i>

## Field QC and Associated Samples

Lab Reporting Batch : 12I219

Laboratory : EMXT

<i>Field QC Sample</i>	<i>QC Type</i>	<i>Associated Samples</i>	<i>Sample Collection Date</i>
09-25-12-FDUP-1	FD	09-25-12-CW-1	09/25/2012 10:09
09-25-12-TB-1	TB	09-25-12-CW-1	09/25/2012 10:09
		09-25-12-CW-10	09/25/2012 10:39
		09-25-12-CW-5	09/25/2012 09:46
		09-25-12-CW-6	09/25/2012 11:19
		09-25-12-CW-8	09/25/2012 10:56
		09-25-12-CW-9	09/25/2012 11:55
		09-25-12-FDUP-1	09/25/2012 00:00

*Legend:*

AB = Ambient Blank   EB = Equipment Blank Rinsate   FB = Field Blank   FD = Field Duplicate   TB = Trip Blank

# EDD Preparation Batch Summary and Associated Samples

## EDD Reporting Batch ID: 12I219

**Method: 8151**

**Matrix ID: AQ      Preparation Batch: HEJ001W**

Client Sample ID	Lab Sample ID	Analysis Type	Sample Type	Analysis Date and Time
HEJ001WB	HEJ001WB	RES	MB	10/02/2012 16:51
HEJ001WL	HEJ001WL	RES	LCS	10/02/2012 17:13
HEJ001WC	HEJ001WC	RES	LCSD	10/02/2012 17:34
09-25-12-CW-6MS	I219-03M	RES	MS	10/02/2012 19:01
09-25-12-CW-6MSD	I219-03S	RES	MSD	10/02/2012 19:22
09-25-12-CW-6	I219-03	RES	Normal sample	10/02/2012 19:44
09-25-12-CW-1	I219-01	RES	Normal sample	10/02/2012 20:06
09-25-12-CW-5	I219-02	RES	Normal sample	10/02/2012 21:11
09-25-12-CW-8	I219-04	RES	Normal sample	10/02/2012 21:33
09-25-12-CW-9	I219-05	RES	Normal sample	10/02/2012 21:55
09-25-12-CW-10	I219-06	RES	Normal sample	10/02/2012 22:16
09-25-12-FDUP-1	I219-07	RES	Normal sample	10/02/2012 22:38

**Method: 8260B**

**Matrix ID: AQ      Preparation Batch: VO06J01**

Client Sample ID	Lab Sample ID	Analysis Type	Sample Type	Analysis Date and Time
VO06J01L	VO06J01L	RES	LCS	10/01/2012 12:00
VO06J01C	VO06J01C	RES	LCSD	10/01/2012 12:30
VO06J01B	VO06J01B	RES	MB	10/01/2012 13:29
09-25-12-CW-1	I219-01	RES	Normal sample	10/01/2012 17:29
09-25-12-CW-5	I219-02	RES	Normal sample	10/01/2012 17:59
09-25-12-CW-8	I219-04	RES	Normal sample	10/01/2012 18:29
09-25-12-CW-9	I219-05	RES	Normal sample	10/01/2012 18:59
09-25-12-CW-10	I219-06	RES	Normal sample	10/01/2012 19:28
09-25-12-FDUP-1	I219-07	RES	Normal sample	10/01/2012 19:59
09-25-12-TB-1	I219-08	RES	Normal sample	10/01/2012 20:29
09-25-12-CW-6	I219-03	RES	Normal sample	10/01/2012 20:58
09-25-12-CW-6MS	I219-03M	RES	MS	10/01/2012 21:28
09-25-12-CW-6MSD	I219-03S	RES	MSD	10/01/2012 21:58

**Method: 8260B SIM****Matrix ID: AQ****Preparation Batch: VOF4J01**

<b>Client Sample ID</b>	<b>Lab Sample ID</b>	<b>Analysis Type</b>	<b>Sample Type</b>	<b>Analysis Date and Time</b>
VOF4J01L	VOF4J01L	RES	LCS	10/05/2012 14:11
VOF4J01Y	VOF4J01Y	RES	LCSD	10/05/2012 15:45
VOF4J01B	VOF4J01B	RES	MB	10/05/2012 16:09
09-25-12-CW-6MS	I219-03M	RES	MS	10/05/2012 18:30
09-25-12-CW-6MSD	I219-03S	RES	MSD	10/05/2012 18:53
09-25-12-CW-6	I219-03	RES	Normal sample	10/05/2012 19:17
09-25-12-CW-1	I219-01	RES	Normal sample	10/05/2012 19:41
09-25-12-CW-5	I219-02	RES	Normal sample	10/05/2012 20:04
09-25-12-CW-8	I219-04	RES	Normal sample	10/05/2012 20:28
09-25-12-CW-9	I219-05	RES	Normal sample	10/05/2012 20:51
09-25-12-CW-10	I219-06	RES	Normal sample	10/05/2012 21:15
09-25-12-FDUP-1	I219-07	RES	Normal sample	10/05/2012 21:39

# EDD Method Batch Summary and Associated Samples

## EDD Reporting Batch ID: 12I219

**Method: 8151**

**Matrix ID: AQ**      **Method Batch: HEJ001W**

<b>Client Sample ID</b>	<b>Lab Sample ID</b>	<b>Analysis Type</b>	<b>Sample Type</b>	<b>Analysis Date and Time</b>
HEJ001WL	HEJ001WL	RES	LCS	10/02/2012 17:13
HEJ001WC	HEJ001WC	RES	LCSD	10/02/2012 17:34
09-25-12-CW-6MS	I219-03M	RES	MS	10/02/2012 19:01
09-25-12-CW-6MSD	I219-03S	RES	MSD	10/02/2012 19:22
09-25-12-CW-6	I219-03	RES		10/02/2012 19:44
09-25-12-CW-1	I219-01	RES		10/02/2012 20:06
09-25-12-CW-5	I219-02	RES		10/02/2012 21:11
09-25-12-CW-8	I219-04	RES		10/02/2012 21:33
09-25-12-CW-9	I219-05	RES		10/02/2012 21:55
09-25-12-CW-10	I219-06	RES		10/02/2012 22:16
09-25-12-FDUP-1	I219-07	RES		10/02/2012 22:38

**Method: 8260B**

**Matrix ID: AQ**      **Method Batch: VO06J01**

<b>Client Sample ID</b>	<b>Lab Sample ID</b>	<b>Analysis Type</b>	<b>Sample Type</b>	<b>Analysis Date and Time</b>
VO06J01L	VO06J01L	RES	LCS	10/01/2012 12:00
VO06J01C	VO06J01C	RES	LCSD	10/01/2012 12:30
09-25-12-CW-1	I219-01	RES		10/01/2012 17:29
09-25-12-CW-5	I219-02	RES		10/01/2012 17:59
09-25-12-CW-8	I219-04	RES		10/01/2012 18:29
09-25-12-CW-9	I219-05	RES		10/01/2012 18:59
09-25-12-CW-10	I219-06	RES		10/01/2012 19:28
09-25-12-FDUP-1	I219-07	RES		10/01/2012 19:59
09-25-12-TB-1	I219-08	RES		10/01/2012 20:29
09-25-12-CW-6	I219-03	RES		10/01/2012 20:58
09-25-12-CW-6MS	I219-03M	RES	MS	10/01/2012 21:28
09-25-12-CW-6MSD	I219-03S	RES	MSD	10/01/2012 21:58

**Method: 8260B SIM****Matrix ID: AQ****Method Batch: VOF4J01**

<b>Client Sample ID</b>	<b>Lab Sample ID</b>	<b>Analysis Type</b>	<b>Sample Type</b>	<b>Analysis Date and Time</b>
VOF4J01L	VOF4J01L	RES	LCS	10/05/2012 14:11
VOF4J01Y	VOF4J01Y	RES	LCSD	10/05/2012 15:45
09-25-12-CW-6MS	I219-03M	RES	MS	10/05/2012 18:30
09-25-12-CW-6MSD	I219-03S	RES	MSD	10/05/2012 18:53
09-25-12-CW-6	I219-03	RES		10/05/2012 19:17
09-25-12-CW-1	I219-01	RES		10/05/2012 19:41
09-25-12-CW-5	I219-02	RES		10/05/2012 20:04
09-25-12-CW-8	I219-04	RES		10/05/2012 20:28
09-25-12-CW-9	I219-05	RES		10/05/2012 20:51
09-25-12-CW-10	I219-06	RES		10/05/2012 21:15
09-25-12-FDUP-1	I219-07	RES		10/05/2012 21:39

## EDD Summary Report by Analysis Method

Laboratory Reporting Batch : 12I219

Laboratory : EMXT

Lab Report Date : 10/19/2012

Analysis Method	Client Sample ID	Lab Sample ID	Analysis Type	Preparation Method	Matrix	Collection Date	Receipt Date	Preparation Date	Analysis Date
<b>8151</b>									
	09-25-12-CW-1	I219-01	RES	3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
	09-25-12-CW-10	I219-06		3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
	09-25-12-CW-5	I219-02		3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
	09-25-12-CW-6	I219-03		3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
	09-25-12-CW-8	I219-04		3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
	09-25-12-CW-9	I219-05		3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
	09-25-12-FDUP-1	I219-07		3520C	AQ	09/25/2012	09/25/2012	10/01/2012	10/02/2012
<b>8260B</b>									
	09-25-12-CW-1	I219-01	RES	5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-CW-10	I219-06		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-CW-5	I219-02		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-CW-6	I219-03		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-CW-8	I219-04		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-CW-9	I219-05		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-FDUP-1	I219-07		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
	09-25-12-TB-1	I219-08		5030B	AQ	09/25/2012	09/25/2012	10/01/2012	10/01/2012
<b>8260B SIM</b>									
	09-25-12-CW-1	I219-01	RES	5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012
	09-25-12-CW-10	I219-06		5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012
	09-25-12-CW-5	I219-02		5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012
	09-25-12-CW-6	I219-03		5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012
	09-25-12-CW-8	I219-04		5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012
	09-25-12-CW-9	I219-05		5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012
	09-25-12-FDUP-1	I219-07		5030B	AQ	09/25/2012	09/25/2012	10/05/2012	10/05/2012

Project Number and Name: 1 - B & B, MONTHLY CITY WELL SAMPLING

# Reporting Limits Outlier Report

Lab Report Batch: 121219

Lab ID: EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qual	Result	Reporting Limit	Units
09-25-12-CW-6	I219-03	8260B	AQ	TETRACHLOROETHENE	J	0.25	1.00	UG/L
09-25-12-CW-8	I219-04	8260B	AQ	BENZENE	J	0.26	1.00	UG/L
		8260B SIM		1,2,3-TRICHLOROPROPANE	J	0.0044	0.01	UG/L
09-25-12-CW-9	I219-05	8260B	AQ	1,2-DICHLOROPROPANE	J	0.34	1.00	UG/L

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-1

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-01

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
--------------	--------	-----------------	-------------	------------	---------------------	------	----	----	-----	----	------------	-------------	--------------	-------------	------	----	-----	-------------	-----------------

**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-1

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-01

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val	Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																				
4-CHLOROTOLUENE	1.0	UG/L	U	YES																
ACETONE	10	UG/L	U	YES																
BENZENE	1.0	UG/L	U	YES																
BROMOBENZENE	1.0	UG/L	U	YES																
BROMOCHLOROMETHANE	1.0	UG/L	U	YES																
BROMODICHLOROMETHANE	1.0	UG/L	U	YES																
BROMOFORM	1.0	UG/L	U	YES																
BROMOMETHANE	1.0	UG/L	U	YES																
CARBON DISULFIDE	1.0	UG/L	U	YES																
CARBON TETRACHLORIDE	1.0	UG/L	U	YES																
CHLORO BENZENE	1.0	UG/L	U	YES																
CHLOROETHANE	1.0	UG/L	U	YES																
CHLOROFORM	1.0	UG/L	U	YES																
CHLOROMETHANE	1.0	UG/L	U	YES																
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES																
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES																
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES																
DIBROMOMETHANE	1.0	UG/L	U	YES																
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES																
ETHYLBENZENE	1.0	UG/L	U	YES																
FREON113	1.0	UG/L	U	YES																
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES																
ISOPROPYL BENZENE	1.0	UG/L	U	YES																
M,P-XYLENES	1.0	UG/L	U	YES																
METHYLENE CHLORIDE	1.0	UG/L	U	YES																
MIBK	10	UG/L	U	YES																
MTBE	1.0	UG/L	U	YES																

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-1

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-01

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	1.0	UG/L	U	YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.035	UG/L		YES															
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-10

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-06

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
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**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-10

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-06

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val	Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Field Limit	QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																				
4-CHLOROTOLUENE	1.0	UG/L	U	YES																
ACETONE	10	UG/L	U	YES																
BENZENE	1.0	UG/L	U	YES																
BROMOBENZENE	1.0	UG/L	U	YES																
BROMOCHLOROMETHANE	1.0	UG/L	U	YES																
BROMODICHLOROMETHANE	1.0	UG/L	U	YES																
BROMOFORM	1.0	UG/L	U	YES																
BROMOMETHANE	1.0	UG/L	U	YES																
CARBON DISULFIDE	1.0	UG/L	U	YES																
CARBON TETRACHLORIDE	1.0	UG/L	U	YES																
CHLORO BENZENE	1.0	UG/L	U	YES																
CHLOROETHANE	1.0	UG/L	U	YES																
CHLOROFORM	1.0	UG/L	U	YES																
CHLOROMETHANE	1.0	UG/L	U	YES																
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES																
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES																
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES																
DIBROMOMETHANE	1.0	UG/L	U	YES																
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES																
ETHYLBENZENE	1.0	UG/L	U	YES																
FREON113	1.0	UG/L	U	YES																
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES																
ISOPROPYL BENZENE	1.0	UG/L	U	YES																
M,P-XYLENES	1.0	UG/L	U	YES																
METHYLENE CHLORIDE	1.0	UG/L	U	YES																
MIBK	10	UG/L	U	YES																
MTBE	1.0	UG/L	U	YES																

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-10

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-06

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	1.0	UG/L	U	YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.0050	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-5

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-02

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Field Limit	QC	Tune	IC	ICV	CV / CCV	Reason Codes
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**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-5

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-02

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
4-CHLOROTOLUENE	1.0	UG/L	U	YES															
ACETONE	10	UG/L	U	YES															
BENZENE	1.0	UG/L	U	YES															
BROMOBENZENE	1.0	UG/L	U	YES															
BROMOCHLOROMETHANE	1.0	UG/L	U	YES															
BROMODICHLOROMETHANE	1.0	UG/L	U	YES															
BROMOFORM	1.0	UG/L	U	YES															
BROMOMETHANE	1.0	UG/L	U	YES															
CARBON DISULFIDE	1.0	UG/L	U	YES															
CARBON TETRACHLORIDE	1.0	UG/L	U	YES															
CHLOROBENZENE	1.0	UG/L	U	YES															
CHLOROETHANE	1.0	UG/L	U	YES															
CHLOROFORM	1.0	UG/L	U	YES															
CHLOROMETHANE	1.0	UG/L	U	YES															
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES															
DIBROMOMETHANE	1.0	UG/L	U	YES															
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES															
ETHYLBENZENE	1.0	UG/L	U	YES															
FREON113	1.0	UG/L	U	YES															
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES															
ISOPROPYL BENZENE	1.0	UG/L	U	YES															
M,P-XYLENES	1.0	UG/L	U	YES															
METHYLENE CHLORIDE	1.0	UG/L	U	YES															
MIBK	10	UG/L	U	YES															
MTBE	1.0	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-5

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-02

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	1.0	UG/L	U	YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.078	UG/L		YES															
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-6

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-03

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
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**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-6

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-03

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val	Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																				
4-CHLOROTOLUENE	1.0	UG/L	U	YES																
ACETONE	10	UG/L	U	YES																
BENZENE	1.0	UG/L	U	YES																
BROMOBENZENE	1.0	UG/L	U	YES																
BROMOCHLOROMETHANE	1.0	UG/L	U	YES																
BROMODICHLOROMETHANE	1.0	UG/L	U	YES																
BROMOFORM	1.0	UG/L	U	YES																
BROMOMETHANE	1.0	UG/L	U	YES																
CARBON DISULFIDE	1.0	UG/L	U	YES																
CARBON TETRACHLORIDE	1.0	UG/L	U	YES																
CHLORO BENZENE	1.0	UG/L	U	YES																
CHLOROETHANE	1.0	UG/L	U	YES																
CHLOROFORM	1.0	UG/L	U	YES																
CHLOROMETHANE	1.0	UG/L	U	YES																
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES																
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES																
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES																
DIBROMOMETHANE	1.0	UG/L	U	YES																
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES																
ETHYLBENZENE	1.0	UG/L	U	YES																
FREON113	1.0	UG/L	U	YES																
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES																
ISOPROPYL BENZENE	1.0	UG/L	U	YES																
M,P-XYLENES	1.0	UG/L	U	YES																
METHYLENE CHLORIDE	1.0	UG/L	U	YES																
MIBK	10	UG/L	U	YES																
MTBE	1.0	UG/L	U	YES																

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-6

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-03

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	0.25	UG/L	J	YES	J								J						L
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.031	UG/L		YES															
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-8

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-04

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
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**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-8

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-04

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
4-CHLOROTOLUENE	1.0	UG/L	U	YES															
ACETONE	10	UG/L	U	YES															
BENZENE	0.26	UG/L	J	YES	J								J						L
BROMOBENZENE	1.0	UG/L	U	YES															
BROMOCHLOROMETHANE	1.0	UG/L	U	YES															
BROMODICHLOROMETHANE	1.0	UG/L	U	YES															
BROMOFORM	1.0	UG/L	U	YES															
BROMOMETHANE	1.0	UG/L	U	YES															
CARBON DISULFIDE	1.0	UG/L	U	YES															
CARBON TETRACHLORIDE	1.0	UG/L	U	YES															
CHLORO BENZENE	1.0	UG/L	U	YES															
CHLOROETHANE	1.0	UG/L	U	YES															
CHLOROFORM	1.0	UG/L	U	YES															
CHLOROMETHANE	1.0	UG/L	U	YES															
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES															
DIBROMOMETHANE	1.0	UG/L	U	YES															
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES															
ETHYLBENZENE	1.0	UG/L	U	YES															
FREON113	1.0	UG/L	U	YES															
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES															
ISOPROPYL BENZENE	1.0	UG/L	U	YES															
M,P-XYLENES	1.0	UG/L	U	YES															
METHYLENE CHLORIDE	1.0	UG/L	U	YES															
MIBK	10	UG/L	U	YES															
MTBE	1.0	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-8

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-04

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	1.0	UG/L	U	YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.0044	UG/L	J	YES	J														L
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-9

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-05

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
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**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	0.34	UG/L	J	YES	J								J						L
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-9

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-05

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val	Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Field Limit	QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																				
4-CHLOROTOLUENE	1.0	UG/L	U	YES																
ACETONE	10	UG/L	U	YES																
BENZENE	1.0	UG/L	U	YES																
BROMOBENZENE	1.0	UG/L	U	YES																
BROMOCHLOROMETHANE	1.0	UG/L	U	YES																
BROMODICHLOROMETHANE	1.0	UG/L	U	YES																
BROMOFORM	1.0	UG/L	U	YES																
BROMOMETHANE	1.0	UG/L	U	YES																
CARBON DISULFIDE	1.0	UG/L	U	YES																
CARBON TETRACHLORIDE	1.0	UG/L	U	YES																
CHLORO BENZENE	1.0	UG/L	U	YES																
CHLOROETHANE	1.0	UG/L	U	YES																
CHLOROFORM	1.0	UG/L	U	YES																
CHLOROMETHANE	1.0	UG/L	U	YES																
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES																
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES																
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES																
DIBROMOMETHANE	1.0	UG/L	U	YES																
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES																
ETHYLBENZENE	1.0	UG/L	U	YES																
FREON113	1.0	UG/L	U	YES																
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES																
ISOPROPYL BENZENE	1.0	UG/L	U	YES																
M,P-XYLENES	1.0	UG/L	U	YES																
METHYLENE CHLORIDE	1.0	UG/L	U	YES																
MIBK	10	UG/L	U	YES																
MTBE	1.0	UG/L	U	YES																

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-CW-9

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-05

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	3.5	UG/L		YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.30	UG/L		YES															
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-FDUP-1

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-07

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Field Limit	QC	Tune	IC	ICV	CV / CCV	Reason Codes
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**Analysis Method : 8151**

DINOSEB	0.40	UG/L	U	YES															
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**Analysis Method : 8260B**

1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES															
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHANE	1.0	UG/L	U	YES															
1,1-DICHLOROETHENE	1.0	UG/L	U	YES															
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES															
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES															
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES															
1,2-DIBROMOETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,2-DICHLOROETHANE	1.0	UG/L	U	YES															
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES															
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES															
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES															
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES															
2-BUTANONE	10	UG/L	U	YES															
2-CHLOROTOLUENE	1.0	UG/L	U	YES															
2-HEXANONE	10	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-FDUP-1

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-07

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
4-CHLOROTOLUENE	1.0	UG/L	U	YES															
ACETONE	10	UG/L	U	YES															
BENZENE	1.0	UG/L	U	YES															
BROMOBENZENE	1.0	UG/L	U	YES															
BROMOCHLOROMETHANE	1.0	UG/L	U	YES															
BROMODICHLOROMETHANE	1.0	UG/L	U	YES															
BROMOFORM	1.0	UG/L	U	YES															
BROMOMETHANE	1.0	UG/L	U	YES															
CARBON DISULFIDE	1.0	UG/L	U	YES															
CARBON TETRACHLORIDE	1.0	UG/L	U	YES															
CHLOROENZENE	1.0	UG/L	U	YES															
CHLOROETHANE	1.0	UG/L	U	YES															
CHLOROFORM	1.0	UG/L	U	YES															
CHLOROMETHANE	1.0	UG/L	U	YES															
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES															
DIBROMOMETHANE	1.0	UG/L	U	YES															
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES															
ETHYLBENZENE	1.0	UG/L	U	YES															
FREON113	1.0	UG/L	U	YES															
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES															
ISOPROPYL BENZENE	1.0	UG/L	U	YES															
M,P-XYLENES	1.0	UG/L	U	YES															
METHYLENE CHLORIDE	1.0	UG/L	U	YES															
MIBK	10	UG/L	U	YES															
MTBE	1.0	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

# Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-FDUP-1

**Lab Report Batch :** 12I219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-07

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	1.0	UG/L	U	YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

<b>Analysis Method : 8260B SIM</b>																			
1,2,3-TRICHLOROPROPANE	0.036	UG/L		YES															
1,2-DIBROMO-3-CHLOROPROPANE	0.050	UG/L	U	YES															
1,2-DIBROMOETHANE	0.050	UG/L	U	YES															

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-TB-1

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-08

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val	Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																				
1,1,1,2-TETRACHLOROETHANE	1.0	UG/L	U	YES																
1,1,1-TRICHLOROETHANE	1.0	UG/L	U	YES																
1,1,2,2-TETRACHLOROETHANE	1.0	UG/L	U	YES																
1,1,2-TRICHLOROETHANE	1.0	UG/L	U	YES																
1,1-DICHLOROETHANE	1.0	UG/L	U	YES																
1,1-DICHLOROETHENE	1.0	UG/L	U	YES																
1,1-DICHLOROPROPENE	1.0	UG/L	U	YES																
1,2,3-TRICHLOROBENZENE	1.0	UG/L	U	YES																
1,2,3-TRICHLOROPROPANE	1.0	UG/L	U	YES																
1,2,4-TRICHLOROBENZENE	1.0	UG/L	U	YES																
1,2,4-TRIMETHYLBENZENE	1.0	UG/L	U	YES																
1,2-DIBROMO-3-CHLOROPROPANE	1.0	UG/L	U	YES																
1,2-DIBROMOETHANE	1.0	UG/L	U	YES																
1,2-DICHLOROBENZENE	1.0	UG/L	U	YES																
1,2-DICHLOROETHANE	1.0	UG/L	U	YES																
1,2-DICHLOROPROPANE	1.0	UG/L	U	YES																
1,3,5-TRIMETHYLBENZENE	1.0	UG/L	U	YES																
1,3-DICHLOROBENZENE	1.0	UG/L	U	YES																
1,3-DICHLOROPROPANE	0.50	UG/L	U	YES																
1,4-DICHLOROBENZENE	1.0	UG/L	U	YES																
2,2-DICHLOROPROPANE	1.0	UG/L	U	YES																
2-BUTANONE	10	UG/L	U	YES																
2-CHLOROTOLUENE	1.0	UG/L	U	YES																
2-HEXANONE	10	UG/L	U	YES																
4-CHLOROTOLUENE	1.0	UG/L	U	YES																
ACETONE	10	UG/L	U	YES																
BENZENE	1.0	UG/L	U	YES																

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

**Client Sample ID :** 09-25-12-TB-1

**Lab Report Batch :** 121219

**Lab ID :** EMXT

**Sample Date :** 09/25/2012

**Analysis Type:** RES

**Sample Matrix :** AQ

**Lab Sample ID:** I219-08

**Validated By / Date :** .....

**Approved By / Date :** .....

Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
BROMOBENZENE	1.0	UG/L	U	YES															
BROMOCHLOROMETHANE	1.0	UG/L	U	YES															
BROMODICHLOROMETHANE	1.0	UG/L	U	YES															
BROMOFORM	1.0	UG/L	U	YES															
BROMOMETHANE	1.0	UG/L	U	YES															
CARBON DISULFIDE	1.0	UG/L	U	YES															
CARBON TETRACHLORIDE	1.0	UG/L	U	YES															
CHLORO BENZENE	1.0	UG/L	U	YES															
CHLOROETHANE	1.0	UG/L	U	YES															
CHLOROFORM	1.0	UG/L	U	YES															
CHLOROMETHANE	1.0	UG/L	U	YES															
CIS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
CIS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
DIBROMOCHLOROMETHANE	1.0	UG/L	U	YES															
DIBROMOMETHANE	1.0	UG/L	U	YES															
DICHLORODIFLUOROMETHANE	1.0	UG/L	U	YES															
ETHYLBENZENE	1.0	UG/L	U	YES															
FREON113	1.0	UG/L	U	YES															
HEXACHLOROBUTADIENE	1.0	UG/L	U	YES															
ISOPROPYL BENZENE	1.0	UG/L	U	YES															
M,P-XYLENES	1.0	UG/L	U	YES															
METHYLENE CHLORIDE	1.0	UG/L	U	YES															
MIBK	10	UG/L	U	YES															
MTBE	1.0	UG/L	U	YES															
NAPHTHALENE	1.0	UG/L	U	YES															
N-BUTYLBENZENE	1.0	UG/L	U	YES															
N-PROPYLBENZENE	1.0	UG/L	U	YES															

**Project Number and Name:** 1 - B & B, MONTHLY CITY WELL SAMPLING

**Library Used:** ECO\_BrownandBryant\_110819

## Sample Qualification Report with Reason Codes (All Results sorted by Client Sample ID)

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Analyte Name	Result	Result Units	Lab Qual	Rep Res	Overall Val Qual	Temp	HT	MB	LCS	MS	Lab Dup	Rep Surr	Rep Limit	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
<b>Analysis Method : 8260B</b>																			
O-XYLENE	1.0	UG/L	U	YES															
P-ISOPROPYLTOLUENE	1.0	UG/L	U	YES															
SEC-BUTYLBENZENE	1.0	UG/L	U	YES															
STYRENE	1.0	UG/L	U	YES															
TERT-BUTYLBENZENE	1.0	UG/L	U	YES															
TETRACHLOROETHENE	1.0	UG/L	U	YES															
TOLUENE	1.0	UG/L	U	YES															
TRANS-1,2-DICHLOROETHENE	1.0	UG/L	U	YES															
TRANS-1,3-DICHLOROPROPENE	1.0	UG/L	U	YES															
TRICHLOROETHENE	1.0	UG/L	U	YES															
TRICHLOROFUOROMETHANE	1.0	UG/L	U	YES															
VINYL ACETATE	2.0	UG/L	U	YES															
VINYL CHLORIDE	1.0	UG/L	U	YES															

# ATTACHMENT 4

## PHOTOGRAPHS OF THE CITY WELLS

**Attachment 4 - Photographs taken during sampling on September 24, 2012  
City Wells Sampling, B&B Superfund Site, 600 S. Derby Street, Arvin, California**



Figure 1: Allowing water to run at the faucet at CW-1.



Figure 2: Another view of the sampling port at CW-1.



Figure 3: Draining water prior to sampling at CW-5.



Figure 4: Draining water at CW-6 prior to sampling.  
1 of 3

Attachment 4 - Photographs taken during sampling on September 24, 2012  
City Wells Sampling, B&B Superfund Site, 600 S. Derby Street, Arvin, California



Figure 5: Sampling to amber jar at CW-6.



Figure 6: A view of CW-8 during the sampling in September 2012.



Figure 7: Discharging water to the street during the sampling at CW-9.



Figure 8: Discharging water prior to sampling at CW-9.  
2 of 3

Attachment 4 - Photographs taken during sampling on September 24, 2012  
City Wells Sampling, B&B Superfund Site, 600 S. Derby Street, Arvin, California



Figure 9: Dishcarging water prior to sampling at CW-10.

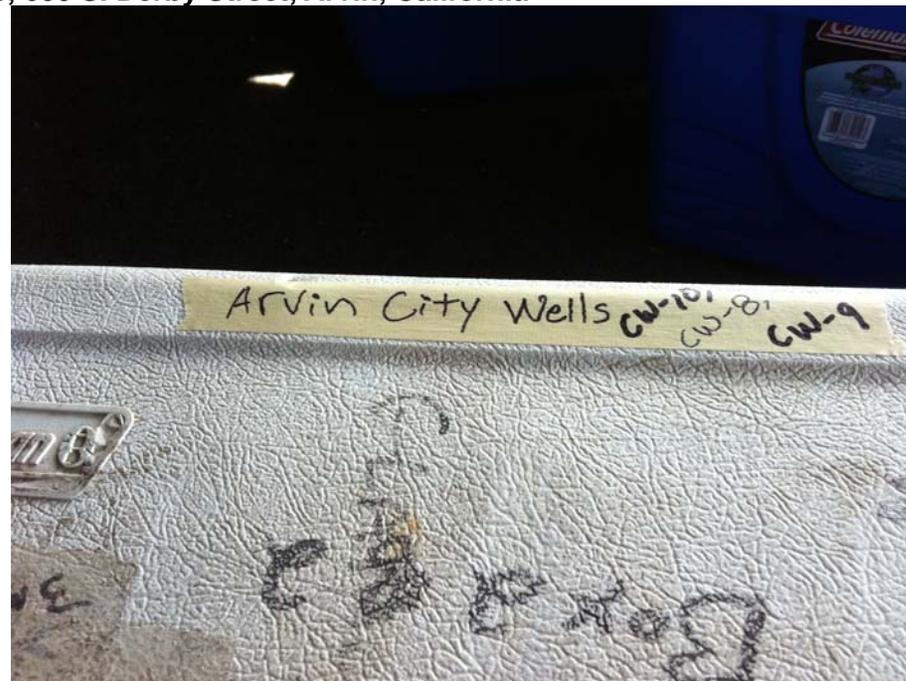


Figure 10: Marking of coolers during sampling.