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**Groundwater Monitoring Results
First Semi-Annual 2008 Monitoring Period
Cargill Salt – Alameda Facility
Alameda, California**



CRAWFORD
CONSULTING
INC.



December 22, 2008

Alameda County Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
Attn: Jerry Wickham

**RE: Groundwater Monitoring Results, First Semi-Annual 2008 Monitoring Period,
Cargill Salt – Alameda Facility, Alameda, California,
SLIC Case No. RO0002480**

Dear Mr. Wickham,

The attached report presents the groundwater monitoring results for the First Semi-Annual 2008 Monitoring Period for the Cargill Salt Alameda facility. This report presents the results of groundwater monitoring data collected during the first and second quarters of 2008. For each quarterly period, groundwater levels in the site monitoring wells were measured, groundwater samples were collected and analyzed, and the groundwater flow direction and gradient were determined.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct to the best of my knowledge.

Should you have any questions concerning the report, please don't hesitate to call me at (510) 790-8182.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sean Riley", is written over a circular stamp or mark.

Sean Riley
Environmental Manager

**Groundwater Monitoring Results
First Semi-Annual 2008 Monitoring Period
Cargill Salt – Alameda Facility
Alameda, California**

**Prepared for:
Cargill Salt
7220 Central Avenue
Newark, California 94560**

**Prepared by:
Crawford Consulting, Inc.
2 North First Street, 4th Floor
San Jose, CA 95113
(408) 287-9934**

**Project No. CS1605
December 22, 2008**

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Electronic File

Entire report presented in electronic file format (pdf) on CD-ROM inside back cover.

1 Introduction

Crawford Consulting, Inc. (Crawford) has prepared this report on behalf of Cargill Salt for the Cargill Salt Dispensing Systems Division facility (hereafter, the Site) in Alameda, California.

Results of groundwater transect sampling and the initial sampling of three groundwater monitoring wells installed in November 1999 were presented in the January 31, 2000 report, *Groundwater Characterization and Monitoring Well Installation, Cargill Salt – Alameda Facility, Alameda, California* (Crawford Consulting, Inc. and Conor Pacific/EFW). The purpose of the groundwater transect sampling and the monitoring well installation and sampling was to help characterize and monitor the occurrence of volatile organic compounds (VOCs), primarily tetrachloroethene (PCE) and its breakdown product, trichloroethene (TCE), previously detected in groundwater at the Site.

One of the recommendations in the report was to confirm the groundwater analytical results of the newly installed monitoring wells (wells MW-1, MW-2, and MW-3) and the groundwater flow direction and gradient via quarterly monitoring. Cargill Salt began groundwater monitoring on a quarterly basis after the initial groundwater monitoring well sampling event in November 1999. For 2000 through 2005, reporting was performed on an annual basis. Reporting is now being performed on a semi-annual basis.

Cargill Salt conducted additional characterization activities in November and December 2001 to evaluate the off-site extent of VOCs in the soil and groundwater. Soil and groundwater samples were collected and analyzed from a neighboring residential property and along Clement Avenue, slug tests were performed in the three existing monitoring wells, and a groundwater monitoring well (MW-4) was installed in Clement Avenue.

1.1 Reporting Period Activities

This report presents the results of groundwater monitoring data collected during the first and second quarters of 2008. For each quarterly period, groundwater levels in the Site monitoring wells were measured, groundwater samples were collected and analyzed, and the groundwater flow direction and gradient were determined. The quarterly monitoring schedule for the first semi-annual 2008 monitoring period is shown below.

Quarter of 2008	Field Dates
First	March 20, 2008
Second	June 18, 2008

Supervision of the quarterly monitoring events was conducted for Cargill Salt by Crawford. Groundwater level measurements and collection of groundwater samples were conducted by Field Solutions, Inc. The groundwater samples for the first through second quarters of 2008 were analyzed by TestAmerica Laboratories, Inc., a state-certified laboratory in Pleasanton, California.

1.2 Background Information

A description of the Site and a summary of the development of characterization and monitoring programs for the Site are presented in this section.

1.2.1 Site Description

Alameda is an island on the east side of San Francisco Bay, separated from Oakland by a tidal canal (Figure 1). The Cargill Salt Dispensing Systems Division facility is located on a rectangular lot in an industrial and residential neighborhood. The facility building occupies approximately one-third of the Site and is separated from the vacant, unpaved side of the lot by an asphalt driveway (Figure 2). The Site is bordered by a sheet-metal shop and a residential lot to the northwest, an apartment complex to the southwest, and a residential lot to the southeast.

From 1951 to 1978, the Alameda facility produced salt-dispensing units, which required casting and milling aluminum parts.

Constituents of concern associated with site operations have included casting sands with elevated concentrations of metals, and solvents, machine oils, and grease used in casting and milling operations. As discussed below, previous investigations and remedial activities have investigated and remediated metals and solvents (VOCs) in vadose-zone soil.

1.2.2 Summary of Investigative and Remedial Activities

Cargill Salt initiated site investigative activities in 1993 to determine if facility operations had impacted site soils. Cargill Salt submitted the results of the soil sampling investigation to the Alameda County Environmental Health Services (ACEHS) in October 1993 along with a workplan for excavation and disposal of impacted soils and assessment of potential impact to groundwater (Groundworks Environmental, Inc. [Groundworks], 1993).

After approval of the workplan by ACEHS, Cargill Salt conducted several phases of soil remediation and groundwater characterization. Surficial soils impacted by metals were excavated for disposal off site. Vadose-zone soils with the highest degree of impact by VOCs were also excavated for off-site disposal (see "Soil excavation area" on Figure 2).

The results of these activities were submitted to the ACEHS in a report, *Soil and Groundwater Investigations and Remedial Activities, July 1993 – September 1994, Cargill Salt – Alameda Facility, Alameda, California* (Groundworks, 1995). Recommendations for additional work to further delineate the lateral and vertical extent of VOCs in groundwater beneath the Site were presented in the report.

A workplan for the additional delineation of VOCs in groundwater, *Workplan for Groundwater Characterization and Monitoring Well Installation, 2016 Clement Avenue, Alameda, California* (CCI), was submitted to the ACEHS in July 1999.

After approval of the workplan by the ACEHS, Cargill Salt conducted groundwater sampling and well installation activities during August and November of 1999. The results of these activities were submitted to the ACEHS in a report, *Groundwater Characterization and Monitoring Well Installation, Cargill Salt – Alameda Facility, Alameda, California* (Crawford Consulting, Inc. and

Conor Pacific/EFW, dated January 31, 2000). After the initial groundwater monitoring well sampling event in November 1999, Cargill Salt began groundwater monitoring on a quarterly basis.

A work plan for remedial investigation activities, *Workplan for Off-Site Characterization, Cargill Salt – Alameda Facility, Alameda, California* (Conor Pacific/EFW), was submitted to the ACEHS in June 2001. After approval of the workplan by the ACEHS, Cargill Salt conducted characterization activities in November and December 2001 to evaluate off-site extent of VOCs in the soil and groundwater. Soil and groundwater samples were collected and analyzed from a neighboring residential property and along Clement Avenue, slug tests were performed in the three existing monitoring wells, and a groundwater monitoring well (MW-4) was installed in Clement Avenue. The results of these activities were submitted to the ACEHS in the August 21, 2002 submittal *Off-Site Groundwater Characterization, Cargill Salt – Alameda Facility, Alameda, California*, prepared by Conor Pacific/EFW.

A phytoremediation project was implemented at the Site in June 2005. The project involved planting 96 bare-root hybrid poplar trees in a grid of 24 rows. The rows are generally 6 feet apart with trees on 7-foot centers on each row. Selection of the phytoremediation approach and implementation of the project were described in the October 20, 2006 report, *Groundwater Monitoring Results, First through Fourth Quarter 2005, Cargill Salt – Alameda Facility, Alameda, California* prepared by Crawford Consulting, Inc.

1.2.3 Source of VOC Impact

As discussed in the 1995 report, the occurrence of VOCs in soils and groundwater at the Site appears to be the result of a discharge or spill to surficial soils at a location near the rear property line at the southwestern corner of the property. The area with the highest degree of chemical impact was delineated prior to excavation and was then excavated using a backhoe and transported off-site for appropriate disposal. It is possible that the VOCs detected in soils and groundwater at this location were associated with waste products from facility operations. The VOCs may be associated with solvents previously used for degreasing operations at the facility, although there are no records indicating use of PCE. Site records indicate that the solvents used for degreasing operations were not PCE-based solvents.

It is also possible that the VOCs and oil and grease are associated with waste products discarded from neighboring properties. There is an apartment complex next to the rear property line of the facility, and the laundry room for this complex is in the utility shed immediately adjacent to the rear property line. This laundry room is only 4 feet away from the area of highest impact to soil. If PCE associated with laundry cleaning products were spilled in this laundry room, it is possible that it could have drained onto the Cargill Salt property.

2 Groundwater Flow Analysis

Groundwater levels were measured quarterly and groundwater contour maps were prepared for the first and second quarter 2008 monitoring events.

2.1 Water-Level Measurement

Water levels in groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) were measured each quarter, before any of the groundwater monitoring wells were purged for sampling for the quarterly monitoring event. The groundwater monitoring well locations are shown on Figure 2. The water levels were measured with an electric sounder. The depth to water at each well was recorded on a *Water Level Field Data* sheet (see Appendix A).

The water-level data through the second quarter of 2008 are shown on Table 1. The data in Table 1 include the date and time of measurement, the well casing elevation, the measured depth to groundwater, the groundwater elevation, and the change in elevation from the previous measurement. A plot of historical groundwater elevations is shown in Figure 3.

The Site groundwater monitoring wells were re-surveyed in September 2006 by CSS Environmental Services in order to provide Geotracker-compliant survey data. Results of the casing elevation survey indicate that each well is approximately 6.4 feet higher than the previous survey conducted in 1999. This difference is due to the use of different datum for the 2006 and 1999 surveys. The casing elevations from the September 2006 survey are shown on Table 1.

Groundwater levels in the on-site monitoring wells (MW-1, MW-2, and MW-3) showed a similar seasonal pattern in the first semi-annual period of 2008 as in the previous eight years (see Figure 3). Groundwater levels rose across the Site between the fourth quarter 2007 and first quarter 2008 measurements, reflecting winter-season recharge. Groundwater levels fell between the first and second quarter 2008 measurements, reflecting dissipation of winter-season discharge winter-season recharge. The groundwater level in off-site monitoring well MW-4 showed a similar seasonal pattern as the on-site wells during the first and second quarter 2008.

2.2 Groundwater Flow Direction and Gradient

Groundwater contour maps for the first and second quarters of 2008 based on the March and June 2008 water-level data are shown on Figures 4 and 5.

The groundwater flow direction determined for the first and second quarters of 2008 was to the northeast, consistent with the groundwater flow direction determined previously for the Site. The horizontal hydraulic gradient measured for the first quarter of 2008 was 0.020 and for the second quarter of 2008 was 0.015.

2.3 Groundwater Velocity

Average linear groundwater flow velocities (V) were calculated using a form of Darcy's Law,

$$V = Ki/n,$$

where “K” is the hydraulic conductivity, “i” is the horizontal hydraulic gradient, and “n” is the effective porosity. The groundwater velocity calculations for the first and second quarters of 2008 groundwater data are presented in Appendix B.

Using hydraulic conductivity and porosity values determined for saturated native materials at the Site [based on slug tests and laboratory soil testing, respectively (Conor Pacific/EFW, 2002)], and the horizontal hydraulic gradients determined from the first and second quarters 2008 groundwater contour maps, groundwater flow velocities beneath the Site are calculated to be approximately 1.0 foot per year (ft/yr) for the first quarter 2008 measurements and 0.9 ft/yr for the second quarter 2008 measurements.

3 Groundwater Sampling and Analysis

This section summarizes the sample collection and analytical methods, presents an evaluation of quality control data, and summarizes the results of the sampling events.

3.1 Sample Collection and Analysis

Groundwater samples were collected March 20, 2008 and June 18, 2008 from groundwater monitoring wells MW-1, MW-2, MW-3, and MW-4. Dedicated tubing was installed in wells MW-1, MW-2, and MW-3 prior to the first quarter 2000 sampling event and on December 17, 2001 in well MW-4 to facilitate sampling with a peristaltic pump. Dedicated fluorinated ethylene propylene resin (FEP)-lined polyethylene tubing was installed in each monitoring well. The tubing intake was placed about one foot above the well bottom in each of the wells. Viton[®] dedicated check valves were installed on the tubing intakes to prevent back-flow of water into the well. A short length of dedicated Viton[®] tubing was installed at the well head for use in a peristaltic pump head. Prior to sample collection for each quarterly monitoring event, the wells were purged using a peristaltic pump. Field parameters (pH, electrical conductivity, temperature, and turbidity) were measured in purged groundwater from each well prior to sampling; these data are recorded on the Sample Collection Field Data sheets presented in Appendix A. After purging, groundwater samples were collected using the peristaltic pump and the dedicated Viton[®] pump head discharge tubing.

The groundwater samples were analyzed for VOCs using U.S. Environmental Protection Agency (USEPA) Method 8260. Results for all Method 8010 analytes were reported. The groundwater samples for first through second quarter 2008 were delivered with appropriate chain-of-custody documentation to TestAmerica Laboratories, Inc., a state-certified laboratory in Pleasanton, California, for chemical analysis.

3.2 Analytical Results

The results of field and laboratory quality control measures and the results of the groundwater monitoring well samples are reviewed in this section. The certified analytical reports and chain-of-custody documentation are presented in Appendix C.

3.2.1 Quality Control

Quality control (QC) samples were analyzed as part of the sampling and analysis program to evaluate the precision and accuracy of the reported groundwater chemistry data. QC samples included both field and laboratory samples. Descriptions of the purpose of specific field and laboratory QC samples used during the sampling and analysis program and an evaluation of field and laboratory QC results are presented below.

Field Quality Control Samples

A field duplicate was used during the first through second quarter 2008 sampling program for the Site. A field duplicate is used to assess sampling and analytical precision. The duplicate is collected at a selected well (MW-2 [first and second quarters 2008]) and then submitted "blind" to the laboratory for analysis with the same batch as the regular sample for the selected well. An estimate of precision is obtained by calculating the relative percent difference (RPD) between the regular sample and the duplicate sample using the following formula:

$$\text{RPD} = \frac{[x - y] 100}{0.5 (x + y)}$$

where: $[x - y]$ = the absolute value of the difference in concentration between the regular sample (x) and the duplicate sample (y).

Laboratory Quality Control Samples

The following types of laboratory QC samples were used during the first through second quarter 2008 analytical program for the Site:

- surrogate spikes
- matrix spikes/duplicate matrix spikes

A surrogate spike is a check standard added to a sample in a known amount prior to analysis. Surrogate spikes consist of analytes not normally found in environmental samples and not targeted by the analytical procedure. Surrogate spikes provide information on recovery efficiency by comparing the percent recovery of specific surrogate analyses to statistically derived acceptance limits developed by the USEPA or the laboratory (provided such laboratory-specific limits are stricter than those developed by the USEPA). If the recoveries fall within the acceptance limits for the analytes, the analysis exhibits an acceptable recovery efficiency. Recoveries that fall outside the acceptance limits indicate a potential problem with the recovery efficiency of analytes, which in turn indicates a potential bias with respect to the reported concentration of the environmental samples analyzed in the same batch.

Matrix spikes and duplicate matrix spikes are analyzed by the laboratory for the purpose of providing a quantitative measure of accuracy and precision, and to document the effect that the sample matrix has on the analysis. A selected sample is spiked in duplicate with known concentrations of analytes. The recoveries of the spiked analytes are compared to statistically derived acceptance limits developed by the USEPA or the laboratory (provided such laboratory-specific limits are stricter than those developed by the USEPA). If the recoveries fall within the acceptance limits for the analytes, the analysis has no statistically significant bias (i.e., the analysis is accurate). Recoveries that fall outside of the acceptance limits have a positive or negative bias, depending on whether the recovery is greater or less than the upper or lower acceptance limit, respectively. Analyses where analyte recoveries fall outside the acceptance limits should be regarded as estimates only.

Precision for matrix spikes is measured by calculating the relative percent differences (RPDs) between the measured concentration of analytes in the matrix and the duplicate matrix spike. The following equation is used for matrix spikes:

$$\text{RPD} = \frac{[\text{MS} - \text{MSD}] 100}{0.5 (\text{MS} + \text{MSD})}$$

where: [MS - MSD] = the absolute value of the difference in concentration between the matrix spike (MS) and the matrix spike duplicate (MSD)

First Quarter 2008 Field QC Results

One field duplicate (DUP-1) was analyzed as part of the first quarter 2008 sampling event at the Site. The duplicate sample was collected at groundwater monitoring well MW-2 and was analyzed for halogenated VOCs using USEPA Method 8260B (8010 list). Table 2 summarizes the calculated RPDs for MW-2 and MW-2 duplicate (DUP-1). The one parameter (PCE) for which RPDs could be calculated (see Table 2) PCE exhibits a low RPD value (i.e., less than 10%) indicative of good precision.

Second Quarter 2008 Field QC Results

One field duplicate (DUP-1) was analyzed as part of the second quarter 2008 sampling event at the Site. The duplicate sample was collected at groundwater monitoring well MW-2 and was analyzed for halogenated VOCs using USEPA Method 8260B (8010 list). Table 2 summarizes the calculated RPDs for MW-2 and MW-2 duplicate (DUP-1). The one parameter (PCE) for which RPDs could be calculated (see Table 2) exhibits a medium RPD value (i.e., 11-25%) indicative of fair precision.

First through Second Quarter 2008 Laboratory QC Results

A review of the first through second quarter 2008 field data sheets and laboratory reports (presented in Appendices A and C, respectively) indicates that all analyses were performed within USEPA or California Department of Health Services (DHS) recommended maximum sample holding times.

QC data on surrogate spike recoveries and matrix spike recoveries are presented in the laboratory reports. These data indicate: (1) no surrogate spike recoveries were outside of the laboratory's acceptance limits; (2) RPD values for the matrix spikes and duplicate matrix spikes indicate a high overall degree of analytical precision.

No matrix spike or duplicate matrix spike recoveries were outside of the laboratory's control limits.

The laboratory QC data indicate that the results reported herein are of adequate quality for evaluation of site groundwater conditions.

3.2.2 Groundwater Results

The results of VOC analyses for each quarter for 2000 through second quarter 2008 are summarized in Table 3, which also shows the VOC results for the initial sampling event for monitoring wells MW-1, MW-2, and MW-3 in November 1999. The results for the first and second quarter 2008 monitoring events are also shown on Figures 6 and 7.

Consistent with previous monitoring events, PCE and its breakdown products TCE and 1,1-dichloroethene (DCE) were detected in Site groundwater samples from the first and second quarter 2008 monitoring events.

For the first and second quarters of 2008, the concentrations of PCE detected were:

- 170 and 390 $\mu\text{g/L}$ in monitoring well MW-1
- 2,900 and 1,700 $\mu\text{g/L}$ in MW-2
- not detected in MW-3
- 0.91 and 0.86 $\mu\text{g/L}$ in MW-4.

The concentrations of TCE detected were 18 and 42 $\mu\text{g/L}$ in monitoring well MW-1 and not detected and 21 $\mu\text{g/L}$ in MW-2. TCE was not detected in MW-3 or MW-4.

DCE was detected in monitoring well MW-3 at 1.0 and 1.4 $\mu\text{g/L}$ for the first and second quarters 2008. DCE was not detected in MW-1, MW-2, or MW-4.

3.3 Discussion

Variations in VOC concentrations at monitoring well MW-2, the well with the highest reported PCE concentrations at the site, generally correlate with variations in groundwater elevations at the Site. An increase in VOC concentrations generally follows a rise in groundwater elevations, and a decrease in VOC concentration generally follows a fall in groundwater levels (see Figure 8). The variations in VOC concentrations sometimes lag one quarter behind the variations in groundwater elevation.

The results for the first through second quarter 2008 quarterly monitoring events are generally similar to the results reported since the second quarter of 2006 (see Figure 7).

The average seasonal concentration of PCE reported for groundwater monitoring well MW-2 has been lower since the second quarter of 2006 (June 2006 event) compared to results reported since monitoring began in 1999. The concentration of PCE reported for MW-2 decreased from 5,200 $\mu\text{g/L}$ in March 2006 to 1,600 $\mu\text{g/L}$ in June 2006. The concentrations of PCE reported for MW-2 for the June 2006, September 2006, December 2006, March 2007, and December 2007 sampling events were the lowest PCE concentrations reported for the well since the initial sampling event in November 1999, and the annual highs have been lower in 2007 and 2008 than in the previous years.

The PCE concentrations reported for MW-2 for the last nine quarters appear to be an indication that the phytoremediation project implemented in June 2005 has reduced the average seasonal concentration of PCE at the site. However, continued monitoring will be required to assess the effectiveness of the phytoremediation project in further reducing the PCE concentrations in groundwater.

4 Phytoremediation Project Status Update

A phytoremediation project was implemented at the Site in June 2005. The project involved planting 96 bare-root hybrid poplar trees in a grid on the unpaved portion of the site. Selection of the phytoremediation approach and implementation of the project were described in the report, *Groundwater Monitoring Results, First through Fourth Quarter 2005, Cargill Salt – Alameda Facility, Alameda, California* (Crawford Consulting, Inc., October 20, 2006).

A tree monitoring and maintenance program is being conducted by a landscaping contractor. This program involves monthly inspection of the trees during the growing season, inspection and maintenance of the drip irrigation system, and weed control.

The end of the first semi-annual monitoring period of 2008 marks the first three years of the phytoremediation project. The trees were 4-ft-tall, bare-root poles with no foliage when planted in June 2005. During the first two years of growth, the trees developed foliage and most grew 3 to 10 additional feet in height. Photos comparing the appearance of the trees just after planting in 2005 and in June 2007 are show below and on the next page. By the end of year three, most of the trees had grown to heights of 10 to 25 feet. In April 2008, seven additional saplings were planted in the rear of the property near monitoring well MW-2.

As discussed in Section 3.3, the PCE concentrations reported for monitoring well MW-2 for the last nine quarters appear to be an indication that the phytoremediation project has been effective at reducing the average seasonal VOC concentration in groundwater at the site. Tree growth and VOC concentrations will be monitored and evaluated to determine the effectiveness of the phytoremediation project in further reducing VOC concentrations.



Bare-root trees planted in June 2005 - View towards rear of property



June 2007 - View from gate towards rear of property



June 2007 - View of front planting strip at Clement Avenue

Professional Certification

**Groundwater Monitoring Results
First Semi-Annual 2008 Monitoring Period
Cargill Salt - Alameda Facility
Alameda, California**

This report has been prepared by CRAWFORD CONSULTING, INC. with the professional certification of the California professional geologist whose signature appears below.



Dana C. Johnston
Project Manager



Mark C. Wheeler
Principal Geologist
P.G. 4563



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Limitations

This report and the evaluations presented herein have been prepared in accordance with generally accepted professional standards and is based solely on the scope of work and services described herein. This report has been prepared solely for the use of Cargill Salt for the purposes noted herein. Any use of this report, in whole or in part, by a third party for other than the purposes noted herein is at such party's sole risk.

Table 1. Groundwater Level Data

Well/ Piezometer	Date	Time	Casing Elevation (feet, MSL)	Depth to Water (feet)	Water Elevation (feet, MSL)	Elev. Change from Last Measurement (feet)
MW-1	11/16/1999	09:56	13.16	3.75	9.41	NA
MW-1	3/30/2000	10:09	13.16	2.81	10.35	0.94
MW-1	5/16/2000	09:43	13.16	3.32	9.84	-0.51
MW-1	7/28/2000	09:11	13.16	3.58	9.58	-0.26
MW-1	11/30/2000	08:36	13.16	3.52	9.64	0.06
MW-1	3/26/2001	08:47	13.16	3.15	10.01	0.37
MW-1	6/25/2001	10:19	13.16	3.53	9.63	-0.38
MW-1	9/28/2001	09:32	13.16	3.96	9.20	-0.43
MW-1	12/17/2001	10:47	13.16	3.23	9.93	0.73
MW-1	3/21/2002	07:28	13.16	2.89	10.27	0.34
MW-1	6/6/2002	08:03	13.16	3.50	9.66	-0.61
MW-1	9/20/2002	08:30	13.16	3.86	9.30	-0.36
MW-1	12/19/2002	08:38	13.16	3.13	10.03	0.73
MW-1	3/4/2003	10:31	13.16	3.08	10.08	0.05
MW-1	6/9/2003	08:32	13.16	3.29	9.87	-0.21
MW-1	9/8/2003	10:02	13.16	3.79	9.37	-0.50
MW-1	12/1/2003	10:16	13.16	3.78	9.38	0.01
MW-1	3/4/2004	09:31	13.16	2.88	10.28	0.90
MW-1	6/2/2004	08:42	13.16	3.45	9.71	-0.57
MW-1	9/14/2004	08:01	13.16	3.87	9.29	-0.42
MW-1	12/8/2004	07:44	13.16	3.23	9.93	0.64
MW-1	3/3/2005	08:07	13.16	2.01	11.15	1.22
MW-1	6/10/2005	07:05	13.16	2.90	10.26	-0.89
MW-1	9/16/2005	08:00	13.16	3.62	9.54	-0.72
MW-1	12/6/2005	08:00	13.16	3.28	9.88	0.34
MW-1	3/10/2006	07:40	13.16	2.28	10.88	1.00
MW-1	6/9/2006	09:45	13.16	3.09	10.07	-0.81
MW-1	9/11/2006	10:24	13.16	3.70	9.46	-0.61
MW-1	12/15/2006	07:34	13.16	2.94	10.22	0.76
MW-1	3/6/2007	09:18	13.16	2.87	10.29	0.07
MW-1	6/15/2007	07:29	13.16	3.30	9.86	-0.43
MW-1	9/11/2007	08:05	13.16	3.85	9.31	-0.55
MW-1	12/4/2007	08:53	13.16	3.58	9.58	0.27
MW-1	3/20/2008	08:13	13.16	3.00	10.16	0.58
MW-1	6/18/2008	08:22	13.16	3.73	9.43	-0.73
MW-2	11/16/1999	11:15	16.22	5.22	11.00	NA
MW-2	3/30/2000	10:05	16.22	2.80	13.42	2.42
MW-2	5/16/2000	09:35	16.22	4.13	12.09	-1.33
MW-2	7/28/2000	09:17	16.22	4.85	11.37	-0.72
MW-2	11/30/2000	08:32	16.22	4.75	11.47	0.10
MW-2	3/26/2001	08:40	16.22	3.28	12.94	1.47
MW-2	6/25/2001	12:12	16.22	4.75	11.47	-1.47
MW-2	9/28/2001	12:20	16.22	5.41	10.81	-0.66
MW-2	12/17/2001	10:44	16.22	4.07	12.15	1.34
MW-2	3/28/2002	09:37	16.22	3.40	12.82	0.67
MW-2	6/6/2002	08:11	16.22	4.70	11.52	-1.30
MW-2	9/20/2002	08:34	16.22	5.28	10.94	-0.58
MW-2	12/19/2002	08:45	16.22	3.37	12.85	1.91
MW-2	3/4/2003	10:26	16.22	3.11	13.11	0.26
MW-2	6/9/2003	08:31	16.22	4.16	12.06	-1.05

Table 1. Groundwater Level Data

Well/ Piezometer	Date	Time	Casing Elevation (feet, MSL)	Depth to Water (feet)	Water Elevation (feet, MSL)	Elev. Change from Last Measurement (feet)
MW-2	9/8/2003	10:08	16.22	5.26	10.96	-1.10
MW-2	12/1/2003	10:20	16.22	5.05	11.17	0.21
MW-2	3/4/2004	09:34	16.22	2.86	13.36	2.19
MW-2	6/2/2004	08:53	16.22	4.47	11.75	-1.61
MW-2	9/14/2004	07:59	16.22	5.26	10.96	-0.79
MW-2	12/8/2004	08:00	16.22	4.20	12.02	1.06
MW-2	3/3/2005	08:04	16.22	1.90	14.32	2.30
MW-2	6/10/2005	07:09	16.22	3.74	12.48	-1.84
MW-2	9/16/2005	08:08	16.22	4.92	11.30	-1.18
MW-2	12/6/2005	10:58	16.22	4.39	11.83	0.53
MW-2	3/10/2006	07:47	16.22	2.13	14.09	2.26
MW-2	6/9/2006	10:03	16.22	3.75	12.47	-1.62
MW-2	9/11/2006	10:22	16.22	4.94	11.28	-1.19
MW-2	12/15/2006	07:32	16.22	4.08	12.14	0.86
MW-2	3/6/2007	09:13	16.22	3.27	12.95	0.81
MW-2	6/15/2007	07:31	16.22	4.57	11.65	-1.30
MW-2	9/11/2007	08:07	16.22	5.60	10.62	-1.03
MW-2	12/4/2007	08:47	16.22	4.99	11.23	0.61
MW-2	3/20/2008	08:17	16.22	3.48	12.74	1.51
MW-2	6/18/2008	08:27	16.22	4.93	11.29	-1.45
MW-3	11/16/1999	15:43	13.34	4.34	9.00	NA
MW-3	3/30/2000	10:01	13.34	2.77	10.57	1.57
MW-3	5/16/2000	09:46	13.34	3.44	9.90	-0.67
MW-3	7/28/2000	09:05	13.34	3.72	9.62	-0.28
MW-3	11/30/2000	08:34	13.34	3.73	9.61	-0.01
MW-3	3/26/2001	08:54	13.34	3.51	9.83	0.22
MW-3	6/25/2001	10:21	13.34	3.65	9.69	-0.14
MW-3	9/28/2001	09:30	13.34	3.96	9.38	-0.31
MW-3	12/17/2001	10:38	13.34	3.28	10.06	0.68
MW-3	3/21/2002	07:28	13.34	3.10	10.24	0.18
MW-3	6/6/2002	08:07	13.34	3.63	9.71	-0.53
MW-3	9/20/2002	08:25	13.34	3.82	9.52	-0.19
MW-3	12/19/2002	08:42	13.34	3.10	10.24	0.72
MW-3	3/4/2003	10:36	13.34	3.29	10.05	-0.19
MW-3	6/9/2003	08:28	13.34	3.41	9.93	-0.12
MW-3	9/8/2003	10:00	13.34	3.85	9.49	-0.44
MW-3	12/1/2003	10:30	13.34	3.90	9.44	-0.05
MW-3	3/4/2004	09:22	13.34	3.11	10.23	0.79
MW-3	6/2/2004	08:46	13.34	3.53	9.81	-0.42
MW-3	9/14/2004	08:05	13.34	4.07	9.27	-0.54
MW-3	12/8/2004	07:40	13.34	3.73	9.61	0.34
MW-3	3/3/2005	07:53	13.34	2.36	10.98	1.37
MW-3	6/10/2005	07:14	13.34	3.15	10.19	-0.79
MW-3	9/16/2005	08:04	13.34	3.90	9.44	-0.75
MW-3	12/6/2005	08:04	13.34	3.35	9.99	0.55
MW-3	3/10/2006	07:43	13.34	2.89	10.45	0.46
MW-3	6/9/2006	09:33	13.34	3.26	10.08	-0.37
MW-3	9/11/2006	10:19	13.34	3.70	9.64	-0.44
MW-3	12/15/2006	07:37	13.34	3.10	10.24	0.60
MW-3	3/6/2007	09:16	13.34	3.04	10.30	0.06

Table 1. Groundwater Level Data

Well/ Piezometer	Date	Time	Casing Elevation (feet, MSL)	Depth to Water (feet)	Water Elevation (feet, MSL)	Elev. Change from Last Measurement (feet)
MW-3	6/15/2007	07:27	13.34	3.60	9.74	-0.56
MW-3	9/11/2007	08:03	13.34	3.87	9.47	-0.27
MW-3	12/4/2007	08:50	13.34	3.62	9.72	0.25
MW-3	3/20/2008	08:15	13.34	3.13	10.21	0.49
MW-3	6/18/2008	08:24	13.34	3.90	9.44	-0.77
MW-4	12/17/2001	10:40	12.43	2.55	9.88	NA
MW-4	3/28/2002	08:05	12.43	3.06	9.37	-0.51
MW-4	6/6/2002	07:57	12.43	2.85	9.58	0.21
MW-4	9/20/2002	08:28	12.43	3.21	9.22	-0.36
MW-4	12/19/2002	08:53	12.43	3.70	8.73	-0.49
MW-4	3/4/2003	10:34	12.43	3.14	9.29	0.56
MW-4	6/9/2003	08:29	12.43	2.82	9.61	0.32
MW-4	9/8/2003	10:04	12.43	3.43	9.00	-0.61
MW-4	12/1/2003	10:14	12.43	3.12	9.31	0.31
MW-4	3/4/2004	09:27	12.43	2.81	9.62	0.31
MW-4	6/2/2004	08:44	12.43	3.34	9.09	-0.53
MW-4	9/14/2004	08:03	12.43	3.51	8.92	-0.17
MW-4	12/8/2004	07:36	12.43	3.10	9.33	0.41
MW-4	3/3/2005	07:44	12.43	2.48	9.95	0.62
MW-4	6/10/2005	07:02	12.43	2.47	9.96	0.01
MW-4	9/16/2005	08:12	12.43	3.23	9.20	-0.76
MW-4	12/6/2005	07:50	12.43	3.17	9.26	0.06
MW-4	3/10/2006	07:37	12.43	3.77	8.66	-0.60
MW-4	6/9/2006	07:30	12.43	2.49	9.94	1.28
MW-4	9/11/2006	10:17	12.43	3.19	9.24	-0.70
MW-4	12/21/2006	NR	12.43	2.90	9.53	0.29
MW-4	3/6/2007	09:20	12.43	2.54	9.89	0.36
MW-4	6/15/2007	07:33	12.43	3.03	9.40	-0.49
MW-4	9/11/2007	08:11	12.43	3.27	9.16	-0.24
MW-4	12/4/2007	08:55	12.43	3.25	9.18	0.02
MW-4	3/20/2008	08:20	12.43	2.65	9.78	0.60
MW-4	6/18/2008	08:31	12.43	3.35	9.08	-0.70

Key:

NA = Not available

feet, MSL = feet, relative to Mean Sea Level

Casing elevations for all wells were resurveyed on September 6, 2006 by CSS Environmental Services for Geotracker compliance.

Table 2.
Relative Percent Difference Based on Duplicate Samples

Analysis	First Quarter 2008			Second Quarter 2008		
	Well MW-2 Results	Duplicate (DUP-1) Results	RPD ¹ (%)	Well MW-2 Results	Duplicate (DUP-1) Results	RPD ¹ (%)
Volatile Organic Compounds ($\mu\text{g/L}$)						
1,1-Dichloroethene (DCE)	< 20	< 20	NM ²	< 20	< 20	NM
1,1,1-Trichloroethane (TCA)	< 20	< 20	NM	< 20	< 20	NM
Trichloroethene (TCE)	< 20	< 20	NM	21	< 20	NM
Tetrachloroethene (PCE)	2,900	3,000	3.4	1,700	1,900	11.1
¹ RPD = relative percent difference ² NM = not meaningful; RPD cannot be accurately calculated where one or both values are below the method reporting limit. All other 8010 list analytes not detected (by 8260).						

Table 3. Summary of Groundwater Monitoring Well Data

Results measured in micrograms per liter (µg/L)																																					
Well No.	MW-1																														MCL ¹						
Field Date	11/16/99	3/30/00	5/16/00	7/28/00	11/30/00	3/26/01	6/25/01	9/28/01	12/17/01	3/21/02	6/6/02	9/20/02	12/19/02	3/4/03	6/9/03	9/8/03	12/1/03	3/4/04	6/2/04	9/14/04	12/8/04	3/3/05	6/10/05	9/16/05	12/6/05	3/10/06	6/9/06	9/11/06	12/15/06	3/6/07	6/15/07	9/11/07	12/4/07	3/20/08	6/18/08	MCL ¹	
DCE ²	<50.0	13	<10	15	14	<13	14	15	<13	<13	<13	<13	<13	<10	12	5.2	8.4	<5.0	5.8	6.6	<5.0	<5.0	<2.0	<5.0	<2.0	<0.5	<2.0	3.3	<2.0	<2.0	3.0	<5.0	<5.0	<2.0	<5.0	6	
CFC 113 ³	na ⁴	1.4	<10	<10	<8.3	<50	<50	<50	<50	<13	<13	<13	<13	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<5.0	ne ⁵
DCA ⁶	<50.0	0.8	<10	<10	<4.2	<13	<13	<13	<13	<13	<13	<13	<13	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<5.0	5	
Chloroform	<50.0	0.6*	<10	<10	<8.3	<13	<13	<13	<13	<13	<13	<13	<13	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	1.4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<10	<10	<4.0	<10	ne
TCA ⁷	<50.0	1.6	<10	<10	<4.2	<13	<13	<13	<13	<13	<13	<13	<13	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<5.0	200	
TCE ⁸	178	150	190	170	130	180	250	210	190	160	140	190	68	97	90	110	130	53	72	81	39	15	23	34	16	3.4	22	47	20	17	38	51	29	18	42	5	
PCE ⁹	906	1,400	1,900	1,200	880	1,000	1,400	1,000	1,400	1,100	980	1,100	600	730	770	780	850	370	490	620	380	160	180	240	140	39	140	400	210	170	310	430	330	170	390	5	
Other analytes ¹⁰	nd ¹¹	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	

Results measured in micrograms per liter (µg/L)																																						
Well No.	MW-2																														MCL ¹							
Field Date	11/16/99	3/30/00	5/16/00	7/28/00	11/30/00	3/26/01	6/25/01	9/28/01	12/17/01	3/28/02	6/6/02	9/20/02	12/30/02	3/4/03	6/9/03	9/8/03	12/1/03	3/4/04	6/2/04	9/14/04	12/8/04	3/3/05	6/10/05	9/16/05	12/6/05	3/10/06	6/9/06	9/11/06	12/15/06	3/6/07	6/15/07	9/11/07	12/4/07	3/20/08	6/18/08	MCL ¹		
DCE ²	<50.0	<0.5	<25	<25	<8.3	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	<25	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	6	
CFC 113 ³	na	<0.5	<25	<25	<17	<100	<100	<100	<100	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	<25	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ne ⁵
DCA ⁶	<50.0	<0.5	<25	<25	<8.3	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	<25	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	5	
Chloroform	<50.0	<0.5	<25	<25	<17	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<40	<50	<50	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	ne	
TCA ⁷	<50.0	5.0	<25	<25	<8.3	<25	<25	<25	<25	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	<25	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	200	
TCE ⁸	<50	29	53	<25	20	40	78	<25	<25	49	52	32	<25	58	41	28	25	39	49	37	30	78	43	29	45	59	<20	<20	<20	<20	22	31	<20	<20	21	5		
PCE ⁹	840	3,600	3,200	3,300	1,700	2,200	4,400	1,700	1,700	3,500	3,800	2,100	1,800	3,900	3,800	2,500	2,500	3,000	4,100	3,800	2,800	7,300	3,600	2,500	3,300	5,200	1,600	990	1,000	1,600	2,400	1,700	1,100	2,900	1,700	5		
Other analytes ¹⁰	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--		

Notes:
¹ MCL = California Primary Drinking Water Standard - Maximum Contaminant Level (in micrograms per liter [µg/L])
² DCE = 1,1-Dichloroethene
³ CFC 113 = Trichlorotrifluoroethane (1,1,2-Trichloro-1,2,2-trifluoroethane)
⁴ na = not analyzed
⁵ ne = not established or none applicable
⁶ DCA = 1,1-Dichloroethane
⁷ TCA = 1,1,1-Trichloroethane
⁸ TCE = Trichloroethene
⁹ PCE = Tetrachloroethene
¹⁰ All other 8010 list analytes
¹¹ nd = not detected above laboratory reporting limit
 * Chloroform detected in equipment blank at 1.6 µg/L for 3/30/00 event.

Table 3. Summary of Groundwater Monitoring Well Data

Results measured in micrograms per liter (µg/L)																																					
Well No.	MW-3																													MCL ¹							
Field Date	11/16/99	3/30/00	5/16/00	7/28/00	11/30/00	3/26/01	6/25/01	9/28/01	12/17/01	3/21/02	6/6/02	9/20/02	12/19/02	3/4/03	6/9/03	9/8/03	12/1/03	3/4/04	6/2/04	9/14/04	12/8/04	3/3/05	6/10/05	9/16/05	12/6/05	3/10/06	6/9/06	9/11/06	12/15/06	3/6/07	6/15/07	9/11/07	12/4/07	3/20/08	6/18/08	MCL ¹	
DCE ²	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.51	<0.5	0.81	<0.5	<0.5	0.68	2.4	1.5	1.1	0.86	4.3	2.8	1.6	1.5	2.4	1.4	1.1	1.0	1.4	6	
CFC 113 ³	na	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ne ⁵
DCA ⁶	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5	
Chloroform	<0.500	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ne	
TCA ⁷	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	200
TCE ⁸	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5	
PCE ⁹	<0.500	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.81	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5	
Other analytes ¹⁰	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	

Well No.	MW-4																												MCL ¹
Field Date	12/17/01	3/28/02	6/6/02	9/20/02	12/19/02	3/4/03	6/9/03	9/8/03	12/1/03	3/4/04	6/2/04	9/14/04	12/8/04	3/3/05	6/10/05	9/16/05	12/6/05	3/10/06	6/9/06	9/11/06	12/21/06	3/6/07	6/15/07	9/11/07	12/4/07	3/20/08	6/18/08	MCL ¹	
DCE ²	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6
CFC 113 ³	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ne ⁵
DCA ⁶	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5
Chloroform	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ne
TCA ⁷	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	200
TCE ⁸	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5
PCE ⁹	2.6	2.8	2.0	2.5	1.1	2.1	2.1	1.6	1.6	1.7	1.4	1.3	1.2	0.93	0.98	0.8	1.1	0.79	0.64	0.70	0.63	0.70	0.75	0.86	0.92	0.91	0.86	5	
Other analytes ¹⁰	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--

Notes:

¹ MCL = California Primary Drinking Water Standard - Maximum Contaminant Level (in micrograms per liter [µg/L])

² DCE = 1,1-Dichloroethene

³ CFC 113 = Trichlorotrifluoroethane (1,1,2-Trichloro-1,2,2-trifluoroethane)

⁴ na = not analyzed

⁵ ne = not established or none applicable

⁶ DCA = 1,1-Dichloroethane

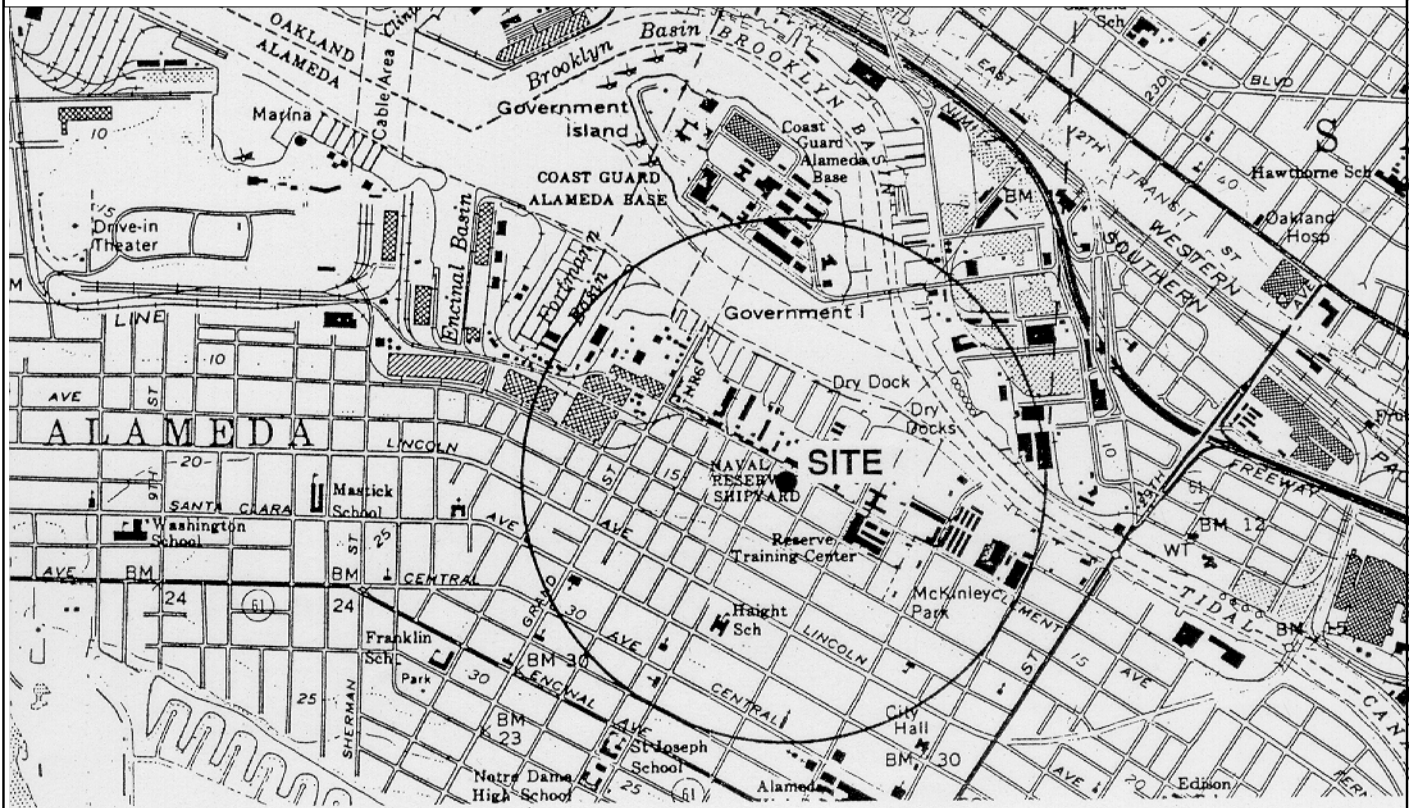
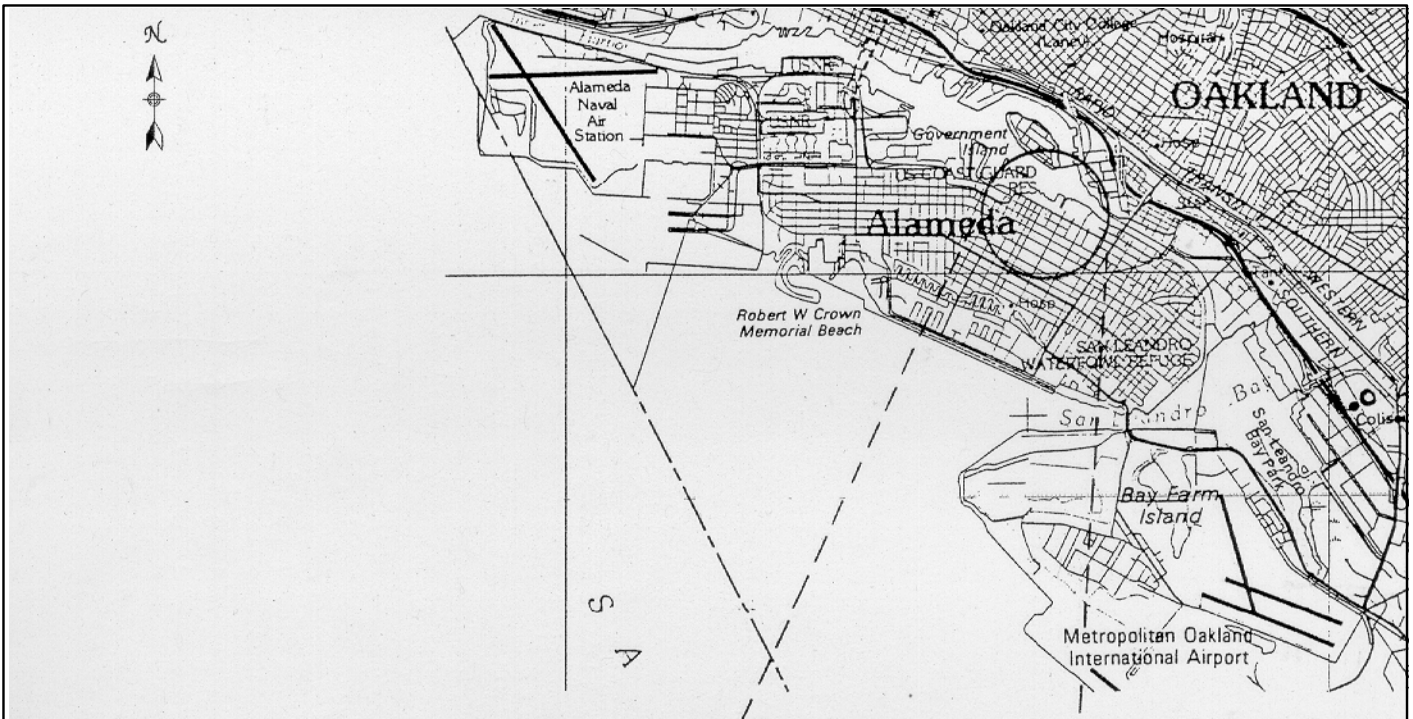
⁷ TCA = 1,1,1-Trichloroethane

⁸ TCE = Trichloroethene

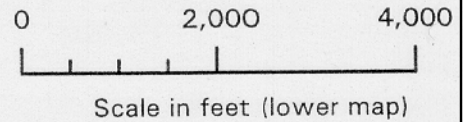
⁹ PCE = Tetrachloroethene

¹⁰ All other 8010 list analytes

¹¹ nd = not detected above laboratory reporting limit



Base map (upper): U.S.G.S. 1:1,000,000-scale series (Topographic)
 San Francisco Quadrangle, California, 1978.
 Base map (lower): U.S.G.S. 7.5 minute series (Topographic)
 Oakland East and Oakland West Quadrangles, California,
 1959, Photorevised 1980.



Project No. CS1605
 Cargill Salt Dispensing Systems Division
 2016 Clement Avenue, Alameda, California
Figure 1. Site Location

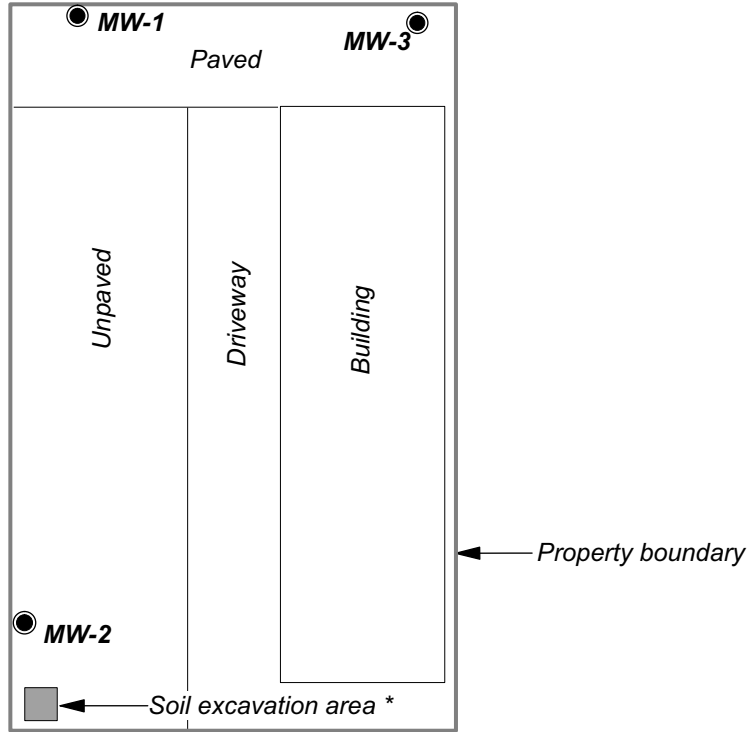


MW-4

Curb line (Typ.)

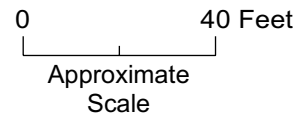


Clement Avenue



EXPLANATION

- Groundwater monitoring well
- * Excavated in February 1994



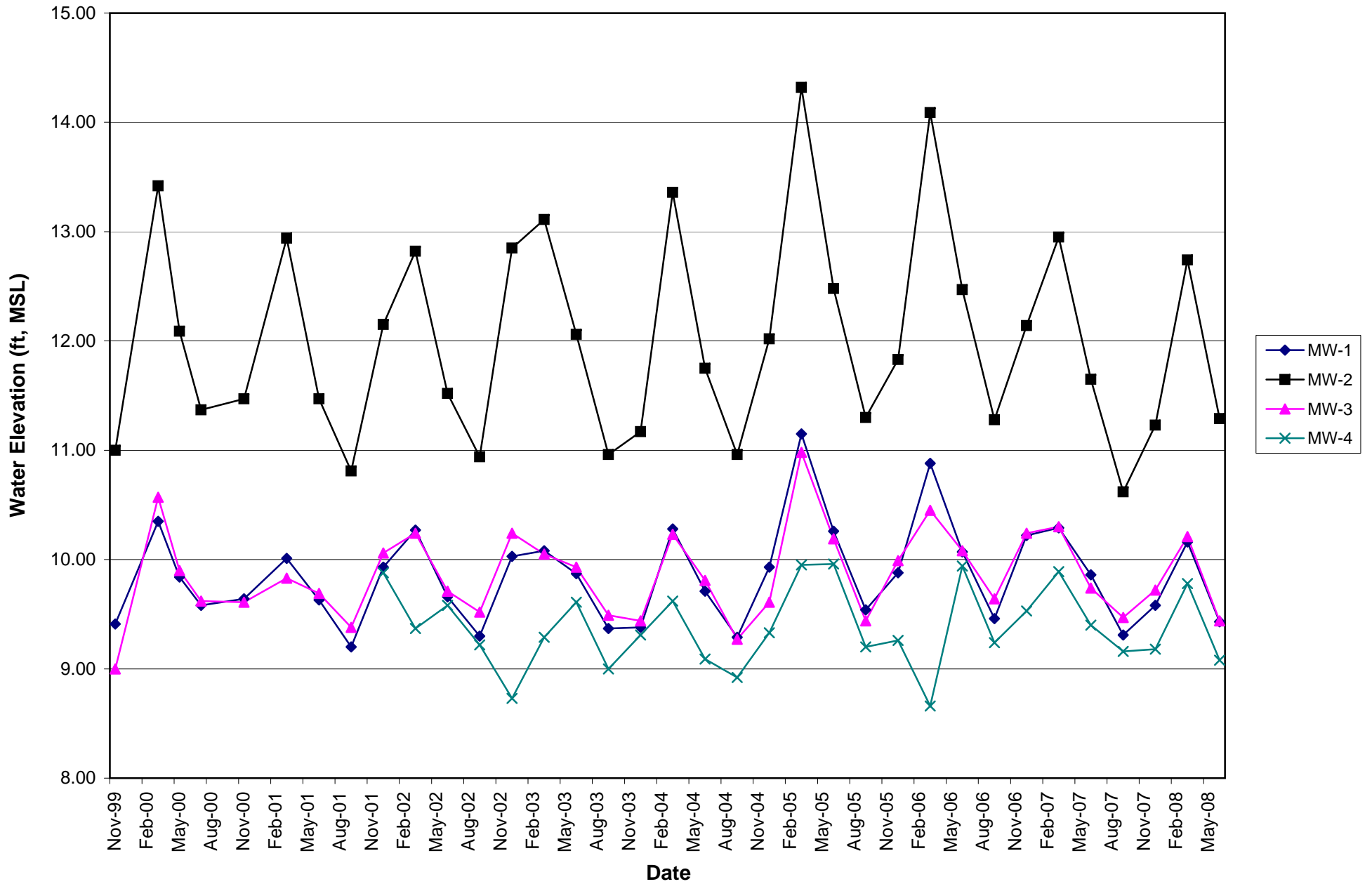
1605fig207Q4.dsf 2/22/08

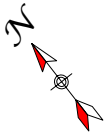
Base map from Conor Pacific/EFW, Off-Site
Groundwater Characterization, August 21, 2002.



Project No. CS1605
 Cargill Salt Dispensing Systems Division
 2016 Clement Avenue, Alameda, California
Figure 2. Groundwater Monitoring Well Locations

Figure 3. Graphical Summary of Groundwater Elevations

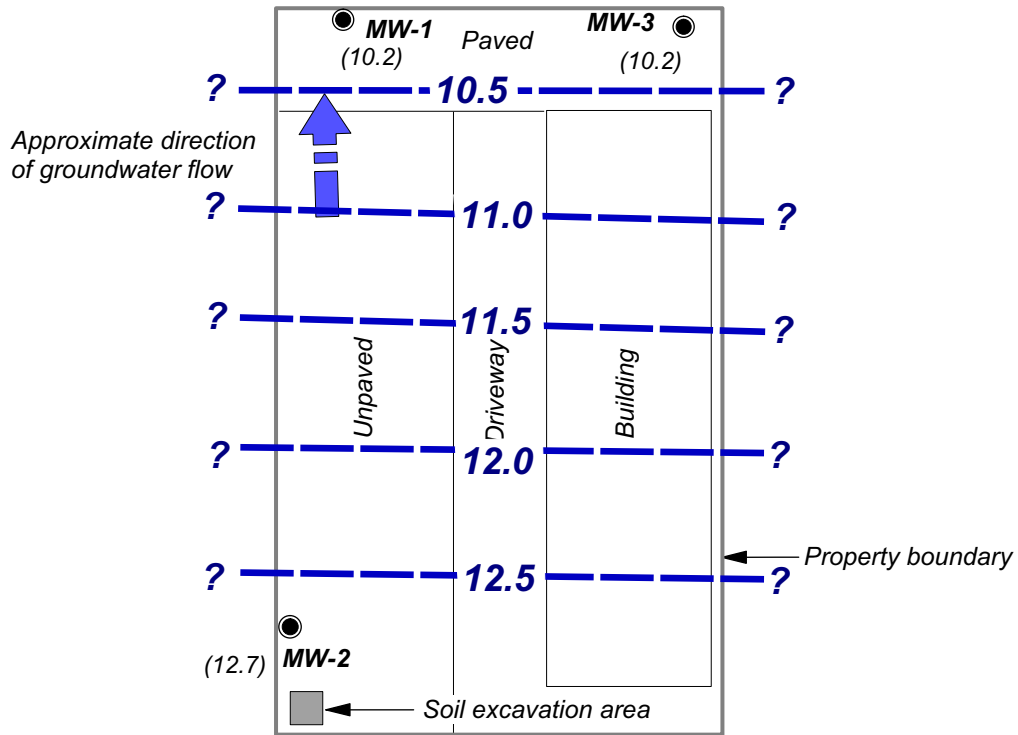




Curb line (Typ.)

● (9.8)
MW-4

Clement Avenue ? — 10.0 — ?



EXPLANATION

● Monitoring well

(9.3) Groundwater elevation (Ft.-MSL);
measured 3/20/08

? — 10 — ? Groundwater elevation contour
(Ft.-MSL)

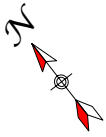
0 40 Feet
Approximate
Scale

1605fig408Q2.dsf 12/17/08

Base map from Conor Pacific/EFW, Off-Site
Groundwater Characterization, August 21, 2002.



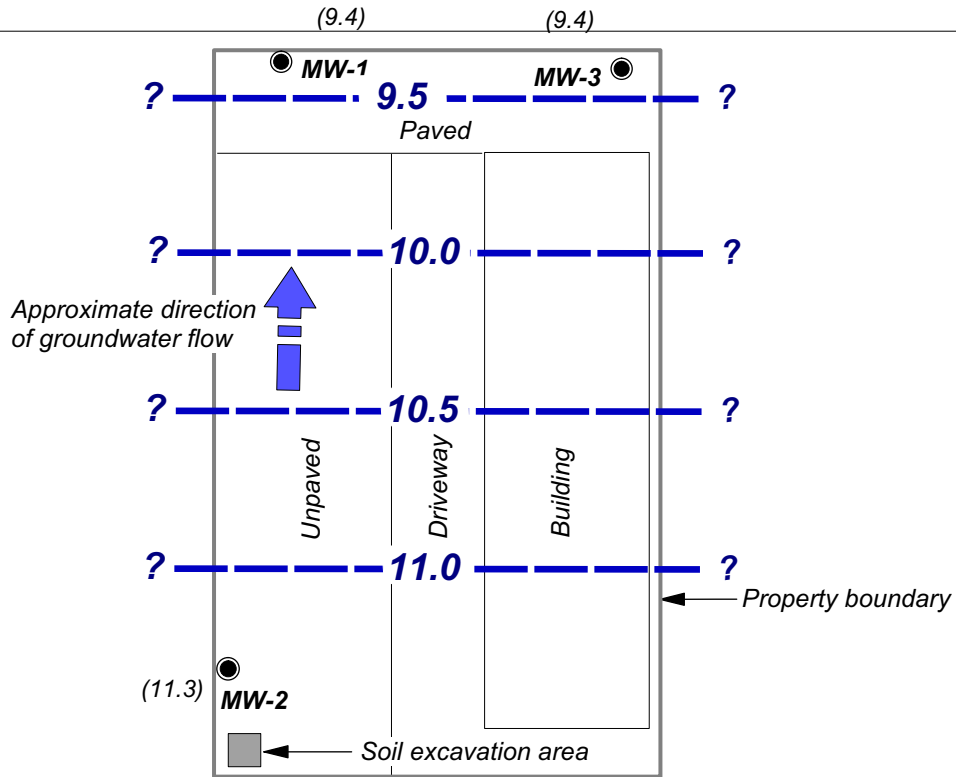
Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 4. Groundwater Elevation Contours - March 2008



Curb line (Typ.)

● (9.1)
MW-4

Clement Avenue

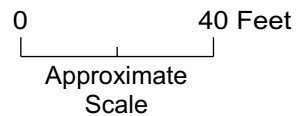


EXPLANATION

● Monitoring well

(9.9) Groundwater elevation (Ft.-MSL);
measured 6/18/08

?-11- Groundwater elevation contour
(Ft.-MSL)

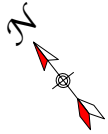


Base map from Conor Pacific/EFW, Off-Site
Groundwater Characterization, August 21, 2002.

1605fig508Q2.dsf 12/17/08



Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 5. Groundwater Elevation Contours - June 2008



Curb line (Typ.)

Clement Avenue

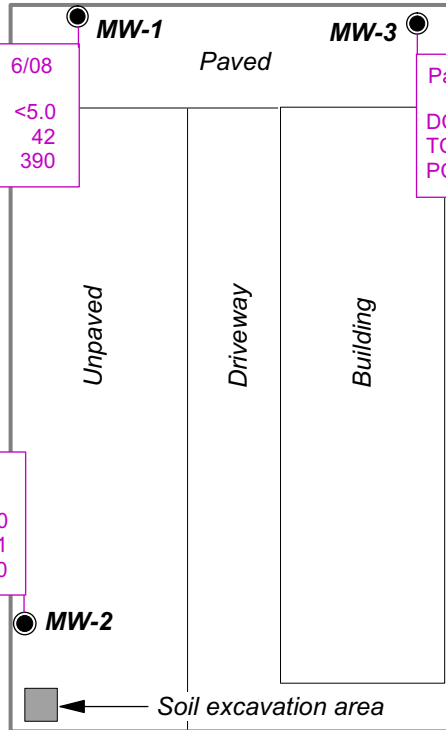
MW-4

Parameter	3/08	6/08
DCE	<0.5	<0.5
TCE	<0.5	<0.5
PCE	0.91	0.86

Parameter	3/08	6/08
DCE	<2.0	<5.0
TCE	18	42
PCE	170	390

Parameter	3/08	6/08
DCE	1.0	1.4
TCE	<0.5	<0.5
PCE	<0.5	<0.5

Parameter	3/08	6/08
DCE	<20	<20
TCE	<20	21
PCE	2,900	1,700



EXPLANATION

● Groundwater monitoring well location

All concentrations reported in micrograms per liter (µg/L), in groundwater. All other 8010 list analytes were below detection limits.

— Analyte concentration

DCE = 1,1-Dichloroethene
 PCE = Tetrachloroethene
 TCE = Trichloroethene
 VOCs = Volatile organic compounds

DCE	<2.0
TCE	18
PCE	170

— Analytical parameter

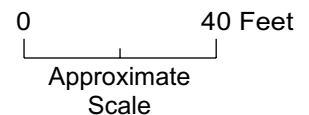


Figure 7. Graphical Summary of PCE Concentrations

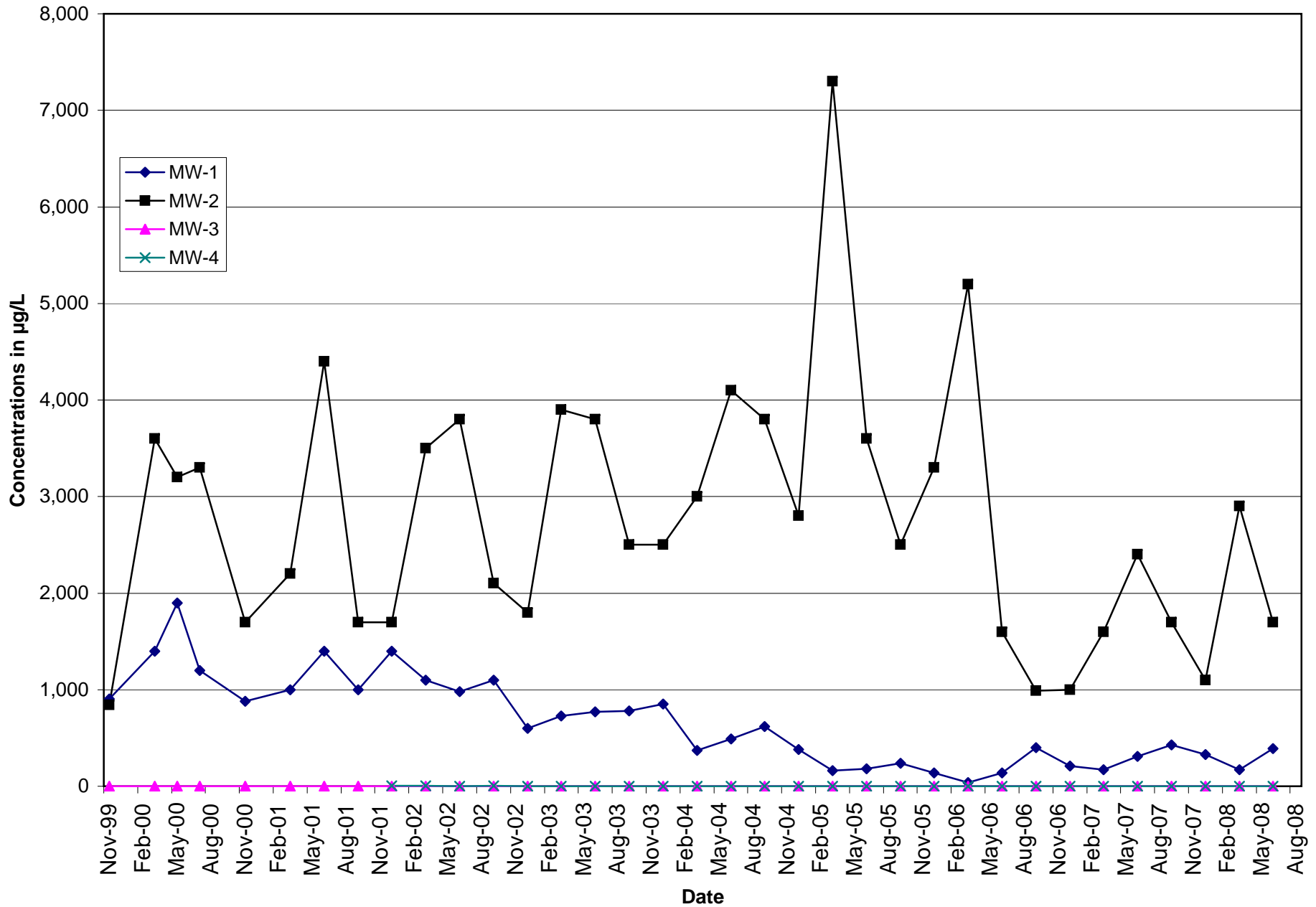
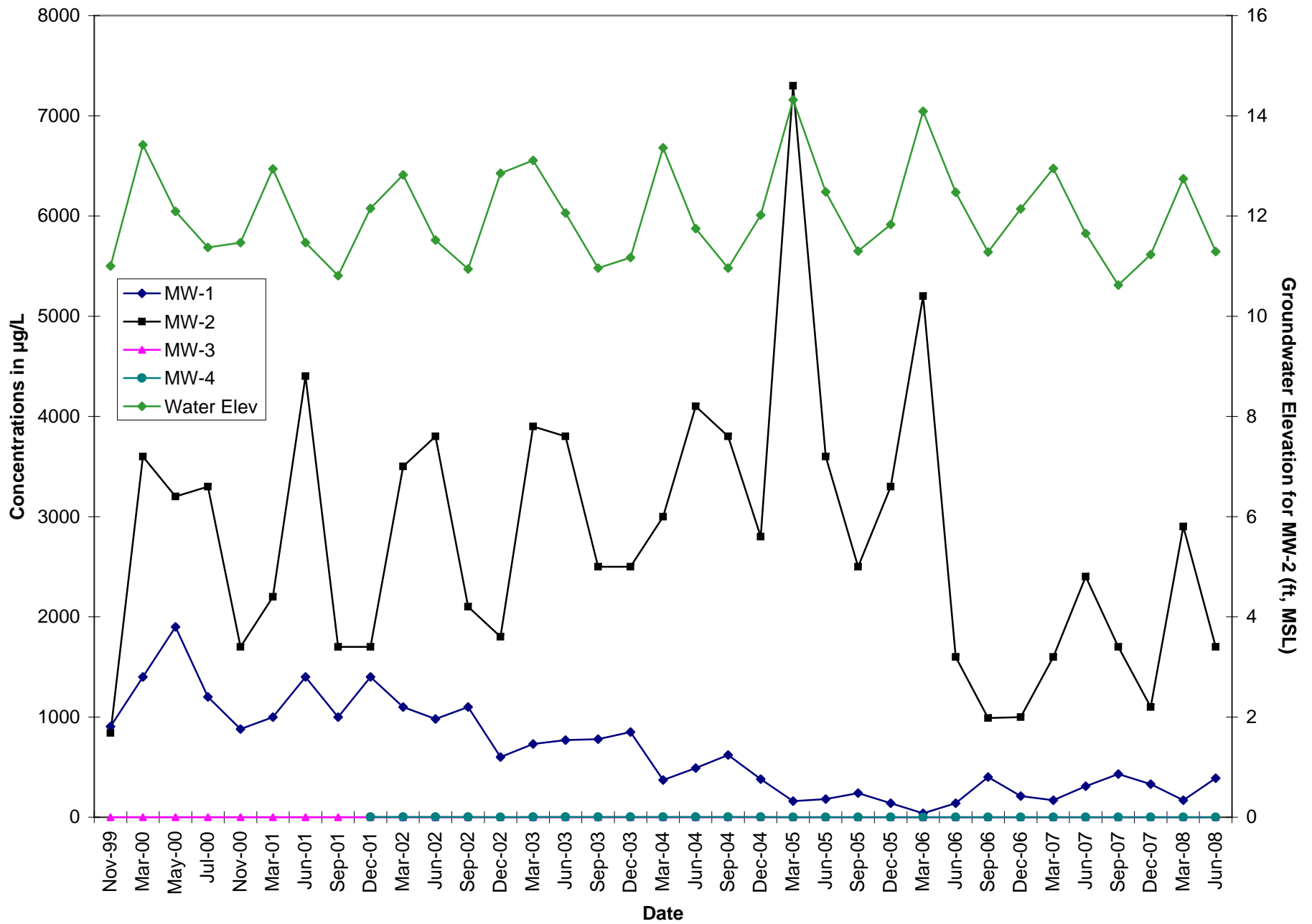


Figure 8. PCE Concentrations vs. Groundwater Elevation



Appendix A
Field Data Sheets

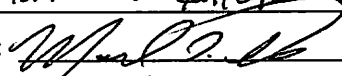
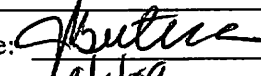
First Quarter 2008

WATER LEVEL FIELD DATA

Cargill Salt
 Alameda Facility
 Alameda, California
 Project No. CS1605

Well ID	Date	Time	Depth to Water (1st Msmt.) (feet)	Depth to Water (2nd Msmt.) (feet)	Comments
MW-1	3/20/08	0813	3.00	3.00	
MW-2	3/20/08	0817	3.48	3.48	
MW-3	3/20/08	0815	3.13	3.13	
MW-4	3/20/08	0820	2.65	2.65	

Data Collection

Field measurements by: Print: <u>Manuel L. Gallagos</u> Signature: <u></u> Date: <u>3-20-08</u>	Reviewed by: Print: <u>J. Butera</u> Signature: <u></u> Date: <u>4/1/08</u>
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SAMPLE COLLECTION FIELD DATA

Project No.: CS1605
 Project Name: Alameda Facility
 Location: Alameda, CA
 Client: Cargill Salt

Well ID: MW-1
 Sample ID: MW-1
 Start Date: 3-20-08
 Finish Date: 3-20-08

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 3.04 Well depth (ft): 18.3
 One casing volume (gal.): 0.62 Calculated purge volume (gal.) (3 x casing volume): 1.87
 $One\ casing\ volume = \pi \times [casing\ radius\ (in.) \times 1\ ft/12\ in.]^2 \times [well\ depth\ (ft) - depth\ to\ water\ (ft)] \times 7.48\ gal/ft^3$
 Gallons per linear ft for casing diameter of: 1" = 0.041 2" = 0.16 4" = 0.65 5" = 1.0 6" = 1.5 8" = 2.6
 Floating product thickness (ft): NA Method for checking: Interface probe Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 3-20-08 Start time: 0903 End time: 0925
 Purging equipment: Submersible pump Bladder pump Peristaltic pump
 PVC bailer Teflon bailer Other
 Purge rate (lpm): 0.31 Well yield (H/L): 17.96
 Purge water disposal: Drum on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
<u>0910</u>	<u>2.3</u>	<u>6.84</u>	<u>411</u>	<u>14.8</u>	<u>Clear</u>	<u>1.00</u>
<u>0918</u>	<u>4.6</u>	<u>6.72</u>	<u>378</u>	<u>14.8</u>	<u>Clear</u>	<u>0.49</u>
<u>0925</u>	<u>6.9</u>	<u>6.77</u>	<u>376</u>	<u>14.7</u>	<u>Clear</u>	<u>0.12</u>

Total Purged (Liters): 6.9

WELL SAMPLING

Date sampled: 3-20-08 Start time: 0925 End time: 0927
 Depth to water (ft) before sampling: 4.85
 Sampling equipment: Peristaltic pump Bladder pump Teflon bailer
 PVC bailer Other

Weather conditions: Sunny / clear Ambient temperature (° F): 62
 Well condition/Remarks: All samples taken

Meter calibration: EC _____ pH _____
 Temperature _____ Turbidity _____

Purged and sampled by (print): Manuel L. Gallagos
 Signature: [Signature] Reviewed by: [Signature]

Second Quarter 2008

WATER LEVEL FIELD DATA

Cargill Salt
 Alameda Facility
 Alameda, California
 Project No. CS1605

Well ID	Date	Time	Depth to Water (1st Msmt.) (feet)	Depth to Water (2nd Msmt.) (feet)	Comments
MW-1	6/15/08	0822	3.73	3.73	No bolts on box
MW-2	6/18/08	0827	4.93	4.93	No bolts on box
MW-3	6/18/08	0824	3.90	3.90	No bolts on box
MW-4	6/18/08	0831	3.35	3.35	No bolts on box

Data Collection

Field measurements by: Print: <u>Manuel L. Gallegos</u> Signature: <u><i>Manuel L. Gallegos</i></u> Date: <u>6-18-08</u>	Reviewed by: Print: <u>Jim Butera</u> Signature: <u><i>J Butera</i></u> Date: <u>7/8/08</u>
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SAMPLE COLLECTION FIELD DATA

Project No.: CS1605
 Project Name: Alameda Facility
 Location: Alameda, CA
 Client: Cargill Salt

Well ID: MW-1
 Sample ID: MW-1
 Start Date: 6-18-08
 Finish Date: 6-18-08

WELL INFORMATION

Casing diameter (in.): 0.75 Depth to water (ft): 3.68 Well depth (ft): 18.3
 One casing volume (gal.): 0.59 Calculated purge volume (gal.) (3 x casing volume): 1.79
 $One\ casing\ volume = \pi \times [casing\ radius\ (in.) \times 1\ ft/12\ in.]^2 \times [well\ depth\ (ft) - depth\ to\ water\ (ft)] \times 7.48\ gal/ft^3$
 Gallons per linear ft for casing diameter of: 1" = 0.041 2" = 0.16 4" = 0.65 5" = 1.0 6" = 1.5 8" = 2.6
 Floating product thickness (ft): NO Method for checking: Interface probe Clear bailer

WELL PURGING

Date purged: 6-18-08 Start time: 0922 End time: 0954
 Purging equipment: Submersible pump _____ Bladder pump _____ Peristaltic pump
 PVC bailer _____ Teflon bailer _____ Other _____
 Purge rate: 0.20 lpm Well yield (H/L): high
 Purge water disposal: Drum on site

Time (2400 hr)	Cumulative Vol. Purged (gal.)	pH (units)	EC (μ S/cm)	T ($^{\circ}$ C)	Color (Visual)	Turbidity (Visual or NTU)
<u>0934</u>	<u>2.2</u>	<u>7.22</u>	<u>464</u>	<u>18.7</u>	<u>clear</u>	<u>0.00</u>
<u>0944</u>	<u>4.4</u>	<u>6.93</u>	<u>417</u>	<u>18.9</u>	<u>clear</u>	<u>0.00</u>
<u>0954</u>	<u>6.6</u>	<u>6.87</u>	<u>411</u>	<u>18.9</u>	<u>clear</u>	<u>0.00</u>

Total Purged (gal.): 6.6

WELL SAMPLING

Date sampled: 6-18-08 Start time: 0954 End time: 0956
 Depth to water (ft) before sampling: 4.75
 Sampling equipment: Peristaltic pump Bladder pump _____ Teflon bailer _____
 PVC bailer _____ Other _____

Weather conditions: Sunny clear Ambient temperature ($^{\circ}$ F): 74
 Well condition/Remarks: All samples taken

Meter calibration: EC _____ pH _____
 Temperature _____ Turbidity _____

Purged and sampled by (print): Manuel J. Gallegos
 Signature: [Signature] Reviewed by: [Signature]

SAMPLE COLLECTION FIELD DATA

Project No.: CS1605
 Project Name: Alameda Facility
 Location: Alameda, CA
 Client: Cargill Salt

Well ID: MW-2
 Sample ID: MW-2
 Start Date: 6-18-08
 Finish Date: 6-18-08

WELL INFORMATION

Casing diameter (in.): 0.75 Depth to water (ft): 4.95 Well depth (ft): 17.5
 One casing volume (gal.): 0.51 Calculated purge volume (gal.) (3 x casing volume): 1.54
 One casing volume = $\pi \times [\text{casing radius (in.)} \times 1 \text{ ft}/12 \text{ in.}]^2 \times [\text{well depth (ft)} - \text{depth to water (ft)}] \times 7.48 \text{ gal/ft}^3$
 Gallons per linear ft for casing diameter of: 1" = 0.041 2" = 0.16 4" = 0.65 5" = 1.0 6" = 1.5 8" = 2.6
 Floating product thickness (ft): NO Method for checking: Interface probe Clear bailer

WELL PURGING

Date purged: 6-18-08 Start time: 1112 End time: 1141
 Purging equipment: Submersible pump Bladder pump Peristaltic pump
 PVC bailer Teflon bailer Other
 Purge rate: 0.19 upm Well yield (H/L): High.
 Purge water disposal: Drum on site

Time (2400 hr)	Cumulative Vol. Purged (gal.)	pH (units)	EC ($\mu\text{S/cm}$)	T ($^{\circ}\text{C}$)	Color (Visual)	Turbidity (Visual or NTU)
<u>1221</u>	<u>1.9</u>	<u>7.08</u>	<u>446</u>	<u>19.7</u>	<u>Clear</u>	<u>17.09</u>
<u>1131</u>	<u>3.8</u>	<u>6.84</u>	<u>458</u>	<u>19.5</u>	<u>Clear</u>	<u>6.81</u>
<u>1141</u>	<u>5.7</u>	<u>6.79</u>	<u>461</u>	<u>19.4</u>	<u>Clear</u>	<u>1.80</u>

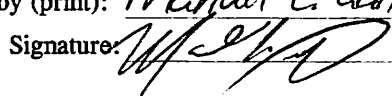

Total Purged (gal.): 5.7

WELL SAMPLING

Date sampled: 6-18-08 Start time: 1142 End time: 1144
 Depth to water (ft) before sampling: 5.50
 Sampling equipment: Peristaltic pump Bladder pump Teflon bailer
 PVC bailer Other

Weather conditions: Sunny/Cloud Ambient temperature ($^{\circ}\text{F}$): 75
 Well condition/Remarks: All samples taken

Meter calibration: EC _____ pH _____
 Temperature _____ Turbidity _____

Purged and sampled by (print): Manuel L. Cadiz
 Signature:  Reviewed by: 

SAMPLE COLLECTION FIELD DATA

Project No.: CS1605
 Project Name: Alameda Facility
 Location: Alameda, CA
 Client: Cargill Salt

Well ID: MW-3
 Sample ID: MW-3
 Start Date: 6-18-08
 Finish Date: 6-18-08

WELL INFORMATION

Casing diameter (in.): 0.75 Depth to water (ft): 369 Well depth (ft): 17.4
 One casing volume (gal.): 0.57 Calculated purge volume (gal.) (3 x casing volume): 1.71
 $One\ casing\ volume = \pi \times [casing\ radius\ (in.) \times 1\ ft/12\ in.]^2 \times [well\ depth\ (ft) - depth\ to\ water\ (ft)] \times 7.48\ gal/ft^3$
 Gallons per linear ft for casing diameter of: 1" = 0.041 2" = 0.16 4" = 0.65 5" = 1.0 6" = 1.5 8" = 2.6
 Floating product thickness (ft): ND Method for checking: Interface probe Clear bailer

WELL PURGING

Date purged: 6-18-08 Start time: 1010 End time: 1059
 Purging equipment: Submersible pump Bladder pump Peristaltic pump
 PVC bailer Teflon bailer Other
 Purge rate: 0.12 lpm Well yield (H/L): Low
 Purge water disposal: Drum on site.

Time (2400 hr)	Cumulative Vol. Purged (gal.)	pH (units)	EC ($\mu S/cm$)	T ($^{\circ}C$)	Color (Visual)	Turbidity (Visual or NTU)
<u>1024</u>	<u>2.1</u>	<u>7.18</u>	<u>571</u>	<u>19.4</u>	<u>Clear</u>	<u>9.12</u>
<u>1042</u>	<u>4.2</u>	<u>7.37</u>	<u>590</u>	<u>19.4</u>	<u>Clear</u>	<u>9.63</u>
<u>1059</u>	<u>6.3</u>	<u>7.41</u>	<u>590</u>	<u>19.8</u>	<u>Clear</u>	<u>8.39</u>

Total Purged (gal.): 6.3

WELL SAMPLING

Date sampled: 6-18-08 Start time: 1059 End time: 1102
 Depth to water (ft) before sampling: 15.18
 Sampling equipment: Peristaltic pump Bladder pump Teflon bailer
 PVC bailer Other

Weather conditions: Sunny / clear Ambient temperature ($^{\circ}F$): 75
 Well condition/Remarks: All samples taken

Meter calibration: EC _____ pH _____
 Temperature _____ Turbidity _____

Purged and sampled by (print): Manuel L. Challegas
 Signature: [Signature] Reviewed by: [Signature]

SAMPLE COLLECTION FIELD DATA

Project No.: CS1605
 Project Name: Alameda Facility
 Location: Alameda, CA
 Client: Cargill Salt

Well ID: MW-4
 Sample ID: MW-4
 Start Date: 6-18-08
 Finish Date: 6-18-08

WELL INFORMATION

Casing diameter (in.): 0.75 Depth to water (ft): 3.35 Well depth (ft): 19.0
 One casing volume (gal.): 0.64 Calculated purge volume (gal.) (3 x casing volume): 1.92
 One casing volume = $\pi \times [\text{casing radius (in.)} \times 1 \text{ ft}/12 \text{ in.}]^2 \times [\text{well depth (ft)} - \text{depth to water (ft)}] \times 7.48 \text{ gal/ft}^3$
 Gallons per linear ft for casing diameter of: 1" = 0.041 2" = 0.16 4" = 0.65 5" = 1.0 6" = 1.5 8" = 2.6
 Floating product thickness (ft): N/A Method for checking: Interface probe Clear bailer

WELL PURGING

Date purged: 6-18-08 Start time: 08:33 End time: 0909
 Purging equipment: Submersible pump _____ Bladder pump _____ Peristaltic pump
 PVC bailer _____ Teflon bailer _____ Other _____
 Purge rate: 0.22 LPM Well yield (H/L): High
 Purge water disposal: Drum onsite

Time (2400 hr)	Cumulative Vol. Purged (gal.)	pH (units)	EC ($\mu\text{S/cm}$)	T ($^{\circ}\text{C}$)	Color (Visual)	Turbidity (Visual or NTU)
<u>0844</u>	<u>2.4 LPM</u>	<u>7.04</u>	<u>626</u>	<u>20.1</u>	<u>Clear</u>	<u>5.20</u>
<u>0854</u>	<u>4.8 LPM</u>	<u>7.27</u>	<u>627</u>	<u>20.0</u>	<u>Clear</u>	<u>10.53</u>
<u>0909</u>	<u>7.3 LPM</u>	<u>7.33</u>	<u>627</u>	<u>19.9</u>	<u>Clear</u>	<u>0.00</u>

Total Purged (gal.): 7.3

WELL SAMPLING

Date sampled: 6-18-08 Start time: 0910 End time: 0912
 Depth to water (ft) before sampling: 11.22
 Sampling equipment: Peristaltic pump Bladder pump _____ Teflon bailer _____
 PVC bailer _____ Other _____

Weather conditions: Sunny / Clear Ambient temperature ($^{\circ}\text{F}$): 70
 Well condition/Remarks: All samples taken

Meter calibration: EC 15,060 / 15,000 pH 7.03-7.00 / 1000-1000 / 405-400
 Temperature 24.0 Turbidity _____

Purged and sampled by (print): Manuel L. Bellagos
 Signature: [Signature] Reviewed by: [Signature]

Appendix B

Groundwater Velocity Calculations

APPENDIX B
GROUNDWATER VELOCITY CALCULATIONS

FOR CARGILL ALAMEDA SITE

GROUNDWATER VELOCITY FORMULA

$V = Ki/n$ where:

V = average linear groundwater velocity i = hydraulic gradient
 K = hydraulic conductivity n = effective porosity

PARAMETERS

Range of hydraulic conductivity values (K) from slug tests:

Material	Well	K (cm/sec)
Silty sand (SM) and Clayey sand (SC)	MW-1	0.00002
Silty sand (SM) and Clayey sand (SC)	MW-2	0.00002
Silty sand (SM) and Clayey sand (SC)	MW-3	0.000003

Highest measured K = 0.00002

Porosity (n) = 33% (from laboratory analysis of boring B21 soil sample)

Hydraulic gradient (i) calculated from groundwater contours:

March 2008 0.020
 June 2008 0.015

UNIT CONVERSIONS

1 day = 86,400 sec 1 cm/sec = 2,834.65 ft/day
 1 foot = 30.48 cm 1 cm/sec = 1,034,645.67 ft/yr

CALCULATED VELOCITIES

Measurement Event	Flow Direction	K (cm/sec)	i (ft/ft)	n	V (ft/yr)
March 2008	NE	0.00002	0.020	0.33	1.0
June 2008	NE	0.00002	0.015	0.33	0.9

Calculations and assumptions prepared by:

Handwritten signature

Date: 12/17/2008

Appendix C

Certified Analytical Reports and Chain-of-Custody Documentation

First Quarter 2008

ANALYTICAL REPORT

Job Number: 720-13548-1

Job Description: Alameda Facility CS 1605

For:

Crawford Consulting Inc
2 North First Street 4th Floor
San Jose, CA 95113-1212

Attention: Dana Johnston

Melissa Brewer

Melissa Brewer
Project Manager I
melissa.brewer@testamericainc.com
03/27/2008

cc: Mark Wheeler

Job Narrative
720-J13548-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-13548-1	MW-1				
Trichloroethene		18	2.0	ug/L	8260B
Tetrachloroethene		170	2.0	ug/L	8260B
720-13548-2	MW-2				
Tetrachloroethene		2900	20	ug/L	8260B
720-13548-3	MW-3				
1,1-Dichloroethene		1.0	0.50	ug/L	8260B
720-13548-4	MW-4				
Tetrachloroethene		0.91	0.50	ug/L	8260B
720-13548-5	DUP-1				
Tetrachloroethene		3000	20	ug/L	8260B

METHOD SUMMARY

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS (Low Level)	TAL SF	SW846 8260B	
Purge-and-Trap	TAL SF		SW846 5030B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-13548-1	MW-1	Water	03/20/2008 0925	03/20/2008 1143
720-13548-2	MW-2	Water	03/20/2008 1041	03/20/2008 1143
720-13548-3	MW-3	Water	03/20/2008 1010	03/20/2008 1143
720-13548-4	MW-4	Water	03/20/2008 0850	03/20/2008 1143
720-13548-5	DUP-1	Water	03/20/2008 0000	03/20/2008 1143
720-13548-6TB	TB-1	Water	03/20/2008 0000	03/20/2008 1143

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Client Sample ID: MW-1

Lab Sample ID: 720-13548-1
Client Matrix: Water

Date Sampled: 03/20/2008 0925
Date Received: 03/20/2008 1143

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-33537	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: c:\saturnws\data\200803\03
Dilution:	4.0		Initial Weight/Volume: 40 mL
Date Analyzed:	03/27/2008 1247		Final Weight/Volume: 40 mL
Date Prepared:	03/27/2008 1247		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		2.0
1,1-Dichloroethane	ND		2.0
Dichlorodifluoromethane	ND		2.0
Vinyl chloride	ND		2.0
Chloroethane	ND		4.0
Trichlorofluoromethane	ND		4.0
Methylene Chloride	ND		20
trans-1,2-Dichloroethene	ND		2.0
cis-1,2-Dichloroethene	ND		2.0
Chloroform	ND		4.0
1,1,1-Trichloroethane	ND		2.0
Carbon tetrachloride	ND		2.0
1,2-Dichloroethane	ND		2.0
Trichloroethene	18		2.0
1,2-Dichloropropane	ND		2.0
Dichlorobromomethane	ND		2.0
trans-1,3-Dichloropropene	ND		2.0
cis-1,3-Dichloropropene	ND		2.0
1,1,2-Trichloroethane	ND		2.0
Tetrachloroethene	170		2.0
Chlorodibromomethane	ND		2.0
Chlorobenzene	ND		2.0
Bromoform	ND		4.0
1,1,2,2-Tetrachloroethane	ND		2.0
1,3-Dichlorobenzene	ND		2.0
1,4-Dichlorobenzene	ND		2.0
1,2-Dichlorobenzene	ND		2.0
Chloromethane	ND		4.0
Bromomethane	ND		4.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0
EDB	ND		2.0
1,2,4-Trichlorobenzene	ND		4.0

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	97	73 - 117
4-Bromofluorobenzene	105	71 - 139
1,2-Dichloroethane-d4 (Surr)	102	62 - 118

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Client Sample ID: MW-2

Lab Sample ID: 720-13548-2
Client Matrix: Water

Date Sampled: 03/20/2008 1041
Date Received: 03/20/2008 1143

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method: 8260B	Analysis Batch: 720-33489	Instrument ID: Saturn 2K3
Preparation: 5030B		Lab File ID: d:\data\200803\032608\SA-
Dilution: 40		Initial Weight/Volume: 40 mL
Date Analyzed: 03/26/2008 1926		Final Weight/Volume: 40 mL
Date Prepared: 03/26/2008 1926		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		20
1,1-Dichloroethane	ND		20
Dichlorodifluoromethane	ND		20
Vinyl chloride	ND		20
Chloroethane	ND		40
Trichlorofluoromethane	ND		40
Methylene Chloride	ND		200
trans-1,2-Dichloroethene	ND		20
cis-1,2-Dichloroethene	ND		20
Chloroform	ND		40
1,1,1-Trichloroethane	ND		20
Carbon tetrachloride	ND		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dichlorobromomethane	ND		20
trans-1,3-Dichloropropene	ND		20
cis-1,3-Dichloropropene	ND		20
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	2900		20
Chlorodibromomethane	ND		20
Chlorobenzene	ND		20
Bromoform	ND		40
1,1,2,2-Tetrachloroethane	ND		20
1,3-Dichlorobenzene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
Chloromethane	ND		40
Bromomethane	ND		40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20
EDB	ND		20
1,2,4-Trichlorobenzene	ND		40
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	88	73 - 117	
4-Bromofluorobenzene	111	71 - 139	
1,2-Dichloroethane-d4 (Surr)	96	62 - 118	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Client Sample ID: MW-3

Lab Sample ID: 720-13548-3
Client Matrix: Water

Date Sampled: 03/20/2008 1010
Date Received: 03/20/2008 1143

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-33537	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: c:\saturnws\data\200803\03
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	03/27/2008 1320		Final Weight/Volume: 40 mL
Date Prepared:	03/27/2008 1320		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	1.0		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	100	73 - 117	
4-Bromofluorobenzene	102	71 - 139	
1,2-Dichloroethane-d4 (Surr)	104	62 - 118	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Client Sample ID: MW-4

Lab Sample ID: 720-13548-4
Client Matrix: Water

Date Sampled: 03/20/2008 0850
Date Received: 03/20/2008 1143

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method: 8260B	Analysis Batch: 720-33537	Instrument ID: Varian 3900F
Preparation: 5030B		Lab File ID: c:\saturnws\data\200803\03
Dilution: 1.0		Initial Weight/Volume: 40 mL
Date Analyzed: 03/27/2008 1354		Final Weight/Volume: 40 mL
Date Prepared: 03/27/2008 1354		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	0.91		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	103	73 - 117	
4-Bromofluorobenzene	102	71 - 139	
1,2-Dichloroethane-d4 (Surr)	106	62 - 118	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Client Sample ID: DUP-1

Lab Sample ID: 720-13548-5
Client Matrix: Water

Date Sampled: 03/20/2008 0000
Date Received: 03/20/2008 1143

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-33489	Instrument ID: Saturn 2K3
Preparation:	5030B		Lab File ID: d:\data\200803\032608\SA-
Dilution:	40		Initial Weight/Volume: 40 mL
Date Analyzed:	03/26/2008 1959		Final Weight/Volume: 40 mL
Date Prepared:	03/26/2008 1959		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		20
1,1-Dichloroethane	ND		20
Dichlorodifluoromethane	ND		20
Vinyl chloride	ND		20
Chloroethane	ND		40
Trichlorofluoromethane	ND		40
Methylene Chloride	ND		200
trans-1,2-Dichloroethene	ND		20
cis-1,2-Dichloroethene	ND		20
Chloroform	ND		40
1,1,1-Trichloroethane	ND		20
Carbon tetrachloride	ND		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dichlorobromomethane	ND		20
trans-1,3-Dichloropropene	ND		20
cis-1,3-Dichloropropene	ND		20
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	3000		20
Chlorodibromomethane	ND		20
Chlorobenzene	ND		20
Bromoform	ND		40
1,1,2,2-Tetrachloroethane	ND		20
1,3-Dichlorobenzene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
Chloromethane	ND		40
Bromomethane	ND		40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20
EDB	ND		20
1,2,4-Trichlorobenzene	ND		40
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	92	73 - 117	
4-Bromofluorobenzene	116	71 - 139	
1,2-Dichloroethane-d4 (Surr)	110	62 - 118	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Client Sample ID: TB-1

Lab Sample ID: 720-13548-6TB
 Client Matrix: Water

Date Sampled: 03/20/2008 0000
 Date Received: 03/20/2008 1143

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-33537	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: c:\saturnws\data\200803\03
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	03/27/2008 1427		Final Weight/Volume: 40 mL
Date Prepared:	03/27/2008 1427		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	99	73 - 117
4-Bromofluorobenzene	101	71 - 139
1,2-Dichloroethane-d4 (Surr)	102	62 - 118

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
--------------------	------------------	--------------------

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-13548-1

QC Association Summary

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Report Basis</u>	<u>Client Matrix</u>	<u>Method</u>	<u>Prep Batch</u>
GC/MS VOA					
Analysis Batch:720-33489					
LCS 720-33489/2	Lab Control Spike	T	Water	8260B	
LCSD 720-33489/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-33489/3	Method Blank	T	Water	8260B	
720-13548-2	MW-2	T	Water	8260B	
720-13548-5	DUP-1	T	Water	8260B	
Analysis Batch:720-33537					
LCS 720-33537/2	Lab Control Spike	T	Water	8260B	
LCSD 720-33537/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-33537/3	Method Blank	T	Water	8260B	
720-13548-1	MW-1	T	Water	8260B	
720-13548-3	MW-3	T	Water	8260B	
720-13548-4	MW-4	T	Water	8260B	
720-13548-6TB	TB-1	T	Water	8260B	

Report Basis

T = Total

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Method Blank - Batch: 720-33489

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-33489/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/26/2008 1213
Date Prepared: 03/26/2008 1213

Analysis Batch: 720-33489
Prep Batch: N/A
Units: ug/L

Instrument ID: Saturn 2K3
Lab File ID: d:\data\200803\032608\MB
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	93	73 - 117
4-Bromofluorobenzene	108	71 - 139
1,2-Dichloroethane-d4 (Surr)	94	62 - 118

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-13548-1

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-33489**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-33489/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/26/2008 1106
Date Prepared: 03/26/2008 1106

Analysis Batch: 720-33489
Prep Batch: N/A
Units: ug/L

Instrument ID: Saturn 2K3
Lab File ID: d:\data\200803\032608\LS-
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-33489/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/26/2008 1139
Date Prepared: 03/26/2008 1139

Analysis Batch: 720-33489
Prep Batch: N/A
Units: ug/L

Instrument ID: Saturn 2K3
Lab File ID: d:\data\200803\032608\LD-V
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	107	95	65 - 125	11	20		
Trichloroethene	94	87	74 - 134	8	20		
Chlorobenzene	110	103	61 - 121	7	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	90		88		73 - 117		
4-Bromofluorobenzene	92		91		71 - 139		
1,2-Dichloroethane-d4 (Surr)	91		97		62 - 118		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Method Blank - Batch: 720-33537

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-33537/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/27/2008 1107
Date Prepared: 03/27/2008 1107

Analysis Batch: 720-33537
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturmws\data\200803\03
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	103	73 - 117	
4-Bromofluorobenzene	102	71 - 139	
1,2-Dichloroethane-d4 (Surr)	106	62 - 118	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-13548-1

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-33537**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-33537/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/27/2008 1001
Date Prepared: 03/27/2008 1001

Analysis Batch: 720-33537
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\satumws\data\200803\032
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-33537/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/27/2008 1034
Date Prepared: 03/27/2008 1034

Analysis Batch: 720-33537
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\satumws\data\200803\032
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	96	92	65 - 125	4	20		
Trichloroethene	91	88	74 - 134	4	20		
Chlorobenzene	106	107	61 - 121	0	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	95		93		73 - 117		
4-Bromofluorobenzene	97		95		71 - 139		
1,2-Dichloroethane-d4 (Surr)	94		95		62 - 118		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Test America San Francisco

1220 Quarry Lane, Pleasanton, CA 94566
 (925) 484-1919 FAX (925) 484-1096

720-13548

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

Service Request: _____

Date: 3/20/08

Project Name: Alameda Facility
Project Number: CS1605
Project Manager: Dana Johnston
Company/Address: Crawford Consulting, Inc.
 2 North First St. 4th Floor
 San Jose, CA 95113
Phone: (408) 287-9934
Fax: (408) 287-9937
Sampler's Signature: *[Signature]*

Number of Containers	Analysis Requested										REMARKS					
	Volatiles Organics (VOCs) (EPA 8021B)	Pb (7421); As (7060)	Same as Metals	COD, TKN	500 ml plastic H ₂ SO ₄	Chloride, Nitrate	500 ml plastic NP	pH, Conductivity	500 ml plastic NP	Total Phenols		2 x 500 ml glass H ₂ SO ₄	Volatiles Organics (8010) 3 x 40 ml vial	TPH;BTEX	2 x 40 ml vial HCl	

169962

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix
MW-1	3/20/08	0925	1	water
MW-2	3/20/08	1041	2	water
MW-3	3/20/08	1010	3	water
MW-4	3/20/08	0850	4	water
DUP-1	3/20/08	—	5	water
TB-1	3/20/08	—	6	water

Number of Containers	Volatiles Organics (VOCs) (EPA 8021B)	Pb (7421); As (7060)	Same as Metals	COD, TKN	500 ml plastic H ₂ SO ₄	Chloride, Nitrate	500 ml plastic NP	pH, Conductivity	500 ml plastic NP	Total Phenols	2 x 500 ml glass H ₂ SO ₄	Volatiles Organics (8010) 3 x 40 ml vial	TPH;BTEX	2 x 40 ml vial HCl	REMARKS
3												X			
3												X			
3												X			
3												X			
3												X			
2												X			

Relinquished By
 Signature: *[Signature]*
 Printed Name: Daniel A. Ballgas
 Firm: PSI
 Date/Time: 3/20/08 11:45

Received By
 Signature: *[Signature]*
 Printed Name: Joan Mulley
 Firm: TACSF
 Date/Time: 3-20-08 1143

TURNAROUND REQUIREMENTS
 24 hr 48 hr 5 day
 Standard (5 working days)
 Provide Verbal Preliminary Results
 Provide pdf Results
 Due Date: _____

REPORT REQUIREMENTS
 I. Routine Report
 II. Report (includes DUP, MS MSD, as required, may be charged as samples)
 III. Data Validation Report (includes All Raw Data)
 RWQCB
 (MDLs/PQLs/TRACE#)

INVOICE INFORMATION
 P.O.# _____
 Bill to: _____

SAMPLE RECEIPT
 Shipping VIA: _____
 Shipping #: _____
 Condition: _____

Relinquished By
 Signature: _____
 Printed Name: _____
 Firm: _____
 Date/Time: _____

Special Instructions/Comments:
 Please report MRLs only
 Please pdf results to: Dana Johnston at dana@crawfordconsulting.com
 Please provide EDF for Geotracker. Global ID is SL0600177511
 5.6c

Login Sample Receipt Check List

Client: Crawford Consulting Inc

Job Number: 720-13548-1

Login Number: 13548

Creator: Mullen, Joan

List Number: 1

List Source: TestAmerica San Francisco

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Second Quarter 2008

ANALYTICAL REPORT

Job Number: 720-14809-1

Job Description: Alameda Facility CS 1605

For:

Crawford Consulting Inc
2 North First Street 4th Floor
San Jose, CA 95113-1212

Attention: Dana Johnston

Melissa Brewer

Melissa Brewer
Project Manager I
melissa.brewer@testamericainc.com
06/25/2008

cc: Mark Wheeler

Job Narrative
720-J14809-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-14809-1	MW-1				
Trichloroethene		42	5.0	ug/L	8260B
Tetrachloroethene		390	5.0	ug/L	8260B
720-14809-2	MW-2				
Trichloroethene		21	20	ug/L	8260B
Tetrachloroethene		1700	20	ug/L	8260B
720-14809-3	MW-3				
1,1-Dichloroethene		1.4	0.50	ug/L	8260B
720-14809-4	MW-4				
Tetrachloroethene		0.86	0.50	ug/L	8260B
720-14809-5	DUP-1				
Tetrachloroethene		1900	20	ug/L	8260B

METHOD SUMMARY

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS (Low Level)	TAL SF	SW846 8260B	
Purge-and-Trap	TAL SF		SW846 5030B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-14809-1	MW-1	Water	06/18/2008 0954	06/18/2008 1243
720-14809-2	MW-2	Water	06/18/2008 1142	06/18/2008 1243
720-14809-3	MW-3	Water	06/18/2008 1059	06/18/2008 1243
720-14809-4	MW-4	Water	06/18/2008 0910	06/18/2008 1243
720-14809-5	DUP-1	Water	06/18/2008 0000	06/18/2008 1243
720-14809-6TB	TB-1	Water	06/18/2008 0000	06/18/2008 1243

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Client Sample ID: MW-1

Lab Sample ID: 720-14809-1
Client Matrix: Water

Date Sampled: 06/18/2008 0954
Date Received: 06/18/2008 1243

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method: 8260B	Analysis Batch: 720-37243	Instrument ID: Varian 3900G
Preparation: 5030B		Lab File ID: c:\saturnws\data\200806\06
Dilution: 10		Initial Weight/Volume: 40 mL
Date Analyzed: 06/24/2008 1407		Final Weight/Volume: 40 mL
Date Prepared: 06/24/2008 1407		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		5.0
1,1-Dichloroethane	ND		5.0
Dichlorodifluoromethane	ND		5.0
Vinyl chloride	ND		5.0
Chloroethane	ND		10
Trichlorofluoromethane	ND		10
Methylene Chloride	ND		50
trans-1,2-Dichloroethene	ND		5.0
cis-1,2-Dichloroethene	ND		5.0
Chloroform	ND		10
1,1,1-Trichloroethane	ND		5.0
Carbon tetrachloride	ND		5.0
1,2-Dichloroethane	ND		5.0
Trichloroethene	42		5.0
1,2-Dichloropropane	ND		5.0
Dichlorobromomethane	ND		5.0
trans-1,3-Dichloropropene	ND		5.0
cis-1,3-Dichloropropene	ND		5.0
1,1,2-Trichloroethane	ND		5.0
Tetrachloroethene	390		5.0
Chlorodibromomethane	ND		5.0
Chlorobenzene	ND		5.0
Bromoform	ND		10
1,1,1,2-Tetrachloroethane	ND		5.0
1,3-Dichlorobenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0
1,2-Dichlorobenzene	ND		5.0
Chloromethane	ND		10
Bromomethane	ND		10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0
EDB	ND		5.0
1,2,4-Trichlorobenzene	ND		10
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	96	82 - 120	
4-Bromofluorobenzene	90	74 - 131	
1,2-Dichloroethane-d4 (Surr)	101	88 - 119	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Client Sample ID: MW-2

Lab Sample ID: 720-14809-2
Client Matrix: Water

Date Sampled: 06/18/2008 1142
Date Received: 06/18/2008 1243

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-37199	Instrument ID: Varian 3900G
Preparation:	5030B		Lab File ID: c:\saturnws\data\200806\06
Dilution:	40		Initial Weight/Volume: 40 mL
Date Analyzed:	06/23/2008 1642		Final Weight/Volume: 40 mL
Date Prepared:	06/23/2008 1642		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		20
1,1-Dichloroethane	ND		20
Dichlorodifluoromethane	ND		20
Vinyl chloride	ND		20
Chloroethane	ND		40
Trichlorofluoromethane	ND		40
Methylene Chloride	ND		200
trans-1,2-Dichloroethene	ND		20
cis-1,2-Dichloroethene	ND		20
Chloroform	ND		40
1,1,1-Trichloroethane	ND		20
Carbon tetrachloride	ND		20
1,2-Dichloroethane	ND		20
Trichloroethene	21		20
1,2-Dichloropropane	ND		20
Dichlorobromomethane	ND		20
trans-1,3-Dichloropropene	ND		20
cis-1,3-Dichloropropene	ND		20
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	1700		20
Chlorodibromomethane	ND		20
Chlorobenzene	ND		20
Bromoform	ND		40
1,1,2,2-Tetrachloroethane	ND		20
1,3-Dichlorobenzene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
Chloromethane	ND		40
Bromomethane	ND		40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20
EDB	ND		20
1,2,4-Trichlorobenzene	ND		40
Surrogate	%Rec		Acceptance Limits
Toluene-d8 (Surr)	97		82 - 120
4-Bromofluorobenzene	91		74 - 131
1,2-Dichloroethane-d4 (Surr)	105		88 - 119

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Client Sample ID: MW-3

Lab Sample ID: 720-14809-3
Client Matrix: Water

Date Sampled: 06/18/2008 1059
Date Received: 06/18/2008 1243

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method: 8260B	Analysis Batch: 720-37205	Instrument ID: Varian 3900F
Preparation: 5030B		Lab File ID: c:\saturnws\data\200806\06
Dilution: 1.0		Initial Weight/Volume: 40 mL
Date Analyzed: 06/23/2008 1312		Final Weight/Volume: 40 mL
Date Prepared: 06/23/2008 1312		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	1.4		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	102	82 - 120	
4-Bromofluorobenzene	101	74 - 131	
1,2-Dichloroethane-d4 (Surr)	109	88 - 119	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Client Sample ID: MW-4

Lab Sample ID: 720-14809-4
Client Matrix: Water

Date Sampled: 06/18/2008 0910
Date Received: 06/18/2008 1243

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-37205	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: c:\saturnws\data\200806\06
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	06/23/2008 1345		Final Weight/Volume: 40 mL
Date Prepared:	06/23/2008 1345		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	0.86		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,1,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	%Rec		Acceptance Limits
Toluene-d8 (Surr)	101		82 - 120
4-Bromofluorobenzene	95		74 - 131
1,2-Dichloroethane-d4 (Surr)	103		88 - 119

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Client Sample ID: DUP-1

Lab Sample ID: 720-14809-5
Client Matrix: Water

Date Sampled: 06/18/2008 0000
Date Received: 06/18/2008 1243

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:	8260B	Analysis Batch: 720-37205	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: c:\saturnws\data\200806\06
Dilution:	40		Initial Weight/Volume: 40 mL
Date Analyzed:	06/23/2008 1739		Final Weight/Volume: 40 mL
Date Prepared:	06/23/2008 1739		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		20
1,1-Dichloroethane	ND		20
Dichlorodifluoromethane	ND		20
Vinyl chloride	ND		20
Chloroethane	ND		40
Trichlorofluoromethane	ND		40
Methylene Chloride	ND		200
trans-1,2-Dichloroethene	ND		20
cis-1,2-Dichloroethene	ND		20
Chloroform	ND		40
1,1,1-Trichloroethane	ND		20
Carbon tetrachloride	ND		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dichlorobromomethane	ND		20
trans-1,3-Dichloropropene	ND		20
cis-1,3-Dichloropropene	ND		20
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	1900		20
Chlorodibromomethane	ND		20
Chlorobenzene	ND		20
Bromoform	ND		40
1,1,2,2-Tetrachloroethane	ND		20
1,3-Dichlorobenzene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
Chloromethane	ND		40
Bromomethane	ND		40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20
EDB	ND		20
1,2,4-Trichlorobenzene	ND		40
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	101	82 - 120	
4-Bromofluorobenzene	97	74 - 131	
1,2-Dichloroethane-d4 (Surr)	110	88 - 119	

Analytical Data

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Client Sample ID: TB-1

Lab Sample ID: 720-14809-6TB
 Client Matrix: Water

Date Sampled: 06/18/2008 0000
 Date Received: 06/18/2008 1243

8260B Volatile Organic Compounds by GC/MS (Low Level)

Method: 8260B	Analysis Batch: 720-37205	Instrument ID: Varian 3900F
Preparation: 5030B		Lab File ID: c:\saturnws\data\200806\06
Dilution: 1.0		Initial Weight/Volume: 40 mL
Date Analyzed: 06/23/2008 1418		Final Weight/Volume: 40 mL
Date Prepared: 06/23/2008 1418		

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	%Rec	Acceptance Limits	
Toluene-d8 (Surr)	105	82 - 120	
4-Bromofluorobenzene	99	74 - 131	
1,2-Dichloroethane-d4 (Surr)	107	88 - 119	

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
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Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-37199					
LCS 720-37199/2	Lab Control Spike	T	Water	8260B	
LCSD 720-37199/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-37199/3	Method Blank	T	Water	8260B	
720-14809-2	MW-2	T	Water	8260B	
Analysis Batch:720-37205					
LCS 720-37205/2	Lab Control Spike	T	Water	8260B	
LCSD 720-37205/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-37205/3	Method Blank	T	Water	8260B	
720-14809-3	MW-3	T	Water	8260B	
720-14809-3MS	Matrix Spike	T	Water	8260B	
720-14809-3MSD	Matrix Spike Duplicate	T	Water	8260B	
720-14809-4	MW-4	T	Water	8260B	
720-14809-5	DUP-1	T	Water	8260B	
720-14809-6TB	TB-1	T	Water	8260B	
Analysis Batch:720-37243					
LCS 720-37243/2	Lab Control Spike	T	Water	8260B	
LCSD 720-37243/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-37243/3	Method Blank	T	Water	8260B	
720-14809-1	MW-1	T	Water	8260B	

Report Basis

T = Total

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Method Blank - Batch: 720-37199

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-37199/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1106
Date Prepared: 06/23/2008 1106

Analysis Batch: 720-37199
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900G
Lab File ID: c:\saturnws\data\200806\06
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	96	82 - 120	
4-Bromofluorobenzene	89	74 - 131	
1,2-Dichloroethane-d4 (Surr)	99	88 - 119	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37199**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-37199/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 0958
Date Prepared: 06/23/2008 0958

Analysis Batch: 720-37199
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900G
Lab File ID: c:\satumws\data\200806\062
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-37199/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1032
Date Prepared: 06/23/2008 1032

Analysis Batch: 720-37199
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900G
Lab File ID: c:\satumws\data\200806\062
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	104	103	75 - 116	0	20		
Trichloroethene	87	88	70 - 106	1	20		
Chlorobenzene	102	102	89 - 118	0	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	88		93		82 - 120		
4-Bromofluorobenzene	83		84		74 - 131		
1,2-Dichloroethane-d4 (Surr)	92		98		88 - 119		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Method Blank - Batch: 720-37205

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-37205/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1238
Date Prepared: 06/23/2008 1238

Analysis Batch: 720-37205
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200806\06
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	100	82 - 120	
4-Bromofluorobenzene	97	74 - 131	
1,2-Dichloroethane-d4 (Surr)	105	88 - 119	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37205**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-37205/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1132
Date Prepared: 06/23/2008 1132

Analysis Batch: 720-37205
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\satumws\data\200806\062
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-37205/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1205
Date Prepared: 06/23/2008 1205

Analysis Batch: 720-37205
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\satumws\data\200806\062
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	91	96	75 - 116	5	20		
Trichloroethene	90	93	70 - 106	3	20		
Chlorobenzene	102	103	89 - 118	1	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	96		99		82 - 120		
4-Bromofluorobenzene	91		96		74 - 131		
1,2-Dichloroethane-d4 (Surr)	96		97		88 - 119		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37205**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 720-14809-3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1525
Date Prepared: 06/23/2008 1525

Analysis Batch: 720-37205
Prep Batch: N/A

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200806\06
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

MSD Lab Sample ID: 720-14809-3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/23/2008 1632
Date Prepared: 06/23/2008 1632

Analysis Batch: 720-37205
Prep Batch: N/A

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200806\06
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
1,1-Dichloroethene	87	102	74 - 122	15	20		
Trichloroethene	87	98	61 - 123	11	20		
Chlorobenzene	101	104	88 - 121	3	20		
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	92		99		82 - 120		
4-Bromofluorobenzene	89		92		74 - 131		
1,2-Dichloroethane-d4 (Surr)	95		110		88 - 119		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Method Blank - Batch: 720-37243

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 720-37243/3
 Client Matrix: Water
 Dilution: 1.0
 Date Analyzed: 06/24/2008 1045
 Date Prepared: 06/24/2008 1045

Analysis Batch: 720-37243
 Prep Batch: N/A
 Units: ug/L

Instrument ID: Varian 3900G
 Lab File ID: c:\saturnws\data\200806\06
 Initial Weight/Volume: 40 mL
 Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		0.50
1,1-Dichloroethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
Vinyl chloride	ND		0.50
Chloroethane	ND		1.0
Trichlorofluoromethane	ND		1.0
Methylene Chloride	ND		5.0
trans-1,2-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
Chloroform	ND		1.0
1,1,1-Trichloroethane	ND		0.50
Carbon tetrachloride	ND		0.50
1,2-Dichloroethane	ND		0.50
Trichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
Dichlorobromomethane	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		1.0
1,1,2,2-Tetrachloroethane	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,2-Dichlorobenzene	ND		0.50
Chloromethane	ND		1.0
Bromomethane	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
EDB	ND		0.50
1,2,4-Trichlorobenzene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	98	82 - 120	
4-Bromofluorobenzene	88	74 - 131	
1,2-Dichloroethane-d4 (Surr)	102	88 - 119	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Crawford Consulting Inc

Job Number: 720-14809-1

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37243**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-37243/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/24/2008 0937
Date Prepared: 06/24/2008 0937

Analysis Batch: 720-37243
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900G
Lab File ID: c:\satumws\data\200806\062
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-37243/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/24/2008 1011
Date Prepared: 06/24/2008 1011

Analysis Batch: 720-37243
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900G
Lab File ID: c:\satumws\data\200806\062
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,1-Dichloroethene	109	106	75 - 116	3	20		
Trichloroethene	89	90	70 - 106	1	20		
Chlorobenzene	102	103	89 - 118	1	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Toluene-d8 (Surr)	96		96		82 - 120		
4-Bromofluorobenzene	87		90		74 - 131		
1,2-Dichloroethane-d4 (Surr)	100		100		88 - 119		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Test America

1220 Quarry Lane, Pleasanton, CA 94566
 (925) 484-1919 FAX (925) 484-1096

720-14809

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

111226

Service Request:

Date: 6-18-08

Project Name: Alameda Facility
Project Number: CS1605
Project Manager: Dana Johnston
Company/Address: Crawford Consulting, Inc.
 2 North First St, 4th Floor
 San Jose, CA 95113
Phone: (408) 287-9934
Fax: (408) 287-9937

Sampler's Signature: *[Signature]*

Number of Containers	Analysis Requested										REMARKS			
	Volatiles Organics (VOCs) (EPA 8021B)	Pb (7421); As (7060)	Same as Metals	COD, TKN	500 ml plastic H ₂ SO ₄	Chloride, Nitrate	500 ml plastic NP	pH, Conductivity	500 ml plastic NP	Total Phenols		2 x 500 ml glass H ₂ SO ₄	Volatiles Organics (8010)	2 x 40 ml vial

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix
MW-1	6/18/08	0954	1	H ₂ O
MW-2	6/18/08	1142	2	H ₂ O
MW-3	6/18/08	1059	3	H ₂ O
MW-4	6/18/08	0910	4	H ₂ O
DUP-1	6/18/08	—	5	H ₂ O
TB-1	6/18/08	—	6	H ₂ O

Relinquished By: *[Signature]*
 Signature: *[Signature]*
 Printed Name: *[Name]*
 Firm: *[Firm]*
 Date/Time: *[Date/Time]*

Received By: *[Signature]*
 Signature: *[Signature]*
 Printed Name: *[Name]*
 Firm: *[Firm]*
 Date/Time: *[Date/Time]*

TURNAROUND REQUIREMENTS
 24 hr _____ 48 hr _____ 5 day _____
 Standard (5 working days)
 Provide Verbal Preliminary Results
 Provide pdf Results
 Due Date: _____

REPORT REQUIREMENTS
 I. Routine Report
 II. Report (includes DUP, MS MSD, as required, may be changed as samples)
 III. Data Validation Report (includes All Raw Data) RWQCB
 (MDLs/PQLs/TRACE#)

INVOICE INFORMATION
 P.O. # _____
 Bill to: _____

SAMPLE RECEIPT
 Shipping VIA: _____
 Shipping #: _____
 Condition: _____

Relinquished By: _____
 Signature: _____
 Printed Name: _____
 Firm: _____
 Date/Time: _____

Received By: _____
 Signature: _____
 Printed Name: _____
 Firm: _____
 Date/Time: _____

Special Instructions/Comments:
 Please report MRLs only
 Please pdf results to: Dana Johnston at dana@crawfordconsulting.com
 Please provide EDF for Geotracker. Global ID is SL0600177511
 0.7°C

Login Sample Receipt Check List

Client: Crawford Consulting Inc

Job Number: 720-14809-1

Login Number: 14809
Creator: Bullock, Tracy
List Number: 1

List Source: TestAmerica San Francisco

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	False	SEE NARRATIVE
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

