Groundwater Monitoring Results
First through Fourth Quarter 2005
Cargill Salt – Alameda Facility
Alameda, California

CRAWFORD
CONSULTING
INC.

Cargill

October 20, 2006

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 through Fourth Quarter 2005
Cargill Salt – Alameda Facility, Alameda, California

Dear Mr. Wickham,

The attached report presents the groundwater monitoring results for First through Fourth Quarter 2005 for the Cargill Salt Alameda facility. Results of groundwater transect sampling and the initial sampling of three groundwater monitoring wells installed in November 1999 were reported in the January 31, 2000 submittal, "Groundwater Characterization and Monitoring Well Installation" prepared by Crawford Consulting, Inc. and Conor Pacific/EFW. The monitoring wells were installed to help characterize and monitor the occurrence of volatile organic compounds, primarily tetrachloroethene (PCE) and its breakdown product, trichloroethene (TCE), in groundwater at the site. Since the initial groundwater monitoring well sampling event, groundwater monitoring has been conducted on a quarterly basis. The quarterly monitoring data generally confirm the results of the groundwater transect sampling and initial sampling of the monitoring wells.

Off-site characterization activities, including installation of a fourth groundwater monitoring well, were conducted in November and December 2001 to evaluate the off-site extent of VOCs in the soil and groundwater. The results of these activities were submitted in the August 21, 2002 report "Off-Site Groundwater Characterization" prepared by Conor Pacific/EFW.

A phytoremediation project was implemented at the site in June 2005. Selection of the remedial approach and implementation of the project is documented in Section 4 of the attached report.

To the best of my knowledge the attached report is true, complete, and correct. Should you have any questions concerning the report, please don't hesitate to call me at (510) 790-8625.

Sincerely,

Teri Peterson
Environmental Manager

Cargill Salt *7220 Central Avenue* *Newark, CA 94560* *Tel 510-797-1820* *www.cargill.com*

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Alameda, California

Prepared for:

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Project No. CS1605
October 20, 2006

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(presented in electronic format only)

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. Since the initial groundwater monitoring well sampling event in November 1999, groundwater monitoring has been conducted on a quarterly basis and reported annually.

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.

Background information and a summary of the groundwater monitoring activities for the first through fourth quarters of 2005 are presented below.

1.1 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.

1.1.1 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.

1.1.2 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). Since the initial groundwater monitoring well sampling event in November 1999, groundwater monitoring has been conducted on a quarterly basis and reported annually.

A workplan 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.

1.1.3 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.

1.2 Reporting Period Activities

Since the initial sampling and analysis event in November 1999, groundwater monitoring has been conducted on a quarterly basis. This report presents the results of groundwater monitoring data collected during the first through fourth quarters of 2005. 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 2005 is shown below.

Quarter of 2004	Field Dates
First	March 3, 2005
Second	June 10, 2005
Third	September 16, 2005
Fourth	December 6, 2005

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 fourth quarters of 2005 were analyzed by STL Chromalab, Inc., a state-certified laboratory in Pleasanton, California.

A phytoremediation project was implemented at the Site in June 2005. Selection of the remedial approach and implementation of the project is documented in Section 4 of this report.

2 Groundwater Flow Analysis

Groundwater levels were measured quarterly and groundwater contour maps were prepared for the first through fourth quarter 2005 reporting period.

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 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 water-level data through the fourth quarter of 2005 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.

Groundwater levels in the four monitoring wells showed a similar seasonal pattern in 2005 as in the previous five years (see Figure 3). Groundwater levels rose across the Site between the fourth quarter 2004 and first quarter 2005 measurements, reflecting winter-season recharge. Groundwater levels measured in the second and third quarters of 2005 fell relative to the previous quarter, reflecting dissipation of winter-season recharge. Groundwater levels rose between the third and fourth quarter 2005 measurements, reflecting recharge at the beginning of the 2005/2006 winter season.

The groundwater levels recorded during the March 2005 measurement event were the highest levels recorded for each well to date. The depths to water recorded in the Site monitoring wells during the March 2005 event ranged from 1.9 to 2.5 feet.

2.2 Groundwater Flow Direction and Gradient

Groundwater contour maps for the first through fourth quarters of 2005 based on the March, June, September and December 2005 water-level data are shown on Figures 4 through 7.

The groundwater flow direction determined for each quarter of 2005 was to the northeast, consistent with the groundwater flow direction determined previously for the Site. The horizontal hydraulic gradients measured for the first, second, third, and fourth quarters of 2005 were 0.025, 0.017, 0.014, and 0.016, respectively.

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 2005 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 quarterly 2005 groundwater contour maps, groundwater flow velocities beneath the Site are calculated to range from 1 to 2 feet per year (ft/yr).

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 3, June 10, September 16, and December 6, 2005 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 8021B. Results for all Method 8010 analytes were reported. The groundwater samples for first through fourth quarter 2005 were delivered with appropriate chain-of-custody documentation to STL Chromalab, 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 fourth quarter 2005 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, third and fourth quarter 2005] and MW-4 [second quarter 2005]) 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:

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

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 fourth quarter 2005 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:

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

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

First Quarter 2005 Field QC Results

One field duplicate (DUP-1) was analyzed as part of the first quarter 2005 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 8021B (8010 list). Table 2 summarizes the calculated RPDs for MW-2 and MW-2 duplicate (DUP-1). Of the two parameters for which RPDs could be calculated (see Table 2), two parameters (TCE and PCE) exhibit a low RPD value (i.e., less than 10%) indicative of good precision.

Second Quarter 2005 Field QC Results

One field duplicate (DUP-1) was analyzed as part of the second quarter 2005 sampling event at the Site. The duplicate sample was collected at groundwater monitoring well MW-4 and was analyzed for halogenated VOCs using USEPA Method 8021B (8010 list). Table 2 summarizes the calculated RPDs for MW-4 and MW-4 duplicate (DUP-1). Of the one parameter for which the RPD could be calculated (see Table 2), one parameter (PCE) exhibits a low RPD value (i.e., less than 10%) indicative of good precision.

Third Quarter 2005 Field QC Results

One field duplicate sample (DUP-1) was analyzed as part of the third quarter 2005 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 8021B (8010 list). Table 2 summarizes the calculated RPDs for MW-2 and MW-2 duplicate (DUP-1). Of the two parameters for which RPDs could be calculated (see Table 2), two parameters (TCE and PCE) exhibit a low RPD value (i.e., less than 10%) indicative of good precision.

Fourth Quarter 2005 Field QC Results

One field duplicate sample (DUP-1) was analyzed as part of the fourth quarter 2005 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 8021B (8010 list). Table 2 summarizes the calculated RPDs for MW-2 and MW-2 duplicate (DUP-1). Of the two parameters for which RPDs could be calculated (see Table 2), two parameters (TCE and PCE) exhibit a low RPD value (i.e., less than 10%) indicative of good precision.

First through Fourth Quarter 2005 Laboratory QC Results

A review of the first through fourth quarter 2005 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) no matrix spike or duplicate matrix spike recoveries were outside of the laboratory's control limits; and (3) RPD values for the matrix spikes and duplicate matrix spikes indicate a high overall degree of analytical precision. 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 2005 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 2005 monitoring events are also shown on Figure 8.

PCE and its breakdown products DCE and TCE were the only VOCs detected in groundwater at the Site during the first through fourth quarters of 2005.

For the first through fourth quarters of 2005, the concentrations of PCE detected ranged from 140 to 240 μg/L in monitoring well MW-1, from 2,500 to 7,300 μg/L in MW-2, not detected in monitoring well MW-3, and from 0.8 to 1.1 μg/L in MW-4. The concentration of PCE reported for monitoring well MW-2 for the March 2005 sampling event, 7,300 μg/L, was the highest concentration reported to date for the well.

The concentrations of TCE detected ranged from 15 to 34 μg/L in monitoring well MW-1 and from 29 to 78 μg/L in MW-2. TCE was not detected in MW-3 or MW-4.

The concentrations of DCE detected in monitoring well MW-3 ranged from 0.68 to 2.4 μg/L. DCE was not detected in MW-1, MW-2 or MW-4.

3.3 Discussion

The results for the year 2005 quarterly monitoring events are generally similar to the results reported for the years 2000 through 2004 quarterly monitoring programs (see Figure 9). Variations in VOC concentrations at monitoring well MW-2 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 (compare Figures 3 and 9). The variations in VOC concentrations sometimes lag one quarter behind the variations in groundwater elevation.

The concentration of PCE reported for monitoring well MW-2 for the March 2005 sampling event, 7,300 μg/L, was the highest concentration reported to date for the well. This detection coincided with the highest groundwater levels recorded to date for the Site.

The concentrations of PCE detected in groundwater samples from MW-1 and MW-2 exceed California's primary drinking water standard for PCE, which is 5 μg/L. The concentrations of TCE

detected in groundwater samples from MW-1 and MW-2 exceed California's primary drinking water standard for TCE, which is also 5 μg/L.

Although primary drinking water standards are exceeded in on-site groundwater, shallow groundwater in the vicinity of the Site is not considered to be suitable as a source of drinking water (Groundworks, 1995; Hickenbottom and Muir, 1988).

4 Implementation of Phytoremediation Project

After evaluating a number of potential remediation approaches for addressing the VOC concentrations in groundwater at the Site, Cargill Salt selected phytoremediation as the most promising approach. A phytoremediation project was implemented at the Site in June 2005.

4.1 Selection of Phytoremediation Approach

Cargill Salt reviewed a number of remediation approaches for potential implementation at the Alameda site. These included: groundwater extraction, air sparging, a permeable reactive zone (i.e., zero-valent iron wall), chemical oxidation, in-situ reductive dechlorination via enhanced bioremediation, and phytoremediation.

Phytoremediation was considered to be the most promising, cost-effective and least risky approach for reducing VOC concentrations in groundwater at the Site. There are no undesirable breakdown products, and phytoremediation can help to control plume migration. One potential disadvantage is the amount of time that may be required for phytoremediation to be effective: it can take up to 5 to 10 years at a typical site for tree seedlings to reach sufficient size and rooting depth and effectively phytoremediate VOCs in groundwater. However, the shallow groundwater and sandy soil conditions at this site would be expected to help accelerate that timeframe.

Phytoremediation of VOCs in groundwater actually involves several processes, including:

- Rhizodegradation – degradation of VOCs by enhanced microbial activity in the rhizosphere (the soil zone that surrounds and is influenced by the roots of plants),
- Phytodegradation – (or phytotransformation) degradation of VOCs within the plant tissue,
- Phytovolatilization – uptake and transpiration of VOCs from groundwater through the plant tissue into the atmosphere, and
- Hydraulic control – limiting the migration of the contaminant plume through groundwater uptake as part of plant evapotranspiration (US EPA 2001; Green and Hoffnagle 2004).

Hybrid poplars have been shown to be effective in remediating VOC concentrations in shallow groundwater. The Site appears to be a good candidate for phytoremediation using hybrid poplars: groundwater is shallow, soils are sandy, VOC impacts are relatively limited in lateral and vertical extent beneath the Site, and the main area of VOC impact is beneath an undeveloped and unpaved portion of the property. The root depth of mature hybrid poplars (about 15 feet) should be sufficient to reach most of the vertical extent of the plume beneath the Site. Also, hybrid poplars have high transpiration rates, and the effective depth of phytoremediation may extend deeper than the root depth through hydraulic uptake from the roots. Groundwater transect sampling conducted in 1999 indicated that the core of the plume occurs between depths of 5 and 14 feet at the southwestern end of the property (near MW-2) and predominantly between depths of 5 and 20 feet at the northeastern end of the property (near MW-1).

After researching the application and effectiveness of phytoremediation, and evaluating the suitability of the Site for phytoremediation using hybrid poplars, Cargill Salt selected phytoremediation as the most promising remediation approach for implementation at the Site.

Mr. Mark Wheeler of Crawford reviewed Cargill Salt's plans for phytoremediation with Mr. Bob Schultz, the ACEHS caseworker, in a phone conversation on March 23, 2005. Mr. Schultz agreed with the plans for implementation of a phytoremediation project at the Site. In order to accommodate the desired schedule for ordering and planting the trees, Mr. Schultz indicated that submittal of workplan would not be necessary. Mr. Schultz requested that a status update be presented in the next monitoring report.

4.2 Project Startup

The phytoremediation project was initiated at the Site in June 2005. Crawford designed, coordinated, and supervised the tree planting program. The project involved planting 96 bare-root trees in a grid of 24 rows. The rows are generally 6 feet apart with trees on 7-foot centers on each row. The rows are offset so that trees are in triangular pattern. The planting grid is shown on Figure 10. In order to plant trees in the area formerly used for parking along the front of the property near monitoring well MW-1, the asphalt was removed by a landscape contractor.

Personnel from Crawford and Field Solutions, Inc. planted the trees on June 13, 2005. The "trees" were actually 4-ft tall, bare-root poles with no foliage. The bare-root stock was furnished by Segal Ranch of Grandview, Washington. Tree planting involved the following tasks:

- Each bare-root tree was checked and any broken or damaged roots were removed. The roots were then soaked in a solution of growth hormone and fertilizer prior to planting.
- Holes approximately 1-foot wide and 1-foot deep were dug. The bare-root trees were planted with a mixture of peat moss, planting soil, native soil, and fertilizer.
- After planting, peat moss mulch was spread on top of each planting site and each plant was hand watered with a transplant solution. Peat moss was also spread in the former parking area where the asphalt had been removed.
- To block roots from spreading under the adjacent Golden Gate Sheet Metal Works property, Root Guard plastic sheeting was installed to a depth of 2 feet along 90 feet of the property boundary. After the trees were planted, a landscape contractor added shredded redwood bark as moisture control to each tree. Shredded bark was also spread across the former parking strip in front. The landscape contractor also installed a drip irrigation system and installed straw wattle around the edge of the planting area near Clement Street. Cargill also installed a new fence around the planting area near Clement Street.

The hybrid poplar selected for planting was a DN-34 hybrid, a male hybrid that does not produce the cottony seed common to most poplar trees. It tolerates a wide variety of sites but does particularly well on moderately sandy soils. Once the trees they are established they require little or no watering. They can row 4 to 6 feet per year and can reach 50 – 80 feet in height.

Photographs of the bare root trees taken after they were planted on June 13, 2005 and showing growth at 12-½ weeks are shown on Figure 11.

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

Effectiveness of the phytoremediation project will be evaluated as part of the ongoing groundwater monitoring program. Status reports will be included in the groundwater monitoring reports. It is expected that it will take two to three years for the trees and root systems to become established and for the trees to start having a significant effect on VOC concentrations in groundwater at the Site. Tree growth and VOC concentrations will be monitored and evaluated to determine the effectiveness of the phytoremediation project.

Professional Certification

Groundwater Monitoring Results
First through Fourth Quarter 2005
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-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
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

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	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-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

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 2005			Second Quarter 2005			Third Quarter 2005			Fourth Quarter 2005		
	Well MW-2 Results	DUP-1 Results	RPD[1] (%)	Well MW-4 Results	DUP-1 Results	RPD[1] (%)	Well MW-2 Results	DUP-1 Results	RPD[1] (%)	Well MW-2 Results	DUP-1 Results	RPD[1] (%)
Organic Compounds (µg/L)												
1,1-Dichloroethene (1,1-DCE)	ND[2]	ND	NM[3]	ND	ND	NM	ND	ND	NM	ND	ND	NM
Trichloroethene (TCE)	78	81	3.8	ND	ND	NM	29	31	6.7	45	44	2.2
Tetrachloroethene (PCE)	7,300	7,700	5.3	0.98	0.89	9.6	2,500	2,500	0	3,300	3,300	0

1 RPD = relative percent difference

2 ND = not detected

3 NM = not meaningful; RPD cannot be accurately calculated where one or both values are below the method reporting limit.

All other 8010 analytes not detected (by 8021B).

Table 3. Summary of Groundwater Monitoring Well Data
(results measured in µg/L)

Well No.	MW-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	MCL[1]
DCE[2]	<50.0	**13**	<10	**15**	**14**	<13	**14**	**15**	<13	<13	<13	<13	<13	<10	**12**	**5.2**	6
CFC 113[3]	na[4]	**1.4**	<10	<10	<8.3	<50	<50	<50	<50	<13	<13	<13	<13	<10	<10	<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
Chloroform	<50.0	**0.6***	<10	<10	<8.3	<13	<13	<13	<13	<13	<13	<13	<13	<10	<10	<5.0	ne
TCA[7]	<50.0	**1.6**	<10	<10	<4.2	<13	<13	<13	<13	<13	<13	<13	<13	<10	<10	<5.0	200
TCE[8]	**178**	**150**	**190**	**170**	**130**	**180**	**250**	**210**	**190**	**160**	**140**	**190**	**68**	**97**	**90**	**110**	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**	5
Other analytes[10]	nd[11]	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 Method 8010/8021B analytes

[11] nd = not detected

* Chloroform detected in equipment blank at 1.6 µg/L

Table 3. Summary of Groundwater Monitoring Well Data
(results measured in μg/L)

Well No.	MW-1									MW-2									
Field Date	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	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	MCL[1]
DCE[2]	**8.4**	<5.0	**5.8**	**6.6**	<5.0	<5.0	<2.0	<5.0	<2.0	<50.0	<0.5	<25	<25	<8.3	<25	<25	<25	<25	6
CFC 113[3]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	na	<0.5	<25	<25	<17	<100	<100	<100	<100	ne[5]
DCA[6]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	<50.0	<0.5	<25	<25	<8.3	<25	<25	<25	<25	5
Chloroform	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<10	<4.0	<50.0	<0.5	<25	<25	<17	<25	<25	<25	<25	ne
TCA[7]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<2.0	<50.0	**5.0**	<25	<25	<8.3	<25	<25	<25	<25	200
TCE[8]	**130**	**53**	**72**	**81**	**39**	**15**	**23**	**34**	**16**	<50	**29**	**53**	<25	**20**	**40**	**78**	<25	<25	5
PCE[9]	**850**	**370**	**490**	**620**	**380**	**160**	**180**	**240**	**140**	**840**	**3,600**	**3,200**	**3,300**	**1,700**	**2,200**	**4,400**	**1,700**	**1,700**	5
Other analytes[10]	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 Method 8010/8021B analytes

[11] nd = not detected

* Chloroform detected in equipment blank at 1.6 μg/L

Table 3. Summary of Groundwater Monitoring Well Data
(results measured in µg/L)

Well No.	MW-2																
Field Date	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	MCL[1]
DCE[2]	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	6
CFC 113[3]	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	ne[5]
DCA[6]	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	5
Chloroform	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<40	<50	ne
TCA[7]	<25	<25	<25	<25	<20	<20	<20	<20	<20	<25	<25	<20	<50	<25	<20	<25	200
TCE[8]	**49**	**52**	**32**	<25	**58**	**41**	**28**	**25**	**39**	**49**	**37**	**30**	**78**	**43**	**29**	**45**	5
PCE[9]	**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
Other analytes[10]	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 Method 8010/8021B analytes

[11] nd = not detected

* Chloroform detected in equipment blank at 1.6 µg/L

Table 3. Summary of Groundwater Monitoring Well Data
(results measured in μg/L)

Well No.	MW-3																
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	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	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	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	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	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	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	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	5
Other analytes[10]	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 Method 8010/8021B analytes

[11] nd = not detected

* Chloroform detected in equipment blank at 1.6 μg/L

Table 3. Summary of Groundwater Monitoring Well Data
(results measured in μg/L)

Well No.	MW-3									MW-4									
Field Date	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	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	MCL[1]
DCE[2]	**0.51**	<0.5	**0.81**	<0.5	<0.5	**0.68**	**2.4**	**1.5**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6
CFC 113[3]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<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	5
Chloroform	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ne
TCA[7]	**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	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	5
PCE[9]	<0.5	<0.5	**0.90**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.6**	**2.8**	**2.0**	**2.5**	**1.1**	**2.1**	**2.1**	**1.6**	**1.6**	5
Other analytes[10]	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 Method 8010/8021B analytes

[11] nd = not detected

* Chloroform detected in equipment blank at 1.6 μg/L

Table 3. Summary of Groundwater Monitoring Well Data
(results measured in μg/L)

Well No.	MW-4								
Field Date	3/4/04	6/2/04	9/14/04	12/8/04	3/3/05	6/10/05	9/16/05	12/6/05	MCL[1]
DCE[2]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6
CFC 113[3]	<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	5
Chloroform	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	ne
TCA[7]	<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	5
PCE[9]	**1.7**	**1.4**	**1.3**	**1.2**	**0.93**	**0.98**	**0.8**	**1.1**	5
Other analytes[10]	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 Method 8010/8021B analytes

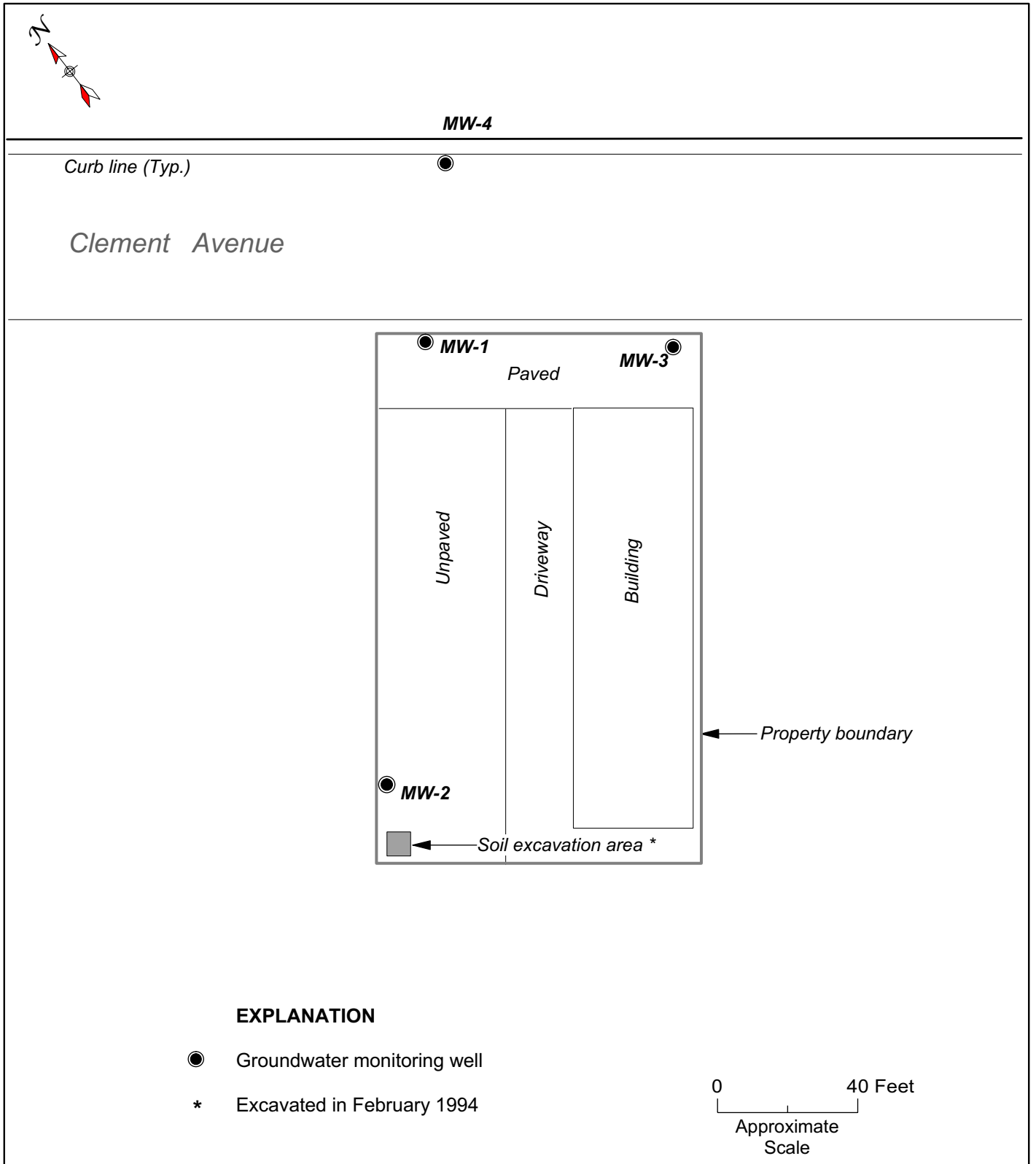
[11] nd = not detected

* Chloroform detected in equipment blank at 1.6 μg/L

CRAWFORD CONSULTING INC.

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

1605fig104.dsf 12/8/04



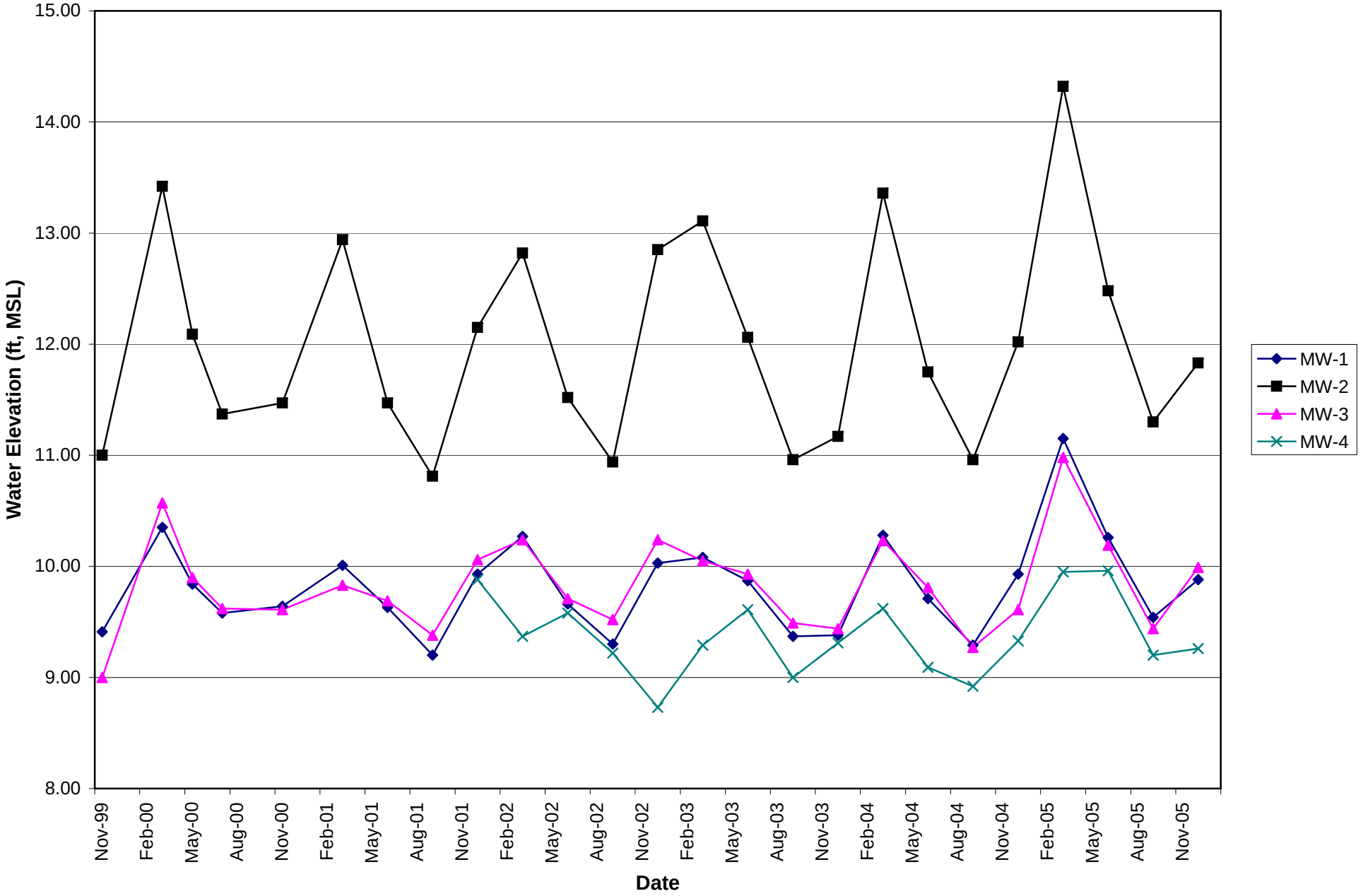
1605fig205.dsf 10/18/06

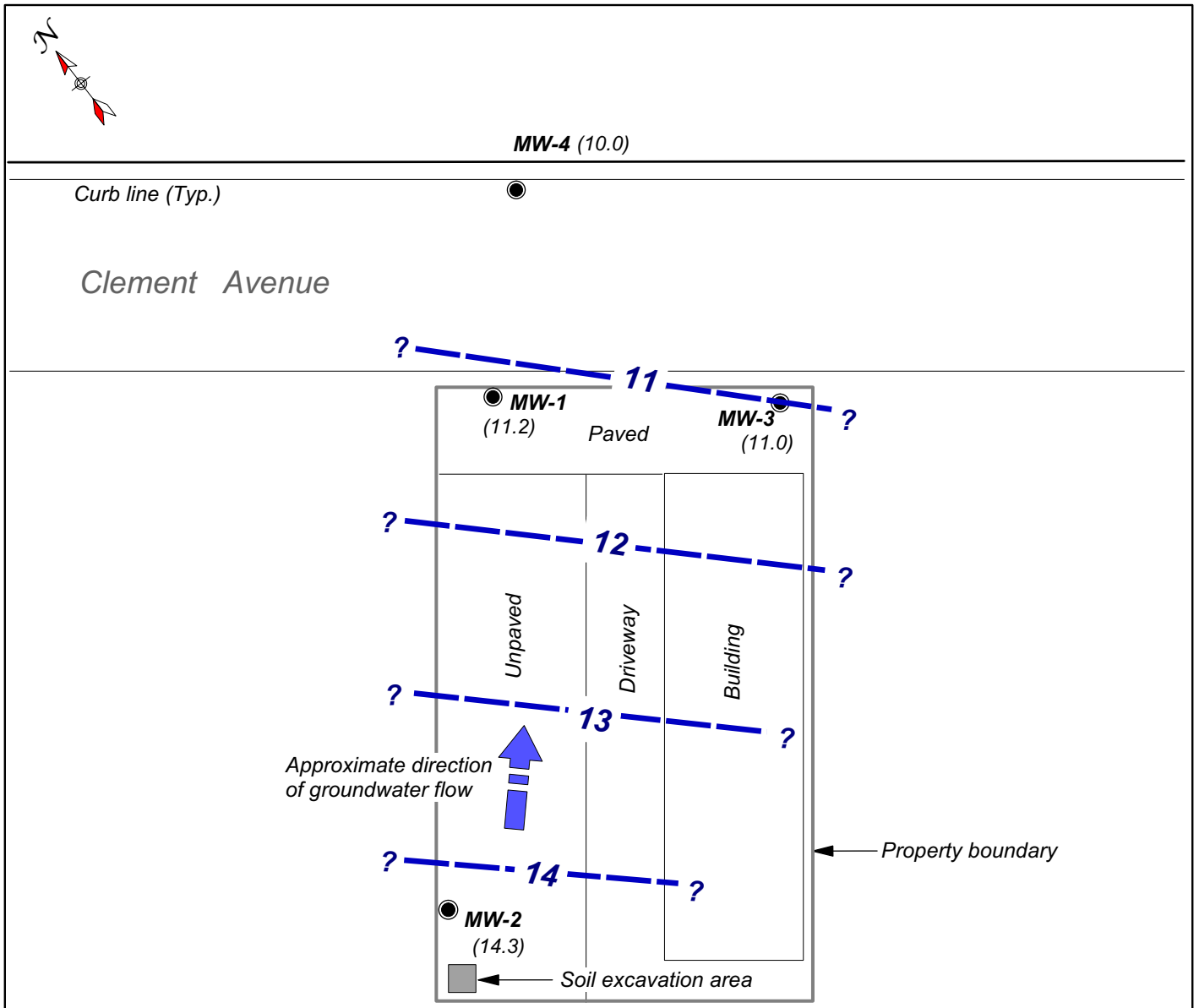
Base map from Conor Pacific/EFW, Off-Site Groundwater Characterization, August 21, 2002.

CRAWFORD CONSULTING INC.

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





EXPLANATION

◉ Monitoring well

(11.2) Groundwater elevation (Ft.-MSL); measured 3/3/05

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

0 40 Feet

Approximate Scale

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

1605fig405.dsf 10/9/06

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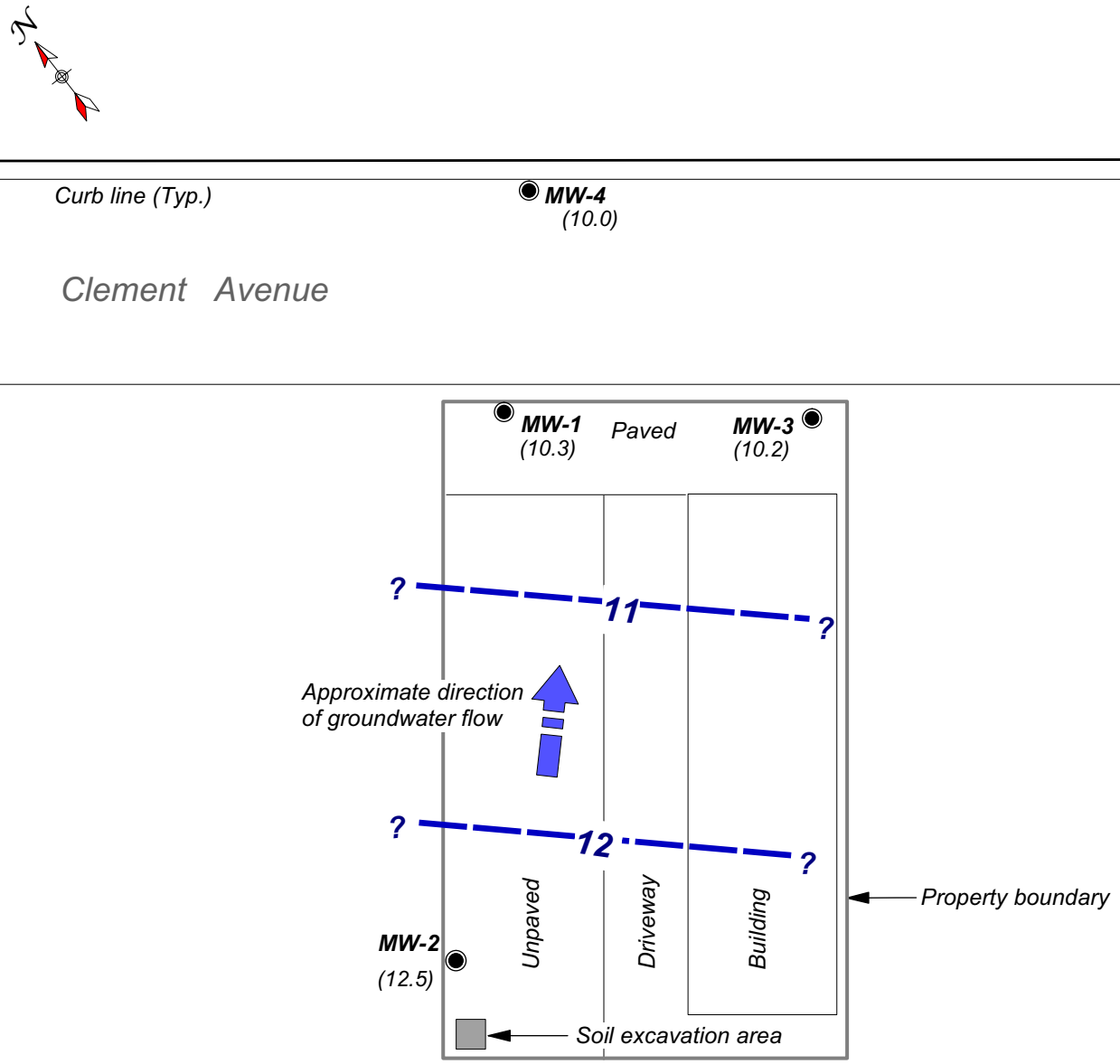
Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 4. Groundwater Elevation Contours - March 2005



EXPLANATION

- Monitoring well
- (10.3) Groundwater elevation (Ft.-MSL); measured 6/10/05
- ? 11 Groundwater elevation contour (Ft.-MSL)

0 40 Feet
Approximate Scale

1605fig505.dsf 10/9/06

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

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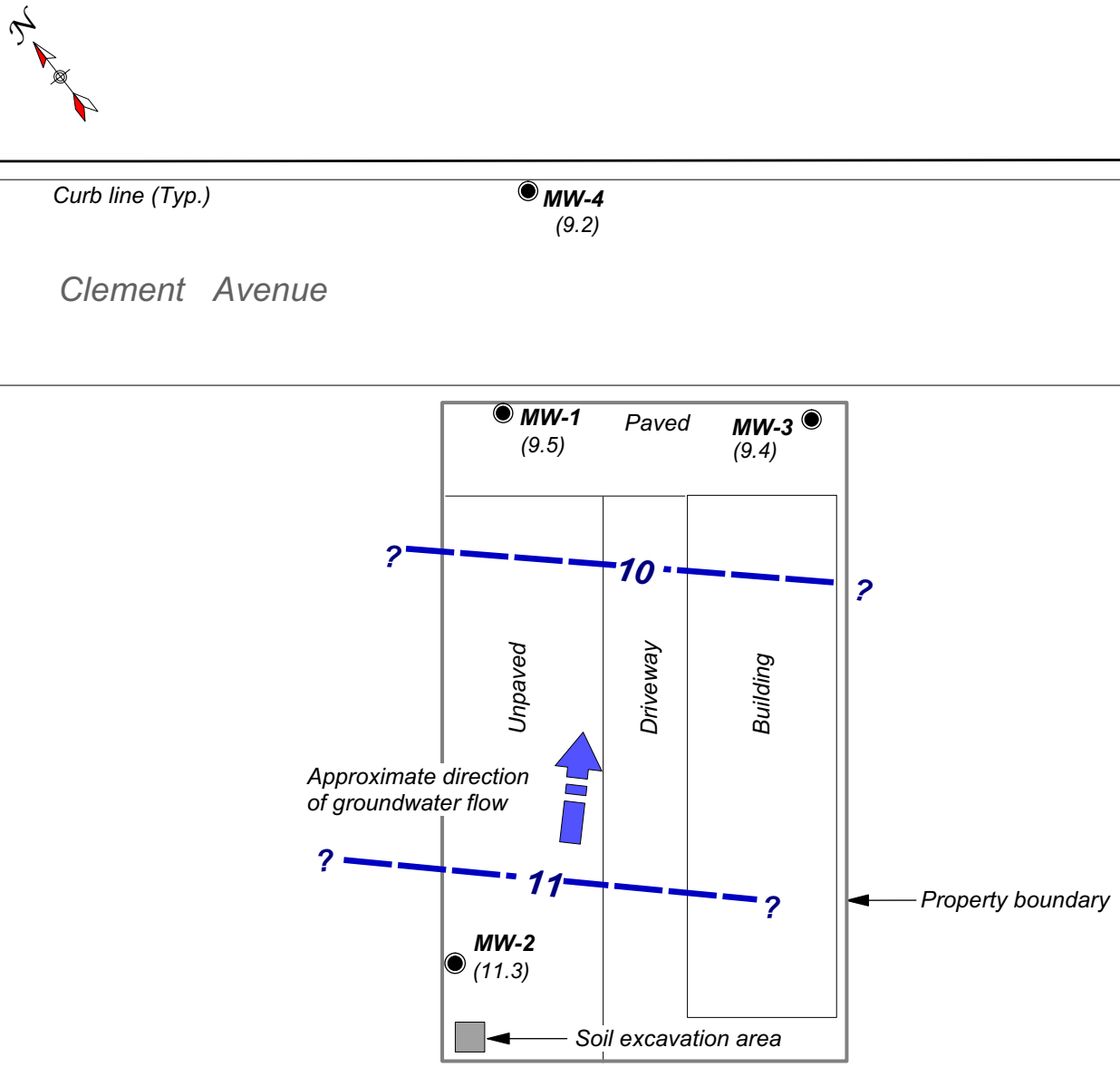
Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 5. Groundwater Elevation Contours - June 2005



1605fig605.dsf 10/2/06

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

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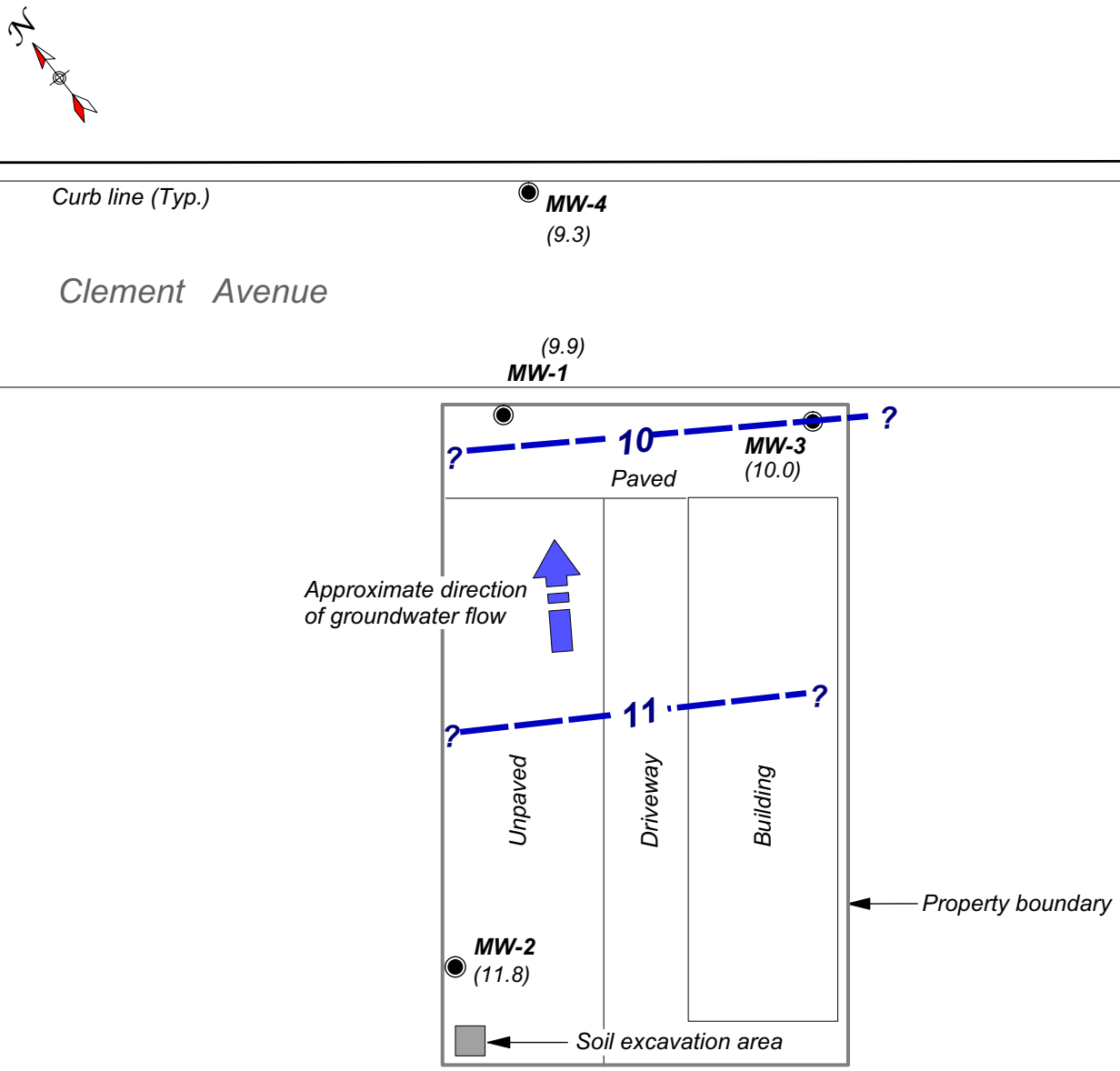
Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 6. Groundwater Elevation Contours - September 2005



EXPLANATION

- Monitoring well
- (3.5) Groundwater elevation (Ft.-MSL); measured 12/6/05
- ? — 4.0 — Groundwater elevation contour (Ft.-MSL)

0 40 Feet
Approximate Scale

1605fig705.dsf 9/1/06

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

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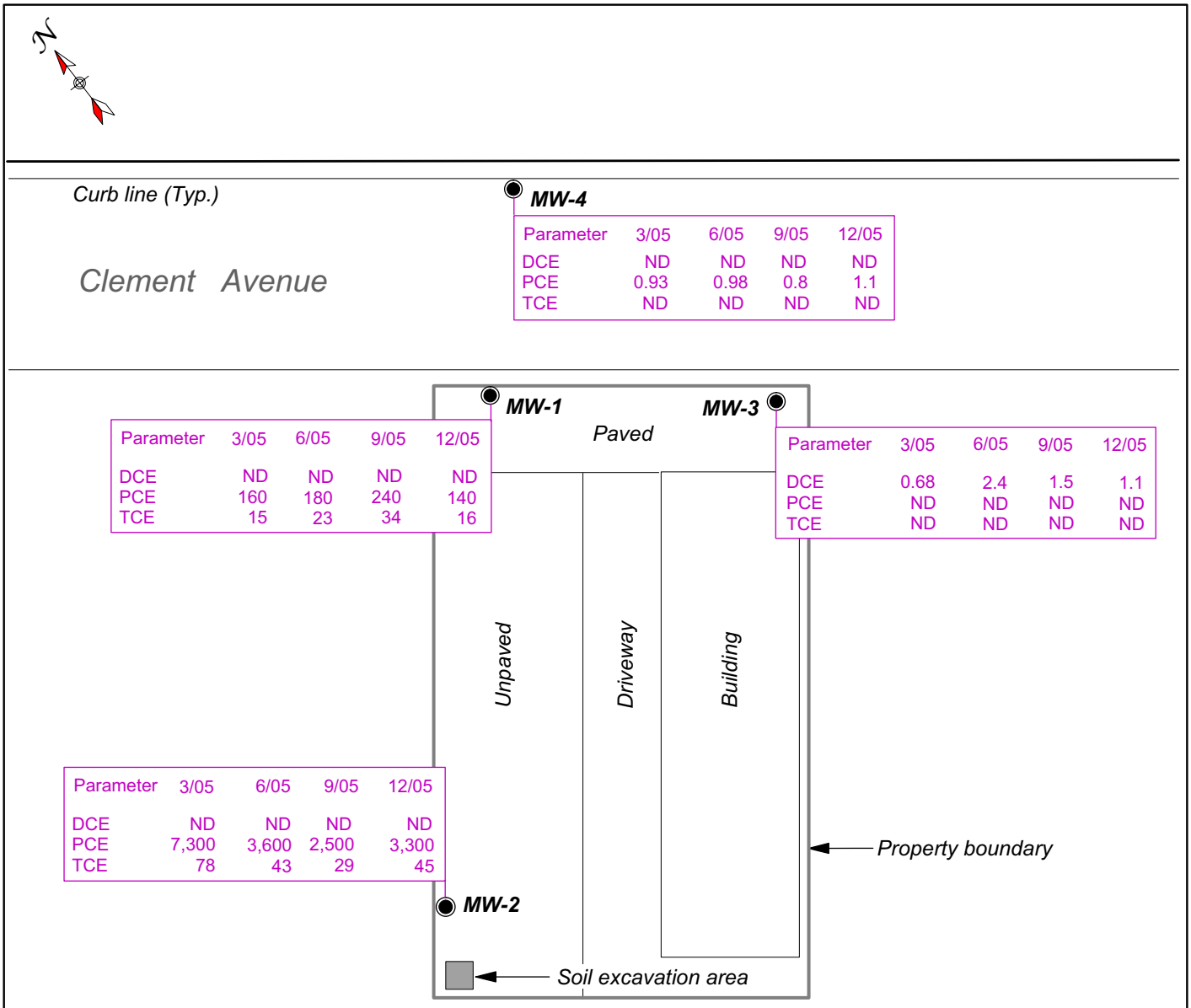
Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 7. Groundwater Elevation Contours - December 2005



1605fig805.dsf 10/2/06

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

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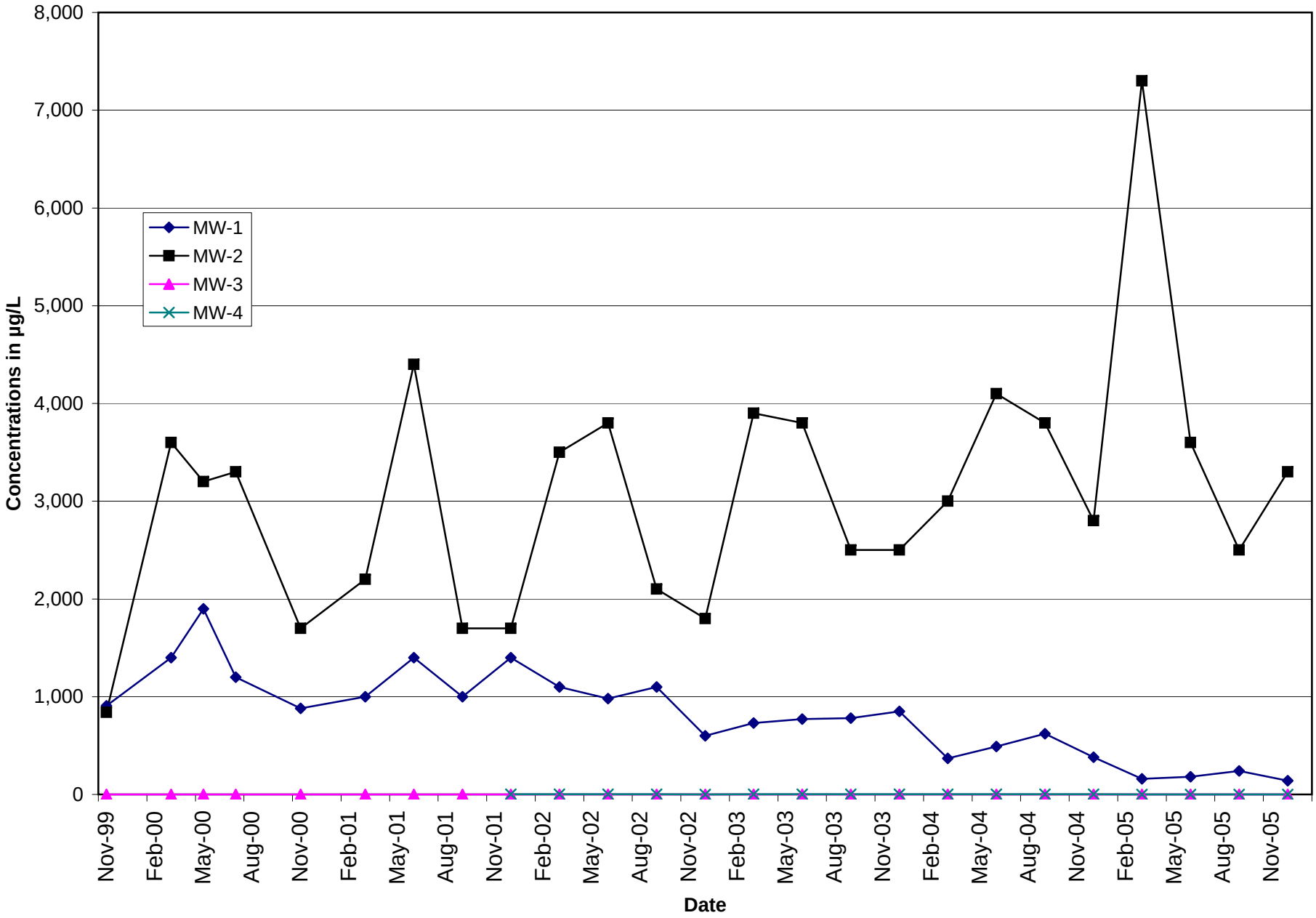
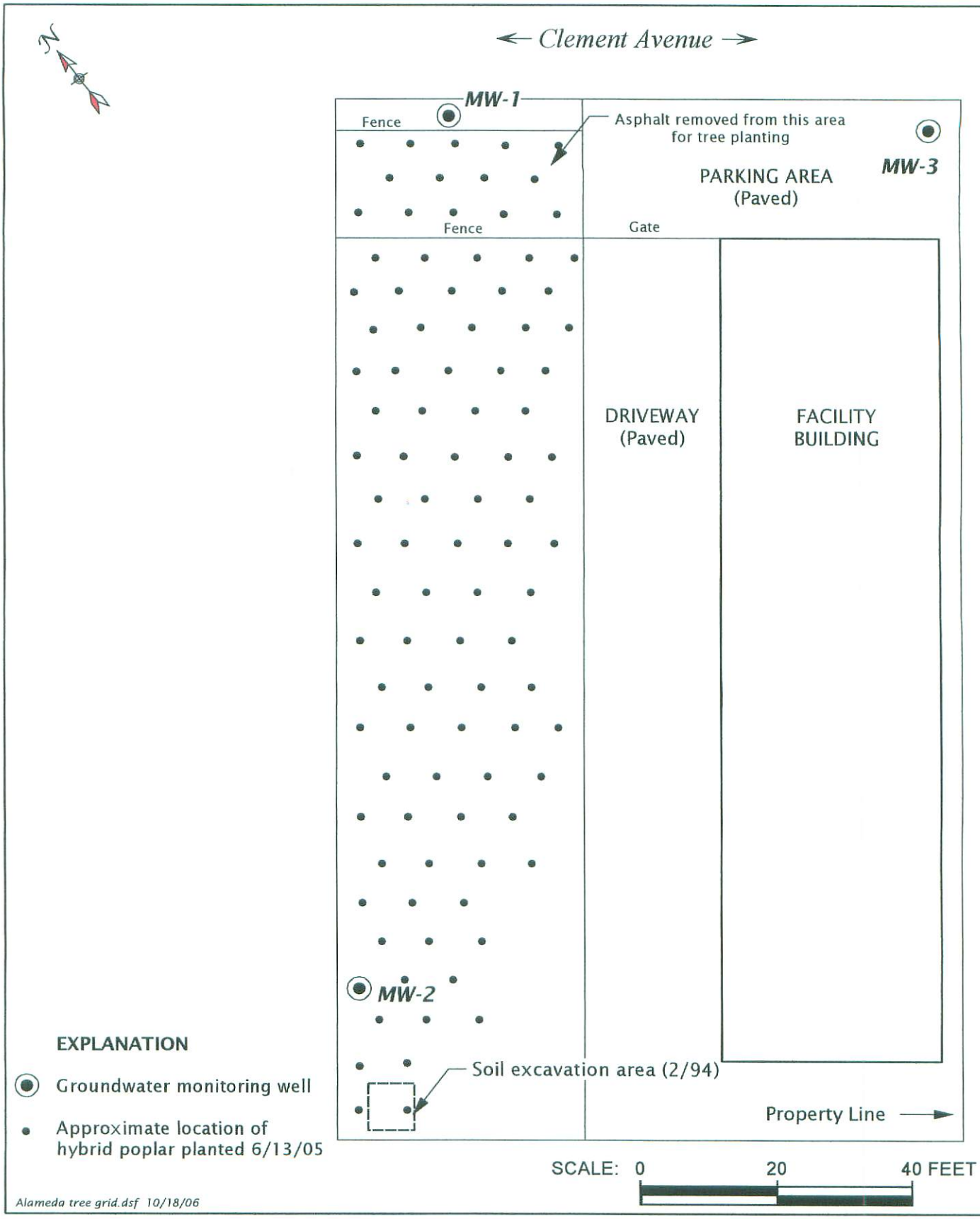
Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 8. VOC Concentrations in Groundwater – March through December 2005

Figure 9. Graphical Summary of PCE Concentrations





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Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 10. Hybrid Poplar Planting Grid

Bare-root trees planted on June 13, 2005
(4-ft rooted cuttings; total of 96 planted)

Growth at 12-½ weeks

Alameda tree pics.dsf 10/18/06

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Project No. CS1605
Cargill Salt Dispensing Systems Division
2016 Clement Avenue, Alameda, California
Figure 11. Hybrid Poplar Photographs

Appendix A

Field Data Sheets

First Quarter 2005

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
	12/08/04	0744	3.23	3.87	
MW-1	3/3/05	0807	2.01	2.01	water in box
	12/08/04	0800	4.20	4.20	
MW-2	3/3/05	0804	1.90	1.90	Water in box
	12/08/04	0740	3.73	3.73	
MW-3	3/3/05	0753	2.36	2.36	water in box
	12/08/04	0736	3.10	3.10	
MW-4	3/3/05	0744	2.18	2.18	

Data Collection

Field measurements by:	Reviewed by:
Print: R. Guevara	Print: J. Butera
Signature:	Signature:
Date: 3/3/05	Date: 3/8/05

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: 3/3/05
Finish Date: 3/3/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 1.93 Well depth (ft): 18.3
One casing volume (gal.): .67 Calculated purge volume (gal.) *(3 x casing volume)*: 2.01

One casing volume = π x [casing radius (in.) x 1 ft/12 in.]² x [well depth (ft) - depth to water (ft)] x 7.48 gal/ft³

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 X Clear bailer ____

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 3/3/05 Start time: 10:14 End time: 10:38
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): .32 Well yield (H/L): High
Purge water disposal: Drummed onsite

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
10:23	2.5	7.04	379.3	15.5	clear	50.2
10:30	5.0	6.95	371.8	15.5	clear	19.6
10:38	7.6	6.92	371.7	15.5	clear	17.07

Total Purged (Liters): 7.6

WELL SAMPLING

Date sampled: 3/3/05 Start time: 1039 End time: 10:41
Depth to water (ft) before sampling: 4.96
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: cloudy Ambient temperature (° F): 60
Well condition/Remarks: All samples collected

Meter calibration: EC See MW-4 pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): R. Bumoler
Signature: [signature] Reviewed by: JB

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: 3/3/05
Finish Date: 3/3/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 1.83 Well depth (ft): 17.5
One casing volume (gal.): .64 Calculated purge volume (gal.) *(3 x casing volume)*: 1.92
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 3/3/05 Start time: 10:58 End time: 11:18
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): .37 Well yield (H/L): High
Purge water disposal: Drummed onsite

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
11:05	2.4	6.79	398.9	15.8	Tan	15.2
11:11	4.8	6.80	400.8	15.5	clear	7.29
11:18	7.3	6.83	401.3	15.6	clear	4.07

Total Purged (Liters): 7.3

WELL SAMPLING

Date sampled: 3/3/05 Start time: 11:19 End time: 11:23
Depth to water (ft) before sampling: 3.81
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Clouds Ambient temperature (° F): 60
Well condition/Remarks: Dup-1 Collected
All samples Collected

Meter calibration: EC SEE MW-4 pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): R. Sweeney
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-3
Sample ID: MW-3
Start Date: 3/3/05
Finish Date: 3/3/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 2.36 Well depth (ft): 17.6
One casing volume (gal.): .62 Calculated purge volume (gal.) *(3 x casing volume)*: 1.87
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 (3.785 liters per 1 gallon)

Date purged: 3/3/05 Start time: 09:12 End time: 09:53
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump ✗
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): .17 Well yield (H/L): Low
Purge water disposal: Drummed on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
09:23	2.3	14.7	477.4	7.40	Clear	19.9
09:37	4.6	15.3	534.0	7.44	clear	22.2
09:53	7.1	15.4	538.5	7.50	Tan	96.8

Total Purged (Liters): 7.1

WELL SAMPLING

Date sampled: 3/3/05 Start time: 09:55 End time: 09:58
Depth to water (ft) before sampling: 15.85
Sampling equipment: Peristaltic pump ✗ Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Sunny Ambient temperature (° F): 60
Well condition/Remarks: ____

Meter calibration: EC SEE MW-4 pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): R. Gutierrez
Signature: [signature] Reviewed by: [signature]

1 1

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: 3/3/05
Finish Date: 3/3/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 2.48 Well depth (ft): 5.0
One casing volume (gal.): .07 Calculated purge volume (gal.) *(3 x casing volume)*: 2.03
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 (3.785 liters per 1 gallon)

Date purged: 3/3/05 Start time: 0820 End time: 0857
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump ✓
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): ~2 Well yield (H/L): Low
Purge water disposal: Drummed onsite

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0833	2.5	6.64	8/2.1	16.3	clear	13.6
0844	5.0	7.30	6/63.5	16.9	clear	4.89
0857	7.7	7.39	657.2	17.1	clear	3.16

Total Purged (Liters): 7.7

WELL SAMPLING

Date sampled: 3/3/05 Start time: 0858 End time: 0901
Depth to water (ft) before sampling: 1.14
Sampling equipment: ~ Peristaltic pump ✓ Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Sunny Ambient temperature (° F): 60
Well condition/Remarks: All Samples Collected

Meter calibration: EC 14.9 mS/cm 15 mS/cm
Temperature 10.2
pH (7.07) (9.95 pH) (4.05, 4.00)
Turbidity 75, 1.0

Purged and sampled by (print): R. Gurevich
Signature: [signature]
Reviewed by: [signature]

Second Quarter 2005

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
	03/03/05	0807	2.01	2.01	
MW-1	6/10/05	0705	2.90	2.90	Under pressure
	03/03/05	0804	1.90	1.90	
MW-2	6/10/05	0709	3.74	3.74	Under pressure
	03/03/05	0753	2.36	2.36	
MW-3	6/10/05	0714	3.15	3.15	Under pressure
	03/03/05	0744	2.48	2.48	
MW-4	6/10/05	0702	2.47	2.47	OK

Data Collection

Field measurements by:
Print: Manuel J. Gallegos
Signature: Manuel J. Gallegos
Date: 6/10/05

Reviewed by:
Print: J Butera
Signature: J Butera
Date: 6/11/05

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: 6-10-05
Finish Date: 6-10-05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 2.90 Well depth (ft): 18.3
One casing volume (gal.): 0.64 Calculated purge volume (gal.) *(3 x casing volume)*: 1.93
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 6-10 05 Start time: 0822 End time: 0843
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.34 Well yield (H/L): high
Purge water disposal: Drum on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0829	2.4	7.52	344	18.5	Clear	95
0837	4.8	7.08	336	18.8	clear	50
0843	7.2	6.99	331	18.9	Clear	32

Total Purged (Liters): 7.2

WELL SAMPLING

Date sampled: 6-10-05 Start time: 0843 End time: 0845
Depth to water (ft) before sampling: 5.58
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy Ambient temperature (° F): 65
Well condition/Remarks: All Samples taken

Meter calibration: EC ____ pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): Manuel L. 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: 6-10-05
Finish Date: 6-10-05

WELL INFORMATION

Casing diameter (in.): 10 Depth to water (ft): 3.74 Well depth (ft): 17.5
One casing volume (gal.): 0.54 Calculated purge volume (gal.) *(3 x casing volume)*: 1.69
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 6-10-05 Start time: 09:42 End time: 0959
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.37 Well yield (H/L): ____
Purge water disposal: Drums on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0948	2.1	7.53	362	17.0	cloudy	70
0953	4.2	7.02	369	17.0	clearing	36
0959	6.3	6.95	372	16.9	clear	22

Total Purged (Liters): 6.3

WELL SAMPLING

Date sampled: 6-10-05 Start time: 0959 End time: 1001
Depth to water (ft) before sampling: 5.12
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy Ambient temperature (° F): 65
Well condition/Remarks: ____

Meter calibration: EC ____ pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): Manuel L. Gallegos
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: 6-10-05
Finish Date: 6-10-05

WELL INFORMATION

Casing diameter (in.): 10 Depth to water (ft): 3.15 Well depth (ft): 17.6
One casing volume (gal.): 0.59 Calculated purge volume (gal.) *(3 x casing volume)*: 1.77
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 6-10-05 Start time: 0903 End time: 0937
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.29 Well yield (H/L): Low
Purge water disposal: Drums or sink

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0909	2.2	7.20	529	17.3	Clear	15
0918	4.4	7.40	602	16.9	Cloudy	390
	6.7	well dry	to limit of pump @ 6.0 mls.			
0937	Recharge	7.58	613	17.4	Cloudy	120

Total Purged (Liters): 6.0

WELL SAMPLING

Date sampled: 6-10-05 Start time: 0935 End time: 0937
Depth to water (ft) before sampling: 15.02
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy Ambient temperature (° F): 65
Well condition/Remarks: let well recharge prior to collecting samples
All samples taken.

Meter calibration: EC ____ pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): Manuel L. 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-4
Sample ID: MW-4
Start Date: 6-10-05
Finish Date: 6-10-05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 2.57 Well depth (ft): 19.0
One casing volume (gal.): 0.67 Calculated purge volume (gal.) *(3 x casing volume)*: 2.01
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 6-10-05 Start time: 0738 End time: 0811
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.13 Well yield (H/L): high
Purge water disposal: Drum on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0749	2.5	6.83	6.52	19.2	Clear	7.8
0800	5.1	7.31	6.51	19.1	Clear	1.7
0811	7.6	7.39	6.52	19.0	Clear	0.90

Total Purged (Liters): 7.6

WELL SAMPLING

Date sampled: 6-10-05 Start time: 0811 End time: 0815
Depth to water (ft) before sampling: 12.53
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy Ambient temperature (° F): 65
Well condition/Remarks: All Samples taken

DUP-1 @ this well.

Meter calibration: EC 15,010 - 15,000 pH 7.05-7.00 / 1000, 1000 / 3.92-4.02
Temperature 16.1 Turbidity 0.45 / 1.0

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

Third Quarter 2005

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	06/10/05	0705	2.90	2.90	
	9/14/05	0800	3.42	3.42	
MW-2	06/10/05	0709	3.74	3.74	
	9/14/05	0808	4.92	4.92	
MW-3	06/10/05	0714	3.15	3.15	
	9/14/05	0804	3.90	3.90	
MW-4	06/10/05	0702	2.47	2.47	
	9/14/05	0812	3.23	3.23	

Data Collection

Field measurements by:
Print: Manuel L. Gallegos
Signature: [signature]
Date: 9-14-05

Reviewed by:
Print: J. Butova
Signature: [signature]
Date: 9/26/05

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: 9-16-05
Finish Date: 9-16-05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 3.63 Well depth (ft): 18.3
One casing volume (gal.): 0.89 Calculated purge volume (gal.) *(3 x casing volume)*: 2.69
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer ____

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 9-16-05 Start time: 10:42 End time: 1108
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.63 ~~L/min~~ Well yield (H/L): high.
Purge water disposal: Drum on Site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
1051	3.4	6.77	358	21.3	Clear	13
1100	6.8	6.75	355	21.5	Clear	6.7
1108	10.2	6.76	352	21.3	Clear	4.6

Total Purged (Liters): 10.2

WELL SAMPLING

Date sampled: 9-16-05 Start time: 1109 End time: 1111
Depth to water (ft) before sampling: 5.89
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy, Cool Ambient temperature (° F): 65
Well condition/Remarks: All Samples taken

Meter calibration: EC ____ pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): Manuel L. Gallegos
Signature: [signature] Reviewed by: [signature] 10/05

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: 9-16-05
Finish Date: 9-16-05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 4.92 Well depth (ft): 17.5
One casing volume (gal.): 0.51 Calculated purge volume (gal.) *(3 x casing volume)*: 1.54

One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer ____

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 9-16-05 Start time: 10.09 End time: 1030
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.30 mL Well yield (H/L): High
Purge water disposal: Drums on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
1020	1.9	7.01	332	19.0	Cloudy	60
1025	3.8	6.71	332	19.3	Clear	33
1030	5.8	6.73	333	19.4	Clear	8.5

Total Purged (Liters): 5.8

WELL SAMPLING

Date sampled: 9-16-05 Start time: 1031 End time: 1034
Depth to water (ft) before sampling: 6.38
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy | Cool Ambient temperature (° F): 65
Well condition/Remarks: All Samples taken.

* DUP-1 taken @ this well.

Meter calibration: EC ____ pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): Manuel L. Gallegos
Signature: [signature] Reviewed by: [signature] 10/05

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: 9-16-05
Finish Date: 9-16-05

WELL INFORMATION

Casing diameter (in.): 10 Depth to water (ft): 3.90 Well depth (ft): 17.4
One casing volume (gal.): 0.54 Calculated purge volume (gal.) *(3 x casing volume)*: 1.68

One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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): NP Method for checking: Interface probe X Clear bailer

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 9-16-05 Start time: 0911 End time: 0950
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.16 mL Well yield (H/L): Low
Purge water disposal: Drums on site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0929	2.1	7.50	570	19.4	Clear	23
0939	4.2	7.29	576	18.3	Clear	17
0950	6.4	7.27	574	18.0	Clear	50

Total Purged (Liters): 6.4

WELL SAMPLING

Date sampled: 9-16-05 Start time: 0952 End time: 0954
Depth to water (ft) before sampling: 15.77
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Cloudy / Cool Ambient temperature (° F): 65
Well condition/Remarks: All samples taken

Meter calibration: EC ____ pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): Manuel Gallegos
Signature: [signature] Reviewed by: JB 10/05

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: 9-16-05
Finish Date: 9-16-05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 3.23 Well depth (ft): 19
One casing volume (gal.): 0.64 Calculated purge volume (gal.) *(3 x casing volume)*: 1.93
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer ____

WELL PURGING (3.785 liters per 1 gallon)

Date purged: 9-16-05 Start time: 0822 End time: 0855
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump X
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate (lpm): 0.77 Well yield (H/L): High
Purge water disposal: Drum on Site

Time (2400 hr)	Cumulative Vol. Purged (Liters)	pH (units)	EC (mS/cm)	T (° C)	Color (Visual)	Turbidity (NTU)
0829	2.4	7.21	0.21	21.1	Clear	3.1
0842	4.8	7.24	0.28	20.5	Clear	1.9
0855	7.3	7.24	0.24	20.4	Clear	2.9

Total Purged (Liters): 7.3

WELL SAMPLING

Date sampled: 9-16-05 Start time: 0855 End time: 0858
Depth to water (ft) before sampling: 10.78
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: OK Cloudy / cool Ambient temperature (° F): 65
Well condition/Remarks: All Samples taken

Meter calibration: EC 4.60 / 1.413 pH 7.03-10 / 1004-1000-1000
Temperature ____ Turbidity 101-400 / 1.0 / 1.0

Purged and sampled by (print): Manuel L. Gallegos
Signature: [signature] Reviewed by: [signature] 9/20/05

Fourth Quarter 2005

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	12/6/05	0800	3.28	3.25	water in box, well under pressure
MW-2	12/6/05	0758	4.39	4.35	well lid, water in box
MW-3	12/6/05	0804	3.35	3.35	well lid
MW-4	12/6/05	0750	3.17	3.17	well lid, water in box

Data Collection

Field measurements by:
Print: R. Crawford
Signature:
Date: 12/6/05

Reviewed by:
Print: J. Butera
Signature:
Date: 12-6-05

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: 12/6/05
Finish Date: 12/6/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 3.30 Well depth (ft): 18.3
One casing volume (gal.): .061 Calculated purge volume (gal.) *(3 x casing volume)*: 1.84

One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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 X Clear bailer

WELL PURGING

Date purged: 12/6/05 Start time: 10:11 End time: 10:45
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump +
PVC bailer ____ Teflon bailer ____ Other
Purge rate: .05 Well yield (H/L): High
Purge water disposal: Drummed onsite

Time (2400 hr)	Cumulative Vol. Purged (gal.)	pH (units)	EC (µS/cm)	T (° C)	Color (Visual)	Turbidity (Visual or NTU)
10:23	2.3	7.06	396	16.3	clear	16
10:33	4.6	6.72	380	16.2	clear	3.7
10:45	7.0	6.73	378	16.0	clear	1.1

Total Purged (gal.): 1.84 gal

WELL SAMPLING

Date sampled: 12/6/05 Start time: 10:46 End time: 10:49
Depth to water (ft) before sampling: 4.56
Sampling equipment: Peristaltic pump + Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: clear Ambient temperature (° F): 50
Well condition/Remarks: All samples collected

Meter calibration: EC SEE MW-3 pH ____
Temperature ____ Turbidity ____

Purged and sampled by (print): R. Guevara
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: 12/6/05
Finish Date: 12/6/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 4.59 Well depth (ft): 17.5

One casing volume (gal.): .53 Calculated purge volume (gal.) *(3 x casing volume)*: 1.61

One casing volume = π x [casing radius (in.) x 1 ft/12 in.]² x [well depth (ft) - depth to water (ft)] x 7.48 gal/ft³

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 X Clear bailer

WELL PURGING

Date purged: 12/6/05 Start time: 10:59 End time: 10:37

Purging equipment: Submersible pump ___ Bladder pump ___ Peristaltic pump X
PVC bailer ___ Teflon bailer ___ Other ___

Purge rate: .04 gpm Well yield (H/L): High

Purge water disposal: Drummed onsite

Time (2400 hr)	Cumulative Vol. Purged (gal.) L	pH (units)	EC (µS/cm)	T (° C)	Color (Visual)	Turbidity (Visual or NTU)
11:17	2.0	6.78	396	15.2	tan	16
11:27	4.0	6.71	398	16.1	clear	20
10:37	6.1	6.72	400	15.9	Clear	10

Total Purged (gal.): 1.61

WELL SAMPLING

Date sampled: 12/6/05 Start time: 10:38 End time: 11:43

Depth to water (ft) before sampling:

Sampling equipment: Peristaltic pump X Bladder pump ___ Teflon bailer ___
PVC bailer ___ Other ___

Weather conditions: Clear Ambient temperature (° F): 55

Well condition/Remarks: OK
DUP-1 collected, all samples collected

Meter calibration: EC ___ pH ___
Temperature See MW3 Turbidity ___

Purged and sampled by (print): R. Gunner

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-3
Sample ID: MW-3
Start Date: 12/6/05
Finish Date: 12/6/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): 3.35 Well depth (ft): 17.6
One casing volume (gal.): .58 Calculated purge volume (gal.) *(3 x casing volume)*: 1.75
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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

Date purged: 12/6/05 Start time: 08:21 End time: 09:04
Purging equipment: Submersible pump ____ Bladder pump ____ Peristaltic pump +
PVC bailer ____ Teflon bailer ____ Other ____
Purge rate: .05 gpm Well yield (H/L): LOW
Purge water disposal: DRUM ONSITE

Time (2400 hr)	Cumulative Vol. Purged (gal.) L	pH (units)	EC (µS/cm)	T (° C)	Color (Visual)	Turbidity (Visual or NTU)
08:35	2.2	6.07	612	12.4	clear	18.7
08:49	4.4	6.80	602	13.3	clear	36.1
09:04	6.7	6.89	599	13.4	clear	15

Total Purged (gal.): 1.75

WELL SAMPLING

Date sampled: 12/6/05 Start time: 09:05 End time: 09:10
Depth to water (ft) before sampling: 15.05
Sampling equipment: Peristaltic pump X Bladder pump ____ Teflon bailer ____
PVC bailer ____ Other ____

Weather conditions: Clear Ambient temperature (° F): 40
Well condition/Remarks: Well OK All samples collected

Meter calibration: EC 15,070, 15aw pH (7.0, 7.0) (10.03, 10.00) (4.03, 4.00)
Temperature ____ Turbidity 134, 10

Purged and sampled by (print): R. Gurrola
Signature: [signature] Reviewed by: JB

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: 12/6/05
Finish Date: 12/6/05

WELL INFORMATION

Casing diameter (in.): 1.0 Depth to water (ft): ~~13.17~~ 12.32 Well depth (ft): 19.0
One casing volume (gal.): .66 Calculated purge volume (gal.) *(3 x casing volume)*: 1.99
One casing volume = π x [casing radius (in.) x 1 ft/12 in.]^2 x [well depth (ft) - depth to water (ft)] x 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: 12/6/05 Start time: 09:20 End time: ~~09:33~~ 09:54
Purging equipment: Submersible pump ___ Bladder pump ___ Peristaltic pump +
PVC bailer ___ Teflon bailer ___ Other ___
Purge rate: .06 gpm Well yield (H/L): High
Purge water disposal: Drummed ONSITE

Time (2400 hr)	Cumulative Vol. Purged ~~(gal.)~~ L	pH (units)	EC (µS/cm)	T (° C)	Color (Visual)	Turbidity (Visual or NTU)
09:33	2.5	7.25	623	16.7	clear	2.0
09:44	5.0	7.02	626	17.6	clear	0.75
09:54	7.6	7.11	632	17.7	clear	0.00

Total Purged (gal.): 1.99

WELL SAMPLING

Date sampled: 12/6/05 Start time: 09:55 End time: 09:59
Depth to water (ft) before sampling: 12.32
Sampling equipment: Peristaltic pump X Bladder pump ___ Teflon bailer ___
PVC bailer ___ Other ___

Weather conditions: clear Ambient temperature (° F): 50
Well condition/Remarks: All samples collected

Meter calibration: EC SEE MW-3 pH ___
Temperature ___ Turbidity ___
Purged and sampled by (print): R Gruber
Signature: [signature] Reviewed by: [signature]

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Appendix B

Groundwater Velocity Calculations

APPENDIX B
GROUNDWATER VELOCITY CALCULATIONS

FOR CARGILL ALAMEDA SITE, 2005 DATA

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 2005	0.025
June 2005	0.017
September 2005	0.014
December 2005	0.016

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 2005	NE	0.00002	0.025	0.33	2
June 2005	NE	0.00002	0.017	0.33	1
September 2005	NE	0.00002	0.014	0.33	1
December 2005	NE	0.00002	0.016	0.33	1

Calculations and assumptions prepared by: Mark C. Wheeler

Date: 10/3/2006

Appendix C

Certified Analytical Reports and Chain-of-Custody Documentation

First Quarter 2005

Submission#: 2005-03-0099

Crawford Consulting INC.

March 16, 2005

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

Attn.: Mark Wheeler

Project#: CS1605
Project: Alameda Facility

Attached is our report for your samples received on 03/03/2005 12:45
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 04/17/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: dsharma@stl-inc.com

Sincerely,

Dimple Sharma
Project Manager

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	03/03/2005 10:39	Water	1
MW-2	03/03/2005 11:19	Water	2
MW-3	03/03/2005 09:59	Water	3
MW-4	03/03/2005 08:58	Water	4
DUP-1	03/03/2005	Water	5
TB-1	03/03/2005	Water	6

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-1**	Lab ID:	2005-03-0099 - 1
Sampled:	03/03/2005 10:39	Extracted:	3/14/2005 12:33
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	10	ug/L	10.00	03/14/2005 12:33	
Vinyl chloride	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Chloroethane	ND	10	ug/L	10.00	03/14/2005 12:33	
Trichlorofluoromethane	ND	10	ug/L	10.00	03/14/2005 12:33	
1,1-Dichloroethene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Methylene chloride	ND	50	ug/L	10.00	03/14/2005 12:33	
trans-1,2-Dichloroethene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
cis-1,2-Dichloroethene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,1-Dichloroethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Chloroform	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,1,1-Trichloroethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Carbon tetrachloride	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,2-Dichloroethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Trichloroethene	15	5.0	ug/L	10.00	03/14/2005 12:33	
1,2-Dichloropropane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Bromodichloromethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
2-Chloroethylvinyl ether	ND	5.0	ug/L	10.00	03/14/2005 12:33	
trans-1,3-Dichloropropene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
cis-1,3-Dichloropropene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,1,2-Trichloroethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Tetrachloroethene	160	5.0	ug/L	10.00	03/14/2005 12:33	
Dibromochloromethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Chlorobenzene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Bromoform	ND	20	ug/L	10.00	03/14/2005 12:33	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,3-Dichlorobenzene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,4-Dichlorobenzene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
1,2-Dichlorobenzene	ND	5.0	ug/L	10.00	03/14/2005 12:33	
Trichlorotrifluoroethane	ND	5.0	ug/L	10.00	03/14/2005 12:33	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

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San Jose, CA 95113-1212
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Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-1**	Lab ID:	2005-03-0099 - 1
Sampled:	03/03/2005 10:39	Extracted:	3/14/2005 12:33
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Chloromethane	ND	10	ug/L	10.00	03/14/2005 12:33	
Bromomethane	ND	10	ug/L	10.00	03/14/2005 12:33	
Surrogate(s)						
4-Bromofluorobenzene	93.8	79-118	%	10.00	03/14/2005 12:33	
1,2-Dichloroethane-d4	97.5	78-117	%	10.00	03/14/2005 12:33	
Toluene-d8	95.2	77-121	%	10.00	03/14/2005 12:33	

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Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2005-03-0099 - 2
Sampled:	03/03/2005 11:19	Extracted:	3/15/2005 12:23
Matrix:	Water	QC Batch#:	2005/03/15-1A.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	100	ug/L	100.00	03/15/2005 12:23	
Vinyl chloride	ND	50	ug/L	100.00	03/15/2005 12:23	
Chloroethane	ND	100	ug/L	100.00	03/15/2005 12:23	
Trichlorofluoromethane	ND	100	ug/L	100.00	03/15/2005 12:23	
1,1-Dichloroethene	ND	50	ug/L	100.00	03/15/2005 12:23	
Methylene chloride	ND	500	ug/L	100.00	03/15/2005 12:23	
trans-1,2-Dichloroethene	ND	50	ug/L	100.00	03/15/2005 12:23	
cis-1,2-Dichloroethene	ND	50	ug/L	100.00	03/15/2005 12:23	
1,1-Dichloroethane	ND	50	ug/L	100.00	03/15/2005 12:23	
Chloroform	ND	50	ug/L	100.00	03/15/2005 12:23	
1,1,1-Trichloroethane	ND	50	ug/L	100.00	03/15/2005 12:23	
Carbon tetrachloride	ND	50	ug/L	100.00	03/15/2005 12:23	
1,2-Dichloroethane	ND	50	ug/L	100.00	03/15/2005 12:23	
Trichloroethene	78	50	ug/L	100.00	03/15/2005 12:23	
1,2-Dichloropropane	ND	50	ug/L	100.00	03/15/2005 12:23	
Bromodichloromethane	ND	50	ug/L	100.00	03/15/2005 12:23	
2-Chloroethylvinyl ether	ND	50	ug/L	100.00	03/15/2005 12:23	
trans-1,3-Dichloropropene	ND	50	ug/L	100.00	03/15/2005 12:23	
cis-1,3-Dichloropropene	ND	50	ug/L	100.00	03/15/2005 12:23	
1,1,2-Trichloroethane	ND	50	ug/L	100.00	03/15/2005 12:23	
Tetrachloroethene	7300	50	ug/L	100.00	03/15/2005 12:23	
Dibromochloromethane	ND	50	ug/L	100.00	03/15/2005 12:23	
Chlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:23	
Bromoform	ND	200	ug/L	100.00	03/15/2005 12:23	
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100.00	03/15/2005 12:23	
1,3-Dichlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:23	
1,4-Dichlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:23	
1,2-Dichlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:23	
Trichlorotrifluoroethane	ND	50	ug/L	100.00	03/15/2005 12:23	

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Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2005-03-0099 - 2
Sampled:	03/03/2005 11:19	Extracted:	3/15/2005 12:23
Matrix:	Water	QC Batch#:	2005/03/15-1A.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Chloromethane	ND	100	ug/L	100.00	03/15/2005 12:23	
Bromomethane	ND	100	ug/L	100.00	03/15/2005 12:23	
Surrogate(s)						
4-Bromofluorobenzene	107.4	79-118	%	100.00	03/15/2005 12:23	
1,2-Dichloroethane-d4	110.4	78-117	%	100.00	03/15/2005 12:23	
Toluene-d8	107.7	77-121	%	100.00	03/15/2005 12:23	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2005-03-0099 - 3
Sampled:	03/03/2005 09:59	Extracted:	3/14/2005 12:00
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	03/14/2005 12:00	
Vinyl chloride	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Chloroethane	ND	1.0	ug/L	1.00	03/14/2005 12:00	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	03/14/2005 12:00	
1,1-Dichloroethene	0.68	0.50	ug/L	1.00	03/14/2005 12:00	
Methylene chloride	ND	5.0	ug/L	1.00	03/14/2005 12:00	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Chloroform	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Carbon tetrachloride	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Trichloroethene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Bromodichloromethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
2-Chloroethylvinyl ether	ND	0.50	ug/L	1.00	03/14/2005 12:00	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Tetrachloroethene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Dibromochloromethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Chlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Bromoform	ND	2.0	ug/L	1.00	03/14/2005 12:00	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	03/14/2005 12:00	
Chloromethane	ND	1.0	ug/L	1.00	03/14/2005 12:00	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2005-03-0099 - 3
Sampled:	03/03/2005 09:59	Extracted:	3/14/2005 12:00
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	1.0	ug/L	1.00	03/14/2005 12:00	
Surrogate(s)						
4-Bromofluorobenzene	94.5	79-118	%	1.00	03/14/2005 12:00	
1,2-Dichloroethane-d4	94.8	78-117	%	1.00	03/14/2005 12:00	
Toluene-d8	92.8	77-121	%	1.00	03/14/2005 12:00	

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Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-4**	Lab ID:	2005-03-0099 - 4
Sampled:	03/03/2005 08:58	Extracted:	3/14/2005 14:13
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	03/14/2005 14:13	
Vinyl chloride	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Chloroethane	ND	1.0	ug/L	1.00	03/14/2005 14:13	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	03/14/2005 14:13	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Methylene chloride	ND	5.0	ug/L	1.00	03/14/2005 14:13	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Chloroform	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Carbon tetrachloride	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Trichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Bromodichloromethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
2-Chloroethylvinyl ether	ND	0.50	ug/L	1.00	03/14/2005 14:13	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Tetrachloroethene	0.93	0.50	ug/L	1.00	03/14/2005 14:13	
Dibromochloromethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Chlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Bromoform	ND	2.0	ug/L	1.00	03/14/2005 14:13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	03/14/2005 14:13	
Chloromethane	ND	1.0	ug/L	1.00	03/14/2005 14:13	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-4**	Lab ID:	2005-03-0099 - 4
Sampled:	03/03/2005 08:58	Extracted:	3/14/2005 14:13
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	1.0	ug/L	1.00	03/14/2005 14:13	
Surrogate(s)						
4-Bromofluorobenzene	92.0	79-118	%	1.00	03/14/2005 14:13	
1,2-Dichloroethane-d4	100.1	78-117	%	1.00	03/14/2005 14:13	
Toluene-d8	94.6	77-121	%	1.00	03/14/2005 14:13	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**DUP-1**	Lab ID:	2005-03-0099 - 5
Sampled:	03/03/2005	Extracted:	3/15/2005 12:57
Matrix:	Water	QC Batch#:	2005/03/15-1A.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	100	ug/L	100.00	03/15/2005 12:57	
Vinyl chloride	ND	50	ug/L	100.00	03/15/2005 12:57	
Chloroethane	ND	100	ug/L	100.00	03/15/2005 12:57	
Trichlorofluoromethane	ND	100	ug/L	100.00	03/15/2005 12:57	
1,1-Dichloroethene	ND	50	ug/L	100.00	03/15/2005 12:57	
Methylene chloride	ND	500	ug/L	100.00	03/15/2005 12:57	
trans-1,2-Dichloroethene	ND	50	ug/L	100.00	03/15/2005 12:57	
cis-1,2-Dichloroethene	ND	50	ug/L	100.00	03/15/2005 12:57	
1,1-Dichloroethane	ND	50	ug/L	100.00	03/15/2005 12:57	
Chloroform	ND	50	ug/L	100.00	03/15/2005 12:57	
1,1,1-Trichloroethane	ND	50	ug/L	100.00	03/15/2005 12:57	
Carbon tetrachloride	ND	50	ug/L	100.00	03/15/2005 12:57	
1,2-Dichloroethane	ND	50	ug/L	100.00	03/15/2005 12:57	
Trichloroethene	81	50	ug/L	100.00	03/15/2005 12:57	
1,2-Dichloropropane	ND	50	ug/L	100.00	03/15/2005 12:57	
Bromodichloromethane	ND	50	ug/L	100.00	03/15/2005 12:57	
2-Chloroethylvinyl ether	ND	50	ug/L	100.00	03/15/2005 12:57	
trans-1,3-Dichloropropene	ND	50	ug/L	100.00	03/15/2005 12:57	
cis-1,3-Dichloropropene	ND	50	ug/L	100.00	03/15/2005 12:57	
1,1,2-Trichloroethane	ND	50	ug/L	100.00	03/15/2005 12:57	
Tetrachloroethene	7700	50	ug/L	100.00	03/15/2005 12:57	
Dibromochloromethane	ND	50	ug/L	100.00	03/15/2005 12:57	
Chlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:57	
Bromoform	ND	200	ug/L	100.00	03/15/2005 12:57	
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100.00	03/15/2005 12:57	
1,3-Dichlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:57	
1,4-Dichlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:57	
1,2-Dichlorobenzene	ND	50	ug/L	100.00	03/15/2005 12:57	
Trichlorotrifluoroethane	ND	50	ug/L	100.00	03/15/2005 12:57	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**DUP-1**	Lab ID:	2005-03-0099 - 5
Sampled:	03/03/2005	Extracted:	3/15/2005 12:57
Matrix:	Water	QC Batch#:	2005/03/15-1A.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Chloromethane	ND	100	ug/L	100.00	03/15/2005 12:57	
Bromomethane	ND	100	ug/L	100.00	03/15/2005 12:57	
Surrogate(s)						
4-Bromofluorobenzene	106.3	79-118	%	100.00	03/15/2005 12:57	
1,2-Dichloroethane-d4	112.5	78-117	%	100.00	03/15/2005 12:57	
Toluene-d8	108.3	77-121	%	100.00	03/15/2005 12:57	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**TB-1**	Lab ID:	2005-03-0099 - 6
Sampled:	03/03/2005	Extracted:	3/14/2005 18:01
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	03/14/2005 18:01	
Vinyl chloride	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Chloroethane	ND	1.0	ug/L	1.00	03/14/2005 18:01	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	03/14/2005 18:01	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Methylene chloride	ND	5.0	ug/L	1.00	03/14/2005 18:01	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Chloroform	2.4	0.50	ug/L	1.00	03/14/2005 18:01	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Carbon tetrachloride	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Trichloroethene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Bromodichloromethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
2-Chloroethylvinyl ether	ND	0.50	ug/L	1.00	03/14/2005 18:01	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Tetrachloroethene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Dibromochloromethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Chlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Bromoform	ND	2.0	ug/L	1.00	03/14/2005 18:01	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	03/14/2005 18:01	
Chloromethane	ND	1.0	ug/L	1.00	03/14/2005 18:01	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**TB-1**	Lab ID:	2005-03-0099 - 6
Sampled:	03/03/2005	Extracted:	3/14/2005 18:01
Matrix:	Water	QC Batch#:	2005/03/14-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	1.0	ug/L	1.00	03/14/2005 18:01	
Surrogate(s)						
4-Bromofluorobenzene	94.7	79-118	%	1.00	03/14/2005 18:01	
1,2-Dichloroethane-d4	102.5	78-117	%	1.00	03/14/2005 18:01	
Toluene-d8	98.0	77-121	%	1.00	03/14/2005 18:01	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/03/14-01.60**

MB: 2005/03/14-01.60-003 | Date Extracted: 03/14/2005 11:03

Compound	Conc.	RL	Unit	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	03/14/2005 11:03	
Vinyl chloride	ND	0.5	ug/L	03/14/2005 11:03	
Chloroethane	ND	1.0	ug/L	03/14/2005 11:03	
Trichlorofluoromethane	ND	1.0	ug/L	03/14/2005 11:03	
1,1-Dichloroethene	ND	0.5	ug/L	03/14/2005 11:03	
Methylene chloride	ND	5.0	ug/L	03/14/2005 11:03	
trans-1,2-Dichloroethene	ND	0.5	ug/L	03/14/2005 11:03	
cis-1,2-Dichloroethene	ND	0.5	ug/L	03/14/2005 11:03	
1,1-Dichloroethane	ND	0.5	ug/L	03/14/2005 11:03	
Chloroform	ND	0.5	ug/L	03/14/2005 11:03	
1,1,1-Trichloroethane	ND	0.5	ug/L	03/14/2005 11:03	
Carbon tetrachloride	ND	0.5	ug/L	03/14/2005 11:03	
1,2-Dichloroethane	ND	0.5	ug/L	03/14/2005 11:03	
Trichloroethene	ND	0.5	ug/L	03/14/2005 11:03	
1,2-Dichloropropane	ND	0.5	ug/L	03/14/2005 11:03	
Bromodichloromethane	ND	0.5	ug/L	03/14/2005 11:03	
2-Chloroethylvinyl ether	ND	0.5	ug/L	03/14/2005 11:03	
trans-1,3-Dichloropropene	ND	0.5	ug/L	03/14/2005 11:03	
cis-1,3-Dichloropropene	ND	0.5	ug/L	03/14/2005 11:03	
1,1,2-Trichloroethane	ND	0.5	ug/L	03/14/2005 11:03	
Tetrachloroethene	ND	0.5	ug/L	03/14/2005 11:03	
Dibromochloromethane	ND	0.5	ug/L	03/14/2005 11:03	
Chlorobenzene	ND	0.5	ug/L	03/14/2005 11:03	
Bromoform	ND	2.0	ug/L	03/14/2005 11:03	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	03/14/2005 11:03	
1,3-Dichlorobenzene	ND	0.5	ug/L	03/14/2005 11:03	
1,4-Dichlorobenzene	ND	0.5	ug/L	03/14/2005 11:03	
1,2-Dichlorobenzene	ND	0.5	ug/L	03/14/2005 11:03	
Trichlorotrifluoroethane	ND	0.5	ug/L	03/14/2005 11:03	
Chloromethane	ND	1.0	ug/L	03/14/2005 11:03	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/03/14-01.60**

MB: 2005/03/14-01.60-003 | Date Extracted: 03/14/2005 11:03

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromomethane	ND	1.0	ug/L	03/14/2005 11:03	
4-Bromofluorobenzene	93.8	79-118	%	03/14/2005 11:03	
1,2-Dichloroethane-d4	97.6	78-117	%	03/14/2005 11:03	
Toluene-d8	93.9	77-121	%	03/14/2005 11:03	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/03/15-1A.60**

MB: 2005/03/15-1A.60-027 — Date Extracted: 03/15/2005 10:27

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	0.5	ug/L	03/15/2005 10:27	
Bromoform	ND	2.0	ug/L	03/15/2005 10:27	
Bromomethane	ND	1.0	ug/L	03/15/2005 10:27	
Carbon tetrachloride	ND	0.5	ug/L	03/15/2005 10:27	
Chlorobenzene	ND	0.5	ug/L	03/15/2005 10:27	
Chloroethane	ND	1.0	ug/L	03/15/2005 10:27	
Chloroform	ND	0.5	ug/L	03/15/2005 10:27	
Chloromethane	ND	1.0	ug/L	03/15/2005 10:27	
Dibromochloromethane	ND	0.5	ug/L	03/15/2005 10:27	
1,2-Dichlorobenzene	ND	0.5	ug/L	03/15/2005 10:27	
1,3-Dichlorobenzene	ND	0.5	ug/L	03/15/2005 10:27	
1,4-Dichlorobenzene	ND	0.5	ug/L	03/15/2005 10:27	
Dichlorodifluoromethane	ND	1.0	ug/L	03/15/2005 10:27	
1,1-Dichloroethane	ND	0.5	ug/L	03/15/2005 10:27	
1,2-Dichloroethane	ND	0.5	ug/L	03/15/2005 10:27	
1,1-Dichloroethene	ND	0.5	ug/L	03/15/2005 10:27	
cis-1,2-Dichloroethene	ND	0.5	ug/L	03/15/2005 10:27	
trans-1,2-Dichloroethene	ND	0.5	ug/L	03/15/2005 10:27	
1,2-Dichloropropane	ND	0.5	ug/L	03/15/2005 10:27	
cis-1,3-Dichloropropene	ND	0.5	ug/L	03/15/2005 10:27	
trans-1,3-Dichloropropene	ND	0.5	ug/L	03/15/2005 10:27	
Methylene chloride	ND	5.0	ug/L	03/15/2005 10:27	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	03/15/2005 10:27	
Tetrachloroethene	ND	0.5	ug/L	03/15/2005 10:27	
1,1,1-Trichloroethane	ND	0.5	ug/L	03/15/2005 10:27	
1,1,2-Trichloroethane	ND	0.5	ug/L	03/15/2005 10:27	
Trichloroethene	ND	0.5	ug/L	03/15/2005 10:27	
Trichlorofluoromethane	ND	1.0	ug/L	03/15/2005 10:27	
Trichlorotrifluoroethane	ND	0.5	ug/L	03/15/2005 10:27	
Vinyl chloride	ND	0.5	ug/L	03/15/2005 10:27	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/03/15-1A.60**

MB: 2005/03/15-1A.60-027 — Date Extracted: 03/15/2005 10:27

Compound	Conc.	RL	Unit	Analyzed	Flag
Surrogates(s)					
4-Bromofluorobenzene	95.9	79-118	%	03/15/2005 10:27	
1,2-Dichloroethane-d4	102.7	78-117	%	03/15/2005 10:27	
Toluene-d8	98.3	77-121	%	03/15/2005 10:27	
2-Chloroethylvinyl ether	ND	0.5	ug/L	03/15/2005 10:27	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

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San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/03/14-01.60**

LCS 2005/03/14-01.60-029 Extracted: 03/14/2005 Analyzed: 03/14/2005 10:29
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
1,1-Dichloroethene	20.5		20.0	102.5			65-125	20		
Trichloroethene	18.8		20.0	94.0			74-134	20		
Chlorobenzene	22.0		20.0	110.0			61-121	20		
Surrogates(s)										
4-Bromofluorobenzene	475		500	95.0			79-118			
1,2-Dichloroethane-d4	479		500	95.8			78-117			
Toluene-d8	466		500	93.2			77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/03/15-1A.60**

LCS 2005/03/15-1A.60-054 Extracted: 03/15/2005 Analyzed: 03/15/2005 09:54
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Chlorobenzene	21.9		20	109.5			61-121	20		
1,1-Dichloroethene	20.4		20	102.0			65-125	20		
Trichloroethene	18.1		20	90.5			74-134	20		
Surrogates(s)										
4-Bromofluorobenzene	510		500	102.0			79-118			
1,2-Dichloroethane-d4	486		500	97.2			78-117			
Toluene-d8	482		500	96.4			77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/03/14-01.60**

MW-1 >> MS

Lab ID: 2005-03-0099 - 001

MS: 2005/03/14-01.60-007 Extracted: 03/14/2005 Analyzed: 03/14/2005 13:07
Dilution: 10.00

MSD: 2005/03/14-01.60-040 Extracted: 03/14/2005 Analyzed: 03/14/2005 13:40
Dilution: 10.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
1,1-Dichloroethene	214	218	1.11	200	106.4	108.4	1.9	65-125	20		
Trichloroethene	215	206	14.6	200	100.2	95.7	4.6	74-134	20		
Chlorobenzene	228	237	ND	200	114.0	118.5	3.9	61-121	20		
Surrogate(s)											
4-Bromofluorobenzene	455	458		500	90.9	91.6		79-118			
1,2-Dichloroethane-d4	461	495		500	92.1	99.0		78-117			
Toluene-d8	461	469		500	92.2	93.8		77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/03/15-1A.60**

MS/MSD

Lab ID: 2005-03-0172 - 001

MS: 2005/03/15-1A.60-004 Extracted: 03/15/2005 Analyzed: 03/15/2005 14:04

Dilution: 10.00

MSD: 2005/03/15-1A.60-037 Extracted: 03/15/2005 Analyzed: 03/15/2005 14:37

Dilution: 10.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Chlorobenzene	248	245	ND	200	124.0	122.5	1.2	61-121	20	M4	M4
1,1-Dichloroethene	245	253	8.05	200	118.5	122.5	3.3	65-125	20		
Trichloroethene	272	271	66	200	103.0	102.5	0.5	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	537	535		500	107.4	107.0		79-118			
1,2-Dichloroethane-d4	577	600		500	115.4	120.0		78-117			S7
Toluene-d8	527	531		500	105.4	106.2		77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: CS1605
Alameda Facility

Received: 03/03/2005 12:45

Legend and Notes

Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

Result Flag

M4

MS/MSD spike recoveries were above acceptance limits. See blank spike (LCS).

S7

Surrogate recoveries higher than acceptance limits.

SEVERN TRENT SERVICES

STL San Francisco

Chain of Custody 2005-03-0099

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 484-1096
Email: info@chromalab.com

Reference #: 102394

Date 3/3/05 Page 1 of 1

From

Proj.Mgr	Mark Wheeler
Company	Crawford Consulting, Inc.
Address	2 North First Street, 4th Floor San Jose, CA 95113
Sampler (Signature)	
Phone (408) 287-9934	Fax/Email (408) 287-9937

Analysis request

Sample ID	Date	Time	Mat	Pres	TPH (EPA 8015, 8020/8021) ☐Gas w/ ☐BTEX ☐MTBE	Purgeable Aromatics BTEX (EPA 8020)	TEPH (EPA 8015M) ☐ Silica Gel	Fuel Oxygenates (8260B) ☐ MTBE ☐Full List ☐DCA, EDB	Purgeable Halocarbons (HVOCs) (EPA 8010/8021)	Volatile Organics (VOCs) (EPA 8021B)	Semivolatiles (EPA 8270)	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	☐ Pesticides (EPA 8081) ☐ PCBs (EPA 8082)	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Iron (6010/7420) Manganese (6010/7420)	Total Lead	☐ W.E.T (STLC) ☐ TCLP	Hexavalent Chromium pH (24h hold time for H_2O) ☐ ☐	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions : ☐ Cl ☐SO_4 ☐ NO_3 ☐ F	Total Organic Carbon (415.1)			Number of Containers
MW-1	3/3/05	10:35	H2O	HCl						X															3
MW-2	3/3/05	11:19	H2O	HCl						X															3
MW-3	3/3/05	09:55	H2O	HCl						X															3
MW-4	3/3/05	08:58	H2O	HCl						X															3
DUP-1	3/3/05	—	H2O	HCl						X															3
TB-1	3/3/05	—	H2O	HCl						X															3

Project Info.

Project Name: Alameda Facility	
Project#: CS1605	
PO#:	
TAT: Std 5 Day / 72h / 48h / 24h	

Report: ☐Routine ☐Level 2 ☐Level 3 ☐Level 4 ☐EDD

Special Instructions / Comments:

Please provide **fax preliminary results** to Crawford Consulting at the number listed above.

Please refer to Project File for detection limits and report MRLs only.

Sample Receipt

# of Containers:	
Head Space:	
Temp:	2°C
Conforms to record:	
Other	

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 12:45	Signature: Time:	Signature: Time:
Printed Name: Ruben Guzman Date: 3/3/05	Printed Name: Date:	Printed Name: Date:
Company: Field Solutions Inc. (408) 281-2322	Company:	Company:
1) Received by:	2) Received by:	3) Received by (Laboratory):
Signature: [signature] Time: 12:45	Signature: Time:	Signature: Time:
Printed Name: S. Baulock Date: 3/3/05	Printed Name: Date:	Printed Name: Date:
Company: STL-SF	Company:	Company:

5/11/2001

Second Quarter 2005

Submission#: 2005-06-0268

Crawford Consulting INC.

June 29, 2005

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

Attn.: Mark Wheeler

Project#: cs 1605
Project: Alameda Facility

Attached is our report for your samples received on 06/10/2005 11:08
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 07/25/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: dsharma@stl-inc.com

Sincerely,

Dimple Sharma
Project Manager

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	06/10/2005 08:43	Water	1
MW-2	06/10/2005 09:59	Water	2
MW-3	06/10/2005 09:35	Water	3
MW-4	06/10/2005 08:11	Water	4
DUP-1	06/10/2005	Water	5
TB-1	06/10/2005	Water	6

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-1**	Lab ID:	2005-06-0268 - 1
Sampled:	06/10/2005 08:43	Extracted:	6/24/2005 00:22
Matrix:	Water	QC Batch#:	2005/06/23-01.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	4.0	ug/L	4.00	06/24/2005 00:22	
Vinyl chloride	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Chloroethane	ND	4.0	ug/L	4.00	06/24/2005 00:22	
Trichlorofluoromethane	ND	4.0	ug/L	4.00	06/24/2005 00:22	
1,1-Dichloroethene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Methylene chloride	ND	20	ug/L	4.00	06/24/2005 00:22	
trans-1,2-Dichloroethene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
cis-1,2-Dichloroethene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,1-Dichloroethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Chloroform	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,1,1-Trichloroethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Carbon tetrachloride	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,2-Dichloroethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Trichloroethene	23	2.0	ug/L	4.00	06/24/2005 00:22	
1,2-Dichloropropane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Bromodichloromethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
trans-1,3-Dichloropropene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
cis-1,3-Dichloropropene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,1,2-Trichloroethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Tetrachloroethene	180	2.0	ug/L	4.00	06/24/2005 00:22	
Dibromochloromethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Chlorobenzene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Bromoform	ND	8.0	ug/L	4.00	06/24/2005 00:22	
1,1,2,2-Tetrachloroethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,3-Dichlorobenzene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,4-Dichlorobenzene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
1,2-Dichlorobenzene	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Trichlorotrifluoroethane	ND	2.0	ug/L	4.00	06/24/2005 00:22	
Chloromethane	ND	4.0	ug/L	4.00	06/24/2005 00:22	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

Received: 06/10/2005 11:08

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-1**	Lab ID:	2005-06-0268 - 1
Sampled:	06/10/2005 08:43	Extracted:	6/24/2005 00:22
Matrix:	Water	QC Batch#:	2005/06/23-01.60

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	4.0	ug/L	4.00	06/24/2005 00:22	
Surrogate(s)						
4-Bromofluorobenzene	91.6	79-118	%	4.00	06/24/2005 00:22	
1,2-Dichloroethane-d4	101.1	78-117	%	4.00	06/24/2005 00:22	
Toluene-d8	86.6	77-121	%	4.00	06/24/2005 00:22	

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2005-06-0268 - 2
Sampled:	06/10/2005 09:59	Extracted:	6/24/2005 19:16
Matrix:	Water	QC Batch#:	2005/06/24-2A.06

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	50	ug/L	50.00	06/24/2005 19:16	
Vinyl chloride	ND	25	ug/L	50.00	06/24/2005 19:16	
Chloroethane	ND	50	ug/L	50.00	06/24/2005 19:16	
Trichlorofluoromethane	ND	50	ug/L	50.00	06/24/2005 19:16	
1,1-Dichloroethene	ND	25	ug/L	50.00	06/24/2005 19:16	
Methylene chloride	ND	250	ug/L	50.00	06/24/2005 19:16	
trans-1,2-Dichloroethene	ND	25	ug/L	50.00	06/24/2005 19:16	
cis-1,2-Dichloroethene	ND	25	ug/L	50.00	06/24/2005 19:16	
1,1-Dichloroethane	ND	25	ug/L	50.00	06/24/2005 19:16	
Chloroform	ND	25	ug/L	50.00	06/24/2005 19:16	
1,1,1-Trichloroethane	ND	25	ug/L	50.00	06/24/2005 19:16	
Carbon tetrachloride	ND	25	ug/L	50.00	06/24/2005 19:16	
1,2-Dichloroethane	ND	25	ug/L	50.00	06/24/2005 19:16	
Trichloroethene	43	25	ug/L	50.00	06/24/2005 19:16	
1,2-Dichloropropane	ND	25	ug/L	50.00	06/24/2005 19:16	
Bromodichloromethane	ND	25	ug/L	50.00	06/24/2005 19:16	
trans-1,3-Dichloropropene	ND	25	ug/L	50.00	06/24/2005 19:16	
cis-1,3-Dichloropropene	ND	25	ug/L	50.00	06/24/2005 19:16	
1,1,2-Trichloroethane	ND	25	ug/L	50.00	06/24/2005 19:16	
Tetrachloroethene	3600	25	ug/L	50.00	06/24/2005 19:16	
Dibromochloromethane	ND	25	ug/L	50.00	06/24/2005 19:16	
Chlorobenzene	ND	25	ug/L	50.00	06/24/2005 19:16	
Bromoform	ND	100	ug/L	50.00	06/24/2005 19:16	
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50.00	06/24/2005 19:16	
1,3-Dichlorobenzene	ND	25	ug/L	50.00	06/24/2005 19:16	
1,4-Dichlorobenzene	ND	25	ug/L	50.00	06/24/2005 19:16	
1,2-Dichlorobenzene	ND	25	ug/L	50.00	06/24/2005 19:16	
Trichlorotrifluoroethane	ND	25	ug/L	50.00	06/24/2005 19:16	
Chloromethane	ND	50	ug/L	50.00	06/24/2005 19:16	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2005-06-0268 - 2
Sampled:	06/10/2005 09:59	Extracted:	6/24/2005 19:16
Matrix:	Water	QC Batch#:	2005/06/24-2A.06

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	50	ug/L	50.00	06/24/2005 19:16	
Surrogate(s)						
4-Bromofluorobenzene	104.0	79-118	%	50.00	06/24/2005 19:16	
1,2-Dichloroethane-d4	107.9	78-117	%	50.00	06/24/2005 19:16	
Toluene-d8	102.0	77-121	%	50.00	06/24/2005 19:16	

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Received: 06/10/2005 11:08

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2005-06-0268 - 3
Sampled:	06/10/2005 09:35	Extracted:	6/24/2005 12:07 6/24/2005 12:07 6/26/2005 17:57
Matrix:	Water	QC Batch#:	2005/06/24-1A.60 2005/06/26-01.60 2005/06/26-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	06/24/2005 12:07	
Vinyl chloride	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Chloroethane	ND	1.0	ug/L	1.00	06/26/2005 17:57	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	06/24/2005 12:07	
1,1-Dichloroethene	2.4	0.50	ug/L	1.00	06/24/2005 12:07	
Methylene chloride	ND	5.0	ug/L	1.00	06/24/2005 12:07	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Chloroform	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Carbon tetrachloride	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Trichloroethene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Bromodichloromethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Tetrachloroethene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Dibromochloromethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Chlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Bromoform	ND	2.0	ug/L	1.00	06/24/2005 12:07	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 12:07	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Received: 06/10/2005 11:08

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2005-06-0268 - 3
Sampled:	06/10/2005 09:35	Extracted:	6/24/2005 12:07 6/24/2005 12:07 6/26/2005 17:57
Matrix:	Water	QC Batch#:	2005/06/24-1A.60 2005/06/26-01.60 2005/06/26-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	06/24/2005 12:07	
Chloromethane	ND	1.0	ug/L	1.00	06/24/2005 12:07	
Bromomethane	ND	1.0	ug/L	1.00	06/24/2005 12:07	
Surrogate(s)						
4-Bromofluorobenzene	92.0	79-118	%	1.00	06/24/2005 12:07	
4-Bromofluorobenzene	98.6	79-118	%	1.00	06/26/2005 17:57	
1,2-Dichloroethane-d4	116.2	78-117	%	1.00	06/26/2005 17:57	
1,2-Dichloroethane-d4	82.6	78-117	%	1.00	06/24/2005 12:07	
Toluene-d8	93.4	77-121	%	1.00	06/26/2005 17:57	
Toluene-d8	86.9	77-121	%	1.00	06/24/2005 12:07	

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-4**	Lab ID:	2005-06-0268 - 4
Sampled:	06/10/2005 08:11	Extracted:	6/24/2005 14:01
Matrix:	Water	QC Batch#:	2005/06/24-1A.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	06/24/2005 14:01	
Vinyl chloride	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Chloroethane	ND	1.0	ug/L	1.00	06/24/2005 14:01	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	06/24/2005 14:01	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Methylene chloride	ND	5.0	ug/L	1.00	06/24/2005 14:01	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Chloroform	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Carbon tetrachloride	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Trichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Bromodichloromethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Tetrachloroethene	0.98	0.50	ug/L	1.00	06/24/2005 14:01	
Dibromochloromethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Chlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Bromoform	ND	2.0	ug/L	1.00	06/24/2005 14:01	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	06/24/2005 14:01	
Chloromethane	ND	1.0	ug/L	1.00	06/24/2005 14:01	
Bromomethane	ND	1.0	ug/L	1.00	06/24/2005 14:01	

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-4**	Lab ID:	2005-06-0268 - 4
Sampled:	06/10/2005 08:11	Extracted:	6/24/2005 14:01
Matrix:	Water	QC Batch#:	2005/06/24-1A.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Surrogate(s)						
4-Bromofluorobenzene	91.7	79-118	%	1.00	06/24/2005 14:01	
1,2-Dichloroethane-d4	95.7	78-117	%	1.00	06/24/2005 14:01	
Toluene-d8	85.9	77-121	%	1.00	06/24/2005 14:01	

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**DUP-1**	Lab ID:	2005-06-0268 - 5
Sampled:	06/10/2005	Extracted:	6/24/2005 14:34
Matrix:	Water	QC Batch#:	2005/06/24-1A.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	06/24/2005 14:34	
Vinyl chloride	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Chloroethane	ND	1.0	ug/L	1.00	06/24/2005 14:34	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	06/24/2005 14:34	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Methylene chloride	ND	5.0	ug/L	1.00	06/24/2005 14:34	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Chloroform	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Carbon tetrachloride	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Trichloroethene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Bromodichloromethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Tetrachloroethene	0.89	0.50	ug/L	1.00	06/24/2005 14:34	
Dibromochloromethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Chlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Bromoform	ND	2.0	ug/L	1.00	06/24/2005 14:34	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	06/24/2005 14:34	
Chloromethane	ND	1.0	ug/L	1.00	06/24/2005 14:34	
Bromomethane	ND	1.0	ug/L	1.00	06/24/2005 14:34	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**DUP-1**	Lab ID:	2005-06-0268 - 5
Sampled:	06/10/2005	Extracted:	6/24/2005 14:34
Matrix:	Water	QC Batch#:	2005/06/24-1A.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Surrogate(s)						
4-Bromofluorobenzene	88.8	79-118	%	1.00	06/24/2005 14:34	
1,2-Dichloroethane-d4	97.2	78-117	%	1.00	06/24/2005 14:34	
Toluene-d8	86.2	77-121	%	1.00	06/24/2005 14:34	

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**TB-1**	Lab ID:	2005-06-0268 - 6
Sampled:	06/10/2005	Extracted:	6/23/2005 23:48
Matrix:	Water	QC Batch#:	2005/06/23-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	06/23/2005 23:48	
Vinyl chloride	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Chloroethane	ND	1.0	ug/L	1.00	06/23/2005 23:48	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	06/23/2005 23:48	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Methylene chloride	ND	5.0	ug/L	1.00	06/23/2005 23:48	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Chloroform	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Carbon tetrachloride	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Trichloroethene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Bromodichloromethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Tetrachloroethene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Dibromochloromethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Chlorobenzene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Bromoform	ND	2.0	ug/L	1.00	06/23/2005 23:48	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	06/23/2005 23:48	
Chloromethane	ND	1.0	ug/L	1.00	06/23/2005 23:48	
Bromomethane	ND	1.0	ug/L	1.00	06/23/2005 23:48	

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

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San Jose, CA 95113-1212
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Project: cs 1605
Alameda Facility

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Prep(s):	5030B	Test(s):	8260B
Sample ID:	**TB-1**	Lab ID:	2005-06-0268 - 6
Sampled:	06/10/2005	Extracted:	6/23/2005 23:48
Matrix:	Water	QC Batch#:	2005/06/23-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Surrogate(s)						
4-Bromofluorobenzene	92.3	79-118	%	1.00	06/23/2005 23:48	
1,2-Dichloroethane-d4	100.6	78-117	%	1.00	06/23/2005 23:48	
Toluene-d8	86.4	77-121	%	1.00	06/23/2005 23:48	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/06/23-01.60**

MB: 2005/06/23-01.60-044 — Date Extracted: 06/23/2005 10:44

Compound	Conc.	RL	Unit	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	06/23/2005 10:44	
Vinyl chloride	ND	0.5	ug/L	06/23/2005 10:44	
Chloroethane	ND	1.0	ug/L	06/23/2005 10:44	
Trichlorofluoromethane	ND	1.0	ug/L	06/23/2005 10:44	
1,1-Dichloroethene	ND	0.5	ug/L	06/23/2005 10:44	
Methylene chloride	ND	5.0	ug/L	06/23/2005 10:44	
trans-1,2-Dichloroethene	ND	0.5	ug/L	06/23/2005 10:44	
cis-1,2-Dichloroethene	ND	0.5	ug/L	06/23/2005 10:44	
1,1-Dichloroethane	ND	0.5	ug/L	06/23/2005 10:44	
Chloroform	ND	0.5	ug/L	06/23/2005 10:44	
1,1,1-Trichloroethane	ND	0.5	ug/L	06/23/2005 10:44	
Carbon tetrachloride	ND	0.5	ug/L	06/23/2005 10:44	
1,2-Dichloroethane	ND	0.5	ug/L	06/23/2005 10:44	
Trichloroethene	ND	0.5	ug/L	06/23/2005 10:44	
1,2-Dichloropropane	ND	0.5	ug/L	06/23/2005 10:44	
Bromodichloromethane	ND	0.5	ug/L	06/23/2005 10:44	
trans-1,3-Dichloropropene	ND	0.5	ug/L	06/23/2005 10:44	
cis-1,3-Dichloropropene	ND	0.5	ug/L	06/23/2005 10:44	
1,1,2-Trichloroethane	ND	0.5	ug/L	06/23/2005 10:44	
Tetrachloroethene	ND	0.5	ug/L	06/23/2005 10:44	
Dibromochloromethane	ND	0.5	ug/L	06/23/2005 10:44	
Chlorobenzene	ND	0.5	ug/L	06/23/2005 10:44	
Bromoform	ND	2.0	ug/L	06/23/2005 10:44	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	06/23/2005 10:44	
1,3-Dichlorobenzene	ND	0.5	ug/L	06/23/2005 10:44	
1,4-Dichlorobenzene	ND	0.5	ug/L	06/23/2005 10:44	
1,2-Dichlorobenzene	ND	0.5	ug/L	06/23/2005 10:44	
Trichlorotrifluoroethane	ND	0.5	ug/L	06/23/2005 10:44	
Chloromethane	ND	1.0	ug/L	06/23/2005 10:44	
Bromomethane	ND	1.0	ug/L	06/23/2005 10:44	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

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Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/06/23-01.60**

MB: 2005/06/23-01.60-044 | Date Extracted: 06/23/2005 10:44

Compound	Conc.	RL	Unit	Analyzed	Flag
Surrogates(s)					
4-Bromofluorobenzene	92.4	79-118	%	06/23/2005 10:44	
1,2-Dichloroethane-d4	100.4	78-117	%	06/23/2005 10:44	
Toluene-d8	87.6	77-121	%	06/23/2005 10:44	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

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Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/06/24-1A.60**

MB: 2005/06/24-1A.60-046 | Date Extracted: 06/24/2005 12:41

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	0.5	ug/L	06/24/2005 12:41	
Bromoform	ND	2.0	ug/L	06/24/2005 12:41	
Bromomethane	ND	1.0	ug/L	06/24/2005 12:41	
Carbon tetrachloride	ND	0.5	ug/L	06/24/2005 12:41	
Chlorobenzene	ND	0.5	ug/L	06/24/2005 12:41	
Chloroethane	ND	1.0	ug/L	06/24/2005 12:41	
Chloroform	ND	0.5	ug/L	06/24/2005 12:41	
Chloromethane	ND	1.0	ug/L	06/24/2005 12:41	
Dibromochloromethane	ND	0.5	ug/L	06/24/2005 12:41	
1,2-Dichlorobenzene	ND	0.5	ug/L	06/24/2005 12:41	
1,3-Dichlorobenzene	ND	0.5	ug/L	06/24/2005 12:41	
1,4-Dichlorobenzene	ND	0.5	ug/L	06/24/2005 12:41	
Dichlorodifluoromethane	ND	1.0	ug/L	06/24/2005 12:41	
1,1-Dichloroethane	ND	0.5	ug/L	06/24/2005 12:41	
1,2-Dichloroethane	ND	0.5	ug/L	06/24/2005 12:41	
1,1-Dichloroethene	ND	0.5	ug/L	06/24/2005 12:41	
cis-1,2-Dichloroethene	ND	0.5	ug/L	06/24/2005 12:41	
trans-1,2-Dichloroethene	ND	0.5	ug/L	06/24/2005 12:41	
1,2-Dichloropropane	ND	0.5	ug/L	06/24/2005 12:41	
cis-1,3-Dichloropropene	ND	0.5	ug/L	06/24/2005 12:41	
trans-1,3-Dichloropropene	ND	0.5	ug/L	06/24/2005 12:41	
Methylene chloride	ND	5.0	ug/L	06/24/2005 12:41	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	06/24/2005 12:41	
Tetrachloroethene	ND	0.5	ug/L	06/24/2005 12:41	
1,1,1-Trichloroethane	ND	0.5	ug/L	06/24/2005 12:41	
1,1,2-Trichloroethane	ND	0.5	ug/L	06/24/2005 12:41	
Trichloroethene	ND	0.5	ug/L	06/24/2005 12:41	
Trichlorofluoromethane	ND	1.0	ug/L	06/24/2005 12:41	
Trichlorotrifluoroethane	ND	0.5	ug/L	06/24/2005 12:41	
Vinyl chloride	ND	0.5	ug/L	06/24/2005 12:41	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

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Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/06/24-1A.60**

MB: 2005/06/24-1A.60-046 | Date Extracted: 06/24/2005 12:41

Compound	Conc.	RL	Unit	Analyzed	Flag
Surrogates(s)					
4-Bromofluorobenzene	91.8	79-118	%	06/24/2005 12:41	
1,2-Dichloroethane-d4	84.6	78-117	%	06/24/2005 12:41	
Toluene-d8	87.6	77-121	%	06/24/2005 12:41	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/06/24-2A.06**

MB: 2005/06/24-2A.06-015 | Date Extracted: 06/24/2005 17:30

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	0.5	ug/L	06/24/2005 17:30	
Bromoform	ND	2.0	ug/L	06/24/2005 17:30	
Bromomethane	ND	1.0	ug/L	06/24/2005 17:30	
Carbon tetrachloride	ND	0.5	ug/L	06/24/2005 17:30	
Chlorobenzene	ND	0.5	ug/L	06/24/2005 17:30	
Chloroethane	ND	1.0	ug/L	06/24/2005 17:30	
Chloroform	ND	0.5	ug/L	06/24/2005 17:30	
Chloromethane	ND	1.0	ug/L	06/24/2005 17:30	
Dibromochloromethane	ND	0.5	ug/L	06/24/2005 17:30	
1,2-Dichlorobenzene	ND	0.5	ug/L	06/24/2005 17:30	
1,3-Dichlorobenzene	ND	0.5	ug/L	06/24/2005 17:30	
1,4-Dichlorobenzene	ND	0.5	ug/L	06/24/2005 17:30	
Dichlorodifluoromethane	ND	1.0	ug/L	06/24/2005 17:30	
1,1-Dichloroethane	ND	0.5	ug/L	06/24/2005 17:30	
1,2-Dichloroethane	ND	0.5	ug/L	06/24/2005 17:30	
1,1-Dichloroethene	ND	0.5	ug/L	06/24/2005 17:30	
cis-1,2-Dichloroethene	ND	0.5	ug/L	06/24/2005 17:30	
trans-1,2-Dichloroethene	ND	0.5	ug/L	06/24/2005 17:30	
1,2-Dichloropropane	ND	0.5	ug/L	06/24/2005 17:30	
cis-1,3-Dichloropropene	ND	0.5	ug/L	06/24/2005 17:30	
trans-1,3-Dichloropropene	ND	0.5	ug/L	06/24/2005 17:30	
Methylene chloride	ND	5.0	ug/L	06/24/2005 17:30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	06/24/2005 17:30	
Tetrachloroethene	ND	0.5	ug/L	06/24/2005 17:30	
1,1,1-Trichloroethane	ND	0.5	ug/L	06/24/2005 17:30	
1,1,2-Trichloroethane	ND	0.5	ug/L	06/24/2005 17:30	
Trichloroethene	ND	0.5	ug/L	06/24/2005 17:30	
Trichlorofluoromethane	ND	1.0	ug/L	06/24/2005 17:30	
Trichlorotrifluoroethane	ND	0.5	ug/L	06/24/2005 17:30	
Vinyl chloride	ND	0.5	ug/L	06/24/2005 17:30	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

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Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/06/24-2A.06**

MB: 2005/06/24-2A.06-015 — Date Extracted: 06/24/2005 17:30

Compound	Conc.	RL	Unit	Analyzed	Flag
Surrogates(s)					
4-Bromofluorobenzene	101.8	79-118	%	06/24/2005 17:30	
1,2-Dichloroethane-d4	104.0	78-117	%	06/24/2005 17:30	
Toluene-d8	100.2	77-121	%	06/24/2005 17:30	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/06/26-01.60**

MB: 2005/06/26-01.60-016 | Date Extracted: 06/26/2005 14:16

Compound	Conc.	RL	Unit	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	06/26/2005 14:16	
Vinyl chloride	ND	0.5	ug/L	06/26/2005 14:16	
Chloroethane	ND	1.0	ug/L	06/26/2005 14:16	
Trichlorofluoromethane	ND	1.0	ug/L	06/26/2005 14:16	
1,1-Dichloroethene	ND	0.5	ug/L	06/26/2005 14:16	
Methylene chloride	ND	5.0	ug/L	06/26/2005 14:16	
trans-1,2-Dichloroethene	ND	0.5	ug/L	06/26/2005 14:16	
cis-1,2-Dichloroethene	ND	0.5	ug/L	06/26/2005 14:16	
1,1-Dichloroethane	ND	0.5	ug/L	06/26/2005 14:16	
Chloroform	ND	0.5	ug/L	06/26/2005 14:16	
1,1,1-Trichloroethane	ND	0.5	ug/L	06/26/2005 14:16	
Carbon tetrachloride	ND	0.5	ug/L	06/26/2005 14:16	
1,2-Dichloroethane	ND	0.5	ug/L	06/26/2005 14:16	
Trichloroethene	ND	0.5	ug/L	06/26/2005 14:16	
1,2-Dichloropropane	ND	0.5	ug/L	06/26/2005 14:16	
Bromodichloromethane	ND	0.5	ug/L	06/26/2005 14:16	
trans-1,3-Dichloropropene	ND	0.5	ug/L	06/26/2005 14:16	
cis-1,3-Dichloropropene	ND	0.5	ug/L	06/26/2005 14:16	
1,1,2-Trichloroethane	ND	0.5	ug/L	06/26/2005 14:16	
Tetrachloroethene	ND	0.5	ug/L	06/26/2005 14:16	
Dibromochloromethane	ND	0.5	ug/L	06/26/2005 14:16	
Chlorobenzene	ND	0.5	ug/L	06/26/2005 14:16	
Bromoform	ND	2.0	ug/L	06/26/2005 14:16	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	06/26/2005 14:16	
1,3-Dichlorobenzene	ND	0.5	ug/L	06/26/2005 14:16	
1,4-Dichlorobenzene	ND	0.5	ug/L	06/26/2005 14:16	
1,2-Dichlorobenzene	ND	0.5	ug/L	06/26/2005 14:16	
Trichlorotrifluoroethane	ND	0.5	ug/L	06/26/2005 14:16	
Chloromethane	ND	1.0	ug/L	06/26/2005 14:16	
Bromomethane	ND	1.0	ug/L	06/26/2005 14:16	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Project: cs 1605
Alameda Facility

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Batch QC Report

Prep(s): 5030B | Test(s): 8260B

Method Blank | **Water** | **QC Batch # 2005/06/26-01.60**

MB: 2005/06/26-01.60-016 | Date Extracted: 06/26/2005 14:16

Compound	Conc.	RL	Unit	Analyzed	Flag
Surrogates(s)					
4-Bromofluorobenzene	100.8	79-118	%	06/26/2005 14:16	
1,2-Dichloroethane-d4	110.5	78-117	%	06/26/2005 14:16	
Toluene-d8	94.5	77-121	%	06/26/2005 14:16	

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

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Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/06/23-01.60**

LCS 2005/06/23-01.60-010 Extracted: 06/23/2005 Analyzed: 06/23/2005 10:10
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
1,1-Dichloroethene	17.5		20.0	87.5			65-125	20		
Trichloroethene	15.9		20.0	79.5			74-134	20		
Chlorobenzene	19.6		20.0	98.0			61-121	20		
Surrogates(s)										
4-Bromofluorobenzene	468		500	93.6			79-118			
1,2-Dichloroethane-d4	474		500	94.8			78-117			
Toluene-d8	455		500	91.0			77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/06/24-1A.60**

LCS 2005/06/24-1A.60-045 Extracted: 06/24/2005 Analyzed: 06/24/2005 10:45
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Chlorobenzene	19.6		20	98.0			61-121	20		
1,1-Dichloroethene	18.2		20	91.0			65-125	20		
Trichloroethene	16.1		20	80.5			74-134	20		
Surrogates(s)										
4-Bromofluorobenzene	460		500	92.0			79-118			
1,2-Dichloroethane-d4	454		500	90.8			78-117			
Toluene-d8	432		500	86.4			77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

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Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/06/24-2A.06**

LCS 2005/06/24-2A.06-022 Extracted: 06/24/2005 Analyzed: 06/24/2005 04:19
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Chlorobenzene	19.0		1000	95.0			61-121	20		
1,1-Dichloroethene	17.7		1000	88.5			65-125	20		
Trichloroethene	18.4		1000	92.0			74-134	20		
Surrogates(s)										
4-Bromofluorobenzene	501		500	100.2			79-118			
1,2-Dichloroethane-d4	524		500	104.8			78-117			
Toluene-d8	504		500	100.8			77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

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Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/06/26-01.60**

LCS 2005/06/26-01.60-054 Extracted: 06/26/2005 Analyzed: 06/26/2005 12:54
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
1,1-Dichloroethene	18.3		20.0	91.5			65-125	20		
Trichloroethene	16.7		20.0	83.5			74-134	20		
Chlorobenzene	19.8		20.0	99.0			61-121	20		
Surrogates(s)										
4-Bromofluorobenzene	495		500	99.0			79-118			
1,2-Dichloroethane-d4	546		500	109.2			78-117			
Toluene-d8	471		500	94.2			77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

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Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/06/23-01.60**

MW-1 >> MS

Lab ID: 2005-06-0268 - 001

MS: 2005/06/23-01.60-055 Extracted: 06/24/2005 Analyzed: 06/24/2005 00:55
Dilution: 4.00

MSD: 2005/06/23-01.60-028 Extracted: 06/24/2005 Analyzed: 06/24/2005 01:28
Dilution: 4.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
1,1-Dichloroethene	74.6	73.9	1.90	80.0	90.9	90.0	1.0	65-125	20		
Trichloroethene	84.7	86.7	22.7	80.0	77.5	80.0	3.2	74-134	20		
Chlorobenzene	78.5	77.2	ND	80.0	98.1	96.5	1.6	61-121	20		
Surrogate(s)											
4-Bromofluorobenzene	464	459		500	92.8	91.8		79-118			
1,2-Dichloroethane-d4	496	494		500	99.2	98.8		78-117			
Toluene-d8	436	439		500	87.2	87.8		77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/06/24-1A.60**

MS/MSD

Lab ID: 2005-06-0287 - 001

MS: 2005/06/24-1A.60-041 Extracted: 06/24/2005 Analyzed: 06/24/2005 15:41

Dilution: 5.00

MSD: 2005/06/24-1A.60-015 Extracted: 06/24/2005 Analyzed: 06/24/2005 16:15

Dilution: 5.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Chlorobenzene	97.3	94.9	ND	100	97.3	94.9	2.5	61-121	20		
1,1-Dichloroethene	88.2	87.4	1.5	100	86.7	85.9	0.9	65-125	20		
Trichloroethene	272	271	190	100	82.0	81.0	1.2	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	464	473		500	92.8	94.7		79-118			
1,2-Dichloroethane-d4	508	475		500	101.7	95.1		78-117			
Toluene-d8	433	434		500	86.5	86.8		77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/06/24-2A.06**

MW-2 >> MS

Lab ID: 2005-06-0268 - 002

MS: 2005/06/24-2A.06-020 Extracted: 06/24/2005

Analyzed: 06/24/2005 19:52

Dilution: 50.00

MSD: 2005/06/24-2A.06-021 Extracted: 06/24/2005

Analyzed: 06/24/2005 20:28

Dilution: 50.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Chlorobenzene	1020	991	0.915	1000	101.9	99.0	2.9	61-121	20		
1,1-Dichloroethene	1010	1000	0.741	1000	100.9	99.9	1.0	65-125	20		
Trichloroethene	1020	1010	42.9	1000	97.7	96.7	1.0	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	520	524		500	104.0	104.8		79-118			
1,2-Dichloroethane-d4	542	530		500	108.5	106.0		78-117			
Toluene-d8	504	509		500	100.8	101.8		77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/06/26-01.60**

MS/MSD

Lab ID: 2005-06-0443 - 001

MS: 2005/06/26-01.60-017 Extracted: 06/26/2005 Analyzed: 06/26/2005 16:17

Dilution: 1.00

MSD: 2005/06/26-01.60-050 Extracted: 06/26/2005 Analyzed: 06/26/2005 16:50

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
1,1-Dichloroethene	19.2	19.4	ND	20.0	96.0	97.0	1.0	65-125	20		
Trichloroethene	16.7	17.2	ND	20.0	83.5	86.0	2.9	74-134	20		
Chlorobenzene	20.4	20.9	ND	20.0	102.0	104.5	2.4	61-121	20		
Surrogate(s)											
4-Bromofluorobenzene	495	506		500	99.0	101.2		79-118			
1,2-Dichloroethane-d4	552	570		500	110.4	114.0		78-117			
Toluene-d8	463	466		500	92.6	93.2		77-121			

Halogenated Volatile Organic Compounds by 8021B/8260B

Crawford Consulting INC.

Attn.: Mark Wheeler

2 North First Street 4th Floor
San Jose, CA 95113-1212
Phone: (408) 287-9934 Fax: (408) 287-9937

Project: cs 1605
Alameda Facility

Received: 06/10/2005 11:08

Legend and Notes

Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

1157 60

STL ChromaLab

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

2005-06-0268

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

Service Request:

Date: 6-10-05

Project Name: Alameda Facility
Project Number: CS1605
Project Manager: Mark Wheeler
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:

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	Analysis Requested: Volatile Organics (VOCs) (EPA 8021B)	Pb (7421); As (7060) Same as Metals	COD, TKN 500 ml plastic H_2SO_4	Chloride, Nitrate 500 ml plastic NP	pH, Conductivity 500 ml plastic NP	Total Phenols 2 x 500 ml glass H_2SO_4	**Volatile Organics (8010) 3 x 40 ml vial**	TPHgBTEX 2 x 40 ml vial HCl			REMARKS
MW-1	6/10/05	0843		Water	3							X				
MW-2	6/10/05	0959		Water	3							X				
MW-3	6/10/05	0935		Water	3							X				
MW-4	6/10/05	0811		Water	3							X				
DUP-1	6/10/05	—		water	3							X				
TB-1	6/10/05	—		water	2							X				

Relinquished By	Received By
Signature:	Signature:
Printed Name: Manuel L Galicia	Printed Name: Joan Muller
Firm: FSI	Firm: STL SF
Date/Time: 6/10/05 1110	Date/Time: 06-10-05 11:08
Relinquished By	Received By
Signature:	Signature:
Printed Name:	Printed Name:
Firm:	Firm:
Date/Time:	Date/Time:

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

REPORT REQUIREMENTS
___ I. Routine Report
x 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:

Special Instructions/Comments:

Please pdf results to: Mark Wheeler
mark@crawfordconsulting.com

6°

Third Quarter 2005

ANALYTICAL REPORT

Job Number: 720-41-1

Job Description: Alameda Facility CS 1605

For:

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

Attention: Mark Wheeler

Dimple Sharma
Project Manager I
dsharma@stl-inc.com
10/04/2005

cc: Dana Johnston

METHOD SUMMARY

Client: Crawford Consulting Inc

Job Number: 720-41-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS (Low Level)	720	SW846 8260B	
Purge-and-Trap	720		SW846 5030B

LAB REFERENCES:

720

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: 720-41-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-41-1	MW-1	Water	09/16/2005 1109	09/16/2005 1235
720-41-2	MW-2	Water	09/16/2005 1031	09/16/2005 1235
720-41-3	MW-3	Water	09/16/2005 0952	09/16/2005 1235
720-41-4	MW-4	Water	09/16/2005 0855	09/16/2005 1235
720-41-5FD	DUP-1	Water	09/16/2005 0000	09/16/2005 1235
720-41-6TB	TB-1	Water	09/16/2005 0000	09/16/2005 1235

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Crawford Consulting Inc

Job Number: 720-41-1

Login Number: 41

Check List Description: Standard Sample Receipt Checklist

Question	T/F/NA	Comment
Radioactivity is at or below background levels?	NA	
The cooler's custody seal is present and intact?	NA	
The cooler or samples do not appear to have been compromised or tampered with?	True	
Samples were received on Ice?	True	
Containers are not broken or leaking?	True	
There are no samples present with short holding-time parameters?	True	
Quick TAT was not requested?	True	
COC is present?	True	
COC is filled out in ink and legible?	True	
COC is filled out completely?	True	
COC includes all required signatures?	True	
Sample containers have legible labels?	True	
COC matches up to all samples in the cooler?	True	
Sample ID's on containers match exactly the sample ID's on COC?	True	
Appropriate sample containers are used?	True	
Sample collection date/times are provided?	False	No time collected for DUP-1 or TB-1
Samples are received within Holding Time?	True	
Cooler Temperature is acceptable: <6 degC, with no frozen samples?	True	
Cooler Temperature is recorded?	True	
Sample bottles are completely filled?	True	
There is sufficient volume for all the requested analyses?	True	
Appropriate sample preservatives were used?	True	
Aqueous inorganic sample pHs are acceptable?	True	
Aqueous semi-volatile organics sample pHs are acceptable?	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter?	True	
MS/MSD was not requested and not extra volume was sent?	True	
Samples do not require splitting or compositing?	True	
Multiphase samples are not present?	True	
Trip Blank was not provided/required?	False	TB-1 was provided.
A sample discrepancy report is not needed?	True	

Client: Crawford Consulting Inc

Job Number: 720-41-1

Client Sample ID: **MW-1**

Lab Sample ID: 720-41-1
Client Matrix: Water

Date Sampled: 09/16/2005 1109
Date Received: 09/16/2005 1235

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

Method: 8260B
Preparation: 5030B
Dilution: 10
Date Analyzed: 09/22/2005 1941
Date Prepared: 09/22/2005 1941

Analysis Batch: 720-611

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\09
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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	34		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	240		5.0
Chlorodibromomethane	ND		5.0
Chlorobenzene	ND		5.0
Bromoform	ND		5.0
1,1,2,2-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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Client Sample ID: **MW-2**

Lab Sample ID: 720-41-2
Client Matrix: Water

Date Sampled: 09/16/2005 1031
Date Received: 09/16/2005 1235

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

Method: 8260B
Preparation: 5030B
Dilution: 40
Date Analyzed: 09/22/2005 2014
Date Prepared: 09/22/2005 2014

Analysis Batch: 720-611

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\09
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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	29		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	2500		20
Chlorodibromomethane	ND		20
Chlorobenzene	ND		20
Bromoform	ND		20
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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Client Sample ID: **MW-3**

Lab Sample ID: 720-41-3
Client Matrix: Water

Date Sampled: 09/16/2005 0952
Date Received: 09/16/2005 1235

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

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/23/2005 1940
Date Prepared: 09/23/2005 1940

Analysis Batch: 720-621

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\09
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	1.5		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		0.50
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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Client Sample ID: **MW-4**

Lab Sample ID: 720-41-4
Client Matrix: Water

Date Sampled: 09/16/2005 0855
Date Received: 09/16/2005 1235

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

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/23/2005 2014
Date Prepared: 09/23/2005 2014

Analysis Batch: 720-621

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\09
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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	0.80		0.50
Chlorodibromomethane	ND		0.50
Chlorobenzene	ND		0.50
Bromoform	ND		0.50
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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Client Sample ID: **DUP-1**

Lab Sample ID: 720-41-5FD
Client Matrix: Water

Date Sampled: 09/16/2005 0000
Date Received: 09/16/2005 1235

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

Method: 8260B
Preparation: 5030B
Dilution: 40
Date Analyzed: 09/23/2005 2047
Date Prepared: 09/23/2005 2047

Analysis Batch: 720-621

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\09
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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	31		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	2500		20
Chlorodibromomethane	ND		20
Chlorobenzene	ND		20
Bromoform	ND		20
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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Client Sample ID: **TB-1**

Lab Sample ID: 720-41-6TB
Client Matrix: Water

Date Sampled: 09/16/2005 0000
Date Received: 09/16/2005 1235

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

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 09/22/2005 1728
Date Prepared: 09/22/2005 1728

Analysis Batch: 720-611

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\09
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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		0.50
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

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Crawford Consulting Inc

Job Number: 720-41-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS VOA				
Analysis Batch:720-611				
LCS 720-611/4	Lab Control Spike	Water	8260B	
LCSD 720-611/3	Lab Control Spike Duplicate	Water	8260B	
MB 720-611/5	Method Blank	Water	8260B	
720-41-1	MW-1	Water	8260B	
720-41-2	MW-2	Water	8260B	
720-41-6TB	TB-1	Water	8260B	
Analysis Batch:720-621				
LCS 720-621/5	Lab Control Spike	Water	8260B	
LCSD 720-621/4	Lab Control Spike Duplicate	Water	8260B	
MB 720-621/6	Method Blank	Water	8260B	
720-41-3	MW-3	Water	8260B	
720-41-4	MW-4	Water	8260B	
720-41-5FD	DUP-1	Water	8260B	

Client: Crawford Consulting Inc

Job Number: 720-41-1

Method Blank - Batch: 720-611

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-611/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/22/2005 1220
Date Prepared: 09/22/2005 1220

Analysis Batch: 720-611
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\0
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		0.50
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

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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-611

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-611/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/22/2005 1147
Date Prepared: 09/22/2005 1147

Analysis Batch: 720-611
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\092205
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-611/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/22/2005 1655
Date Prepared: 09/22/2005 1655

Analysis Batch: 720-611
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\092205\l
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	80	83	65 - 125	4	20		
Trichloroethene	88	94	74 - 134	6	20		
Chlorobenzene	89	92	61 - 121	3	20		

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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Method Blank - Batch: 720-621

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-621/6
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/23/2005 1330
Date Prepared: 09/23/2005 1330

Analysis Batch: 720-621
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\0
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		0.50
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

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

Client: Crawford Consulting Inc

Job Number: 720-41-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-621

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-621/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/23/2005 1257
Date Prepared: 09/23/2005 1257

Analysis Batch: 720-621
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\092305
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-621/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/23/2005 1801
Date Prepared: 09/23/2005 1801

Analysis Batch: 720-621
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200509\092305\l
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	91	99	65 - 125	8	20		
Trichloroethene	97	95	74 - 134	2	20		
Chlorobenzene	97	93	61 - 121	5	20		

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

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

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

Service Request: _____ Date: 9-16-05

Project Name: Alameda Facility
Project Number: CS1605
Project Manager: Mark Wheeler
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: Manuel L. Gallegos

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	Volatile Organics (VOCs) (EPA 8021B)	Pb (7421); As (7060) Same as Metals	COD, TKN 500 ml plastic H_2SO_4	Chloride, Nitrate 500 ml plastic NP	pH, Conductivity 500 ml plastic NP	Total Phenols 2 x 500 ml glass H_2SO_4	**Volatile Organics (8010) 3 x 40 ml vial HCL**	TPHgBTEX 2 x 40 ml vial HCl			REMARKS
					Analysis Requested											
MW-1	9-16-05	1109		Water								X				
MW-2	9-16-05	1031		Water								X				
MW-3	9-16-05	0952		Water								X				
MW-4	9-16-05	0855		Water								X				
DUP-1	9-16-05	—		Water								X				
TB-1	9-16-05	—		Water								X				

Relinquished By	Received By
Signature: Manuel L. Gallegos	Signature: Joan Mullen
Printed Name: FST	Printed Name: Joan Mullen
Firm: 9-16-05 12:35	Firm: STL
Date/Time:	Date/Time: 9-16-05 1235
Relinquished By	Received By
Signature:	Signature:
Printed Name:	Printed Name:
Firm:	Firm:
Date/Time:	Date/Time:

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

REPORT REQUIREMENTS
___ I. Routine Report
x 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: _____

Special Instructions/Comments:

Please refer to Project File for detection limits and report MRLs only

Please pdf results to: Dana Johnston
dana@crawfordconsulting.com

Fourth Quarter 2005

ANALYTICAL REPORT

Job Number: 720-823-1

Job Description: Alameda Facility CS 1605

For:

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

Attention: Mark Wheeler

Dimple Sharma
Project Manager I
dsharma@stl-inc.com
12/15/2005

cc: Dana Johnston

METHOD SUMMARY

Client: Crawford Consulting Inc Job Number: 720-823-1

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

LAB REFERENCES:

STL-SF = STL-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: 720-823-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-823-1	MW-1	Water	12/06/2005 1046	12/06/2005 1300
720-823-2	MW-2	Water	12/06/2005 1038	12/06/2005 1300
720-823-3	MW-3	Water	12/06/2005 0905	12/06/2005 1300
720-823-4	MW-4	Water	12/06/2005 0955	12/06/2005 1300
720-823-5	DUP-1	Water	12/06/2005 0000	12/06/2005 1300
720-823-6	TB-1	Water	12/06/2005 0000	12/06/2005 1300

Client: Crawford Consulting Inc | Job Number: 720-823-1

Client Sample ID: **MW-1**

Lab Sample ID: 720-823-1 | Date Sampled: 12/06/2005 1046
Client Matrix: Water | Date Received: 12/06/2005 1300

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

Method: 8260B | Analysis Batch: 720-2991 | Instrument ID: Varian 3900F
Preparation: 5030B | Lab File ID: c:\saturnws\data\200512\12
Dilution: 4.0 | Initial Weight/Volume: 40 mL
Date Analyzed: 12/13/2005 1542 | Final Weight/Volume: 40 mL
Date Prepared: 12/13/2005 1542

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	16		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	140		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

Client: Crawford Consulting Inc | Job Number: 720-823-1

Client Sample ID: **MW-2**

Lab Sample ID: 720-823-2 | Date Sampled: 12/06/2005 1038
Client Matrix: Water | Date Received: 12/06/2005 1300

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

Method: 8260B | Analysis Batch: 720-3046 | Instrument ID: Varian 3900F
Preparation: 5030B | Lab File ID: c:\saturnws\data\200512\12
Dilution: 50 | Initial Weight/Volume: 40 mL
Date Analyzed: 12/14/2005 1529 | Final Weight/Volume: 40 mL
Date Prepared: 12/14/2005 1529

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		25
1,1-Dichloroethane	ND		25
Dichlorodifluoromethane	ND		25
Vinyl chloride	ND		25
Chloroethane	ND		50
Trichlorofluoromethane	ND		50
Methylene Chloride	ND		250
trans-1,2-Dichloroethene	ND		25
cis-1,2-Dichloroethene	ND		25
Chloroform	ND		50
1,1,1-Trichloroethane	ND		25
Carbon tetrachloride	ND		25
1,2-Dichloroethane	ND		25
Trichloroethene	45		25
1,2-Dichloropropane	ND		25
Dichlorobromomethane	ND		25
trans-1,3-Dichloropropene	ND		25
cis-1,3-Dichloropropene	ND		25
1,1,2-Trichloroethane	ND		25
Tetrachloroethene	3300		25
Chlorodibromomethane	ND		25
Chlorobenzene	ND		25
Bromoform	ND		50
1,1,2,2-Tetrachloroethane	ND		25
1,3-Dichlorobenzene	ND		25
1,4-Dichlorobenzene	ND		25
1,2-Dichlorobenzene	ND		25
Chloromethane	ND		50
Bromomethane	ND		50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25
EDB	ND		25
1,2,4-Trichlorobenzene	ND		50

Client: Crawford Consulting Inc | Job Number: 720-823-1

Client Sample ID: **MW-3**

Lab Sample ID: 720-823-3 | Date Sampled: 12/06/2005 0905
Client Matrix: Water | Date Received: 12/06/2005 1300

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

Method: 8260B | Analysis Batch: 720-3046 | Instrument ID: Varian 3900F
Preparation: 5030B | Lab File ID: c:\saturnws\data\200512\12
Dilution: 1.0 | Initial Weight/Volume: 40 mL
Date Analyzed: 12/14/2005 1456 | Final Weight/Volume: 40 mL
Date Prepared: 12/14/2005 1456

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	1.1		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

Client: Crawford Consulting Inc

Job Number: 720-823-1

Client Sample ID: **MW-4**

Lab Sample ID: 720-823-4
Client Matrix: Water

Date Sampled: 12/06/2005 0955
Date Received: 12/06/2005 1300

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

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 1755
Date Prepared: 12/13/2005 1755

Analysis Batch: 720-2991

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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	1.1		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

Client: Crawford Consulting Inc

Job Number: 720-823-1

Client Sample ID: **DUP-1**

Lab Sample ID: 720-823-5
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/06/2005 1300

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

Method: 8260B
Preparation: 5030B
Dilution: 50
Date Analyzed: 12/14/2005 1602
Date Prepared: 12/14/2005 1602

Analysis Batch: 720-3046

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Result (ug/L)	Qualifier	RL
1,1-Dichloroethene	ND		25
1,1-Dichloroethane	ND		25
Dichlorodifluoromethane	ND		25
Vinyl chloride	ND		25
Chloroethane	ND		50
Trichlorofluoromethane	ND		50
Methylene Chloride	ND		250
trans-1,2-Dichloroethene	ND		25
cis-1,2-Dichloroethene	ND		25
Chloroform	ND		50
1,1,1-Trichloroethane	ND		25
Carbon tetrachloride	ND		25
1,2-Dichloroethane	ND		25
Trichloroethene	44		25
1,2-Dichloropropane	ND		25
Dichlorobromomethane	ND		25
trans-1,3-Dichloropropene	ND		25
cis-1,3-Dichloropropene	ND		25
1,1,2-Trichloroethane	ND		25
Tetrachloroethene	3300		25
Chlorodibromomethane	ND		25
Chlorobenzene	ND		25
Bromoform	ND		50
1,1,2,2-Tetrachloroethane	ND		25
1,3-Dichlorobenzene	ND		25
1,4-Dichlorobenzene	ND		25
1,2-Dichlorobenzene	ND		25
Chloromethane	ND		50
Bromomethane	ND		50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25
EDB	ND		25
1,2,4-Trichlorobenzene	ND		50

Client: Crawford Consulting Inc

Job Number: 720-823-1

Client Sample ID: **TB-1**

Lab Sample ID: 720-823-6
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/06/2005 1300

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

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 1423
Date Prepared: 12/14/2005 1423

Analysis Batch: 720-3046

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

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

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Crawford Consulting Inc

Job Number: 720-823-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS VOA				
Analysis Batch:720-2991				
LCS 720-2991/5	Lab Control Spike	Water	8260B	
MB 720-2991/6	Method Blank	Water	8260B	
720-823-1	MW-1	Water	8260B	
720-823-4	MW-4	Water	8260B	
Analysis Batch:720-3046				
LCS 720-3046/4	Lab Control Spike	Water	8260B	
MB 720-3046/5	Method Blank	Water	8260B	
720-823-2	MW-2	Water	8260B	
720-823-3	MW-3	Water	8260B	
720-823-5	DUP-1	Water	8260B	
720-823-6	TB-1	Water	8260B	

Client: Crawford Consulting Inc

Job Number: 720-823-1

Method Blank - Batch: 720-2991

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-2991/6
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2005 1118
Date Prepared: 12/13/2005 1118

Analysis Batch: 720-2991
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
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

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

Client: Crawford Consulting Inc

Job Number: 720-823-1

Laboratory Control Sample - Batch: 720-2991

Method: 8260B
Preparation: 5030B

Lab Sample ID: LCS 720-2991/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2005 1045
Date Prepared: 12/13/2005 1045

Analysis Batch: 720-2991
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	18	88	65 - 125	
Trichloroethene	20.0	18	92	74 - 134	
Chlorobenzene	20.0	19	96	61 - 121	

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

Client: Crawford Consulting Inc

Job Number: 720-823-1

Method Blank - Batch: 720-3046

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3046/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2005 1031
Date Prepared: 12/14/2005 1031

Analysis Batch: 720-3046
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
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

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

Client: Crawford Consulting Inc

Job Number: 720-823-1

Laboratory Control Sample - Batch: 720-3046

Method: 8260B
Preparation: 5030B

Lab Sample ID: LCS 720-3046/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2005 0941
Date Prepared: 12/14/2005 0941

Analysis Batch: 720-3046
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900F
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume: 40 mL
Final Weight/Volume: 40 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	18	92	65 - 125	
Trichloroethene	20.0	19	97	74 - 134	
Chlorobenzene	20.0	20	101	61 - 121	

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

720-823

90076

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

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

Service Request: _____ Date: 12/6/05

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:

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	Volatile Organics (VOCs) (EPA 8021B)	Pb (7421); As (7060) Same as Metals	COD, TKN 500 ml plastic H_2SO_4	Chloride, Nitrate 500 ml plastic NP	pH, Conductivity 500 ml plastic NP	Total Phenols 2 x 500 ml glass H_2SO_4	**Volatile Organics (8010) 2 x 40 ml vial**	TPHgBTEX 2 x 40 ml vial HCl			REMARKS
																TEMP 4°
MW-1	12/6/05	10:46		water	3							X				
MW-2	12/6/05	10:38		water	3							X				
MW-3	12/6/05	09:05		water	3							X				
MW-4	12/6/05	09:55		water	3							X				
DUP-1	12/6/05	—		water	3							X				
TB-1	12/6/05	—		water	3							X				

Analysis Requested

Relinquished By	Received By
Signature	Signature
Printed Name	Printed Name SHAWN APOSTOL
Firm F.S.I	Firm STL SF
Date/Time 12/6/05, 12:52	Date/Time 12/6/05 13:00
Relinquished By	Received By
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

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

REPORT REQUIREMENTS
___ I. Routine Report
x 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: _____

Special Instructions/Comments:

Please refer to Project File for detection limits and report MRLs only

Please pdf results to: Dana Johnston
dana@crawfordconsulting.com

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Crawford Consulting Inc

Job Number: 720-823-1

Login Number: 823

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present.	NA	
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