# COMPLETION REPORT FOR TWO EXPLORATORY BORINGS IN THE VICINITY OF FORMER MONITORING WELL DW-5

FMC Corporation 8787 Enterprise Drive Newark, Alameda County, California

**December 14, 2005** 

PREPARED FOR



FMC Corporation 8787 Enterprise Drive Newark, California 94560

PREPARED BY

**PARSONS** 

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December 15, 2005

State of California Regional Water Quality Control Board San Francisco Bay Region 1515 Clay Street, Suite 1400 Oakland, CA 94612

To:

Mr. Bruce H. Wolfe

**Executive Officer** 

Attn: Ms. Cherie Mc Caulou

**Engineering Geologist** 

Re:

Completion Report for Two Exploratory Borings in the Vicinity of Former Well DW-5

**FMC Corporation** 8787 Enterprise Drive Newark, Alameda County, California

Final Site Cleanup Requirements Order No. R2-2002-0060

Dear Mr. Wolfe:

By the present letter and attachment, FMC Corporation (FMC) is submitting the "Completion Report for Two Exploratory Borings in the Vicinity of Former Well DW-5, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California" dated December 2005 to the State of California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

This report summarizes the field activities performed in the vicinity of former FMC well DW-5; and has been performed in accordance with the plan proposed in the "Newark Aquifer Well DW-5 Report, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California" dated September 2005 and approved by the RWQCB in a letter dated October 25, 2005.



Mr. Bruce H. Wolfe December 15, 2005 Page 2

If you have any questions, or if you require further information, please call me at (408) 289-3141.

Sincerely,

Zahra M. Zahiraleslamzadeh Manager, Remediation Projects

**FMC Corporation** 

Corporate Environmental Group

cc: Alameda County Water District – Steven Inn
Alameda County Health Agency – Thomas Peacock
Department of Toxic Substances Control – Mohinder Sandhu
Newark Fire Department – Holly Guier
Union Sanitary District – Vaughn Henrie

Bcc: Robert T. Forbes, FMC Corporation

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SHH,L.L.C.

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ATTN: Mr. Benny DeHghi

\*Cover letter only

# COMPLETION REPORT FOR TWO EXPLORATORY BORINGS IN THE VICINITY OF FORMER MONITORING WELL DW-5

# FMC Corporation 8787 Enterprise Drive Newark, Alameda County, California

Project No. 441599.19000

December 14, 2005

Respectfully submitted,

PARSONS.

Amy Gignac Project Manager Linda M. McGlochlin Wolff Senior Hydrogeologist

(PG No.6004, CHG No. 324)

LINDA M. McGLOCHLIN WOLFF

# COMPLETION REPORT FOR TWO EXPLORATORY BORINGS IN THE VICINITY OF FORMER MONITORING WELL DW-5

FMC Corporation 8787 Enterprise Drive Newark, Alameda County, California

December 14, 2005

PREPARED FOR

**FMC** 

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# LIST OF ABBREVIATIONS AND ACRONYMS

ACWD Alameda County Water District

BGS Below Ground Surface

1,2-DCA 1,2-dichloroethane, or ethylene dichloride EDB ethylene dibromide, or 1,2-dibromoethane

GAC granular activated carbon LCS laboratory control samples

MB Method Blank

ml milliliter

MSL mean sea level

QA/QC quality assurance/quality control

RMP Risk Management Plan

RWQCB Regional Water Quality Control Board, San Francisco Bay Region

SMP Self-Monitoring Program
μg/ℓ micrograms per liter
USD Union Sanitary District
VOC volatile organic compound

# 1.0 INTRODUCTION

## 1.1 BACKGROUND INFORMATION

FMC and predecessor companies manufactured chemicals at 8787 Enterprise Drive in Newark, California (the site) from 1929 through 1995. The site location is shown in Figure 1 and a plan of the site is shown in Figure 2. Ethylene dibromide (EDB), a soil fumigant, was among the chemicals manufactured in the western portion of the site. EDB production ceased and associated manufacturing and handling facilities were dismantled and removed in 1968. Currently, FMC's activities at the site consist of operation and maintenance of a soil and ground water remediation/ monitoring system.

Since 1980, a number of investigations have been performed to characterize soil/ground water quality and hydrogeologic conditions at the site and vicinity. In general, these investigations were designed to delineate the areal and vertical extent of certain volatile organic compounds (VOCs) in soil and the underlying water-bearing zones and to assess the ground water flow regime.

The investigations to date have identified two water-bearing zones within the upper 70 feet of the soil profile beneath the site. The "shallow zone" extends from about 5 to 20 feet below grade and consists of silty clay and clayey sand. The underlying Newark aquifer extends from about 50 to 70 feet below grade and consists primarily of sand. The two water-bearing zones are separated by the 30-foot thick Newark aquitard.

The principal compounds detected in soil and ground water beneath the site are EDB and 1,2-dichloroethane (1,2-DCA). These compounds are present in both the shallow zone and the Newark aquifer; however, the concentrations in the Newark aquifer are generally lower than those in the shallow zone. With the concurrence of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) and California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control, formerly part of the California Department of Health Services, most of the previous studies have focused on evaluating EDB in the subsurface environment beneath the site.

In accordance with the waste discharge requirements of RWQCB Order No. 85-113, FMC initiated remedial measures in the Newark aquifer in January 1986. The Newark aquifer remediation program currently involves the extraction of ground water from Wells DW-2 and DW-8 with treatment by granular activated carbon (GAC) to remove dissolved EDB and other organic constituents prior to discharge. The shallow zone containment system (to remediate shallow zone ground water conditions) includes 17 extraction wells. The extracted water is transferred to the existing GAC units for treatment. The shallow zone containment system has been operating since August 1989.

On July 15, 1998, the RWQCB adopted Order No. 98-066 with respect to the entire site, which rescinded Order No. 89-055. As part of the requirements of Order No. 98-066, the *Proposed Final Remedial Action and Cleanup Standards Report* was submitted to the RWQCB on

January 31, 2001 and accepted by the RWQCB in a letter dated September 13, 2001, contingent upon submission of a Risk Management Plan (RMP). In December 2001, FMC submitted the RMP to the RWQCB (England Geosystem, December 19, 2001) and the RWQCB accepted the RMP in a letter dated June 20, 2002.

On May 22, 2002, the RWQCB rescinded Order No. 98-066 and adopted Final Site Cleanup Requirements Order No. R2-2002-0060, again with respect to the entire site. Among other things, Order No. R2-2002-0060 requires FMC to conduct semi-annual ground water monitoring and reporting.

On May 5, 2004 FMC submitted a Request to Revise Self-Monitoring Program, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California, to the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) as required under Task C.6. of the Site Cleanup Requirements Order Number R2-2002-0060. In a letter dated August 24, 2004 the RWQCB provided Comments on the Proposal to Modify Frequency of Groundwater Monitoring and Sampling, requesting FMC submit a work plan to locate and/or replace well DW-5, by October 1, 2004. In a letter dated September 15, 2004 FMC requested an extension to submit the work plan by December 15, 2004. FMC requested another extension on December 8, 2004 and proposed a submittal date of February 10, 2005.

On February 8, 2005 FMC submitted the Work Plan to Locate DW-5, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California (Work Plan). The Work Plan was approved via electronic communication received from Ms. Cherie McCaulou on February 10, 2005.

On September 16, 2005, FMC submitted a report entitled "Newark Aquifer Well DW-5 Report, FMC Corporation, 8787 Enterprise Drive, Newark, California" (DW-5 Report) which detailed FMC's efforts to locate DW-5 through field reconnaissance, document review, and geophysical investigation. These efforts were unsuccessful in locating DW-5. The DW-5 Report included FMC's proposal to collect grab groundwater samples at a depth of approximately 75 feet using a direct push rig. By letter dated October 25, 2005, the RWQCB approved the DW-5 Report and the proposed Newark Aquifer grab groundwater sampling. The RWQCB also requested a technical report (detailing the field activities, analytical testing, and findings) be submitted to the RWQCB by December 15, 2005. This report has been prepared in response to the RWQCB's subject letter.

On October 24, 2005 FMC submitted a Work Plan and Permit Application to Install Exploratory Borings, North of FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California to the Alameda County Water District (ACWD). On November 8, 2005, via electronic communication, the ACWD requested FMC collect depth discreet samples and log geophysical information from two boring locations. On November 11, 2005 FMC submitted a Revised Work Plan to Install Exploratory Borings, North of FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California (Revised Work Plan). The Revised Work Plan was verbally approved on November 14, 2005.

# 1.2 OBJECTIVES

Groundwater chemistry data were collected from FMC's Newark Aquifer well DW-5 on a monthly basis from December 1985 through June 1989, and in October 1989. Groundwater sampling was performed on a quarterly basis from August 1991 through September 1992, then semi-annually from August 1993 through August 1994. Since February 1995 FMC's well DW-5 has been reported as lost.

Historic groundwater sampling analytical results show four detections of the primary volatile organic compound (VOC) of concern at the site, 1,2-DCA between December 1985 and August of 1994. The detections were 1.3 micrograms per liter (ug/L) in August 1986, 11 ug/L in December 1986, 2.9 ug/L in January 1999, and 1.4 ug/L in October 1991. 1,2-DCA was not detected at well DW-5 from October 1991 through the last sampling event performed in August 1994. Historic groundwater quality analytical results for DW-5 are provided in Table 1.

The objective of this technical report is to document the work associated with confirming the extent of VOC-impacted groundwater in the Newark Aquifer north of the FMC Corporation Facility located at 8787 Enterprise Drive, Newark, Alameda County, California. The requirement for exploratory borings by RWQCB is for the purpose of adequately defining the western lateral extent of the VOC plume in the Newark Aquifer.

Delineation of the plume is part of the objectives of the groundwater monitoring program and overall investigation and remediation of the site, pursuant to Orders No. 98-066, No. 89-055, No. 87-49, and No. 85-113 adopted by the RWQCB. On May 22, 2002, RWQCB Order No. 98-066 was rescinded and Order No. R2-2002-0060 was adopted. This report has been prepared in accordance with the requirements of the RWQCB letter dated October 25, 2005 (subject: Approval of Newark Aquifer Well DW-5 Report and Proposed Newark Aquifer Grab Groundwater Sampling for Plume Delineation, FMC Corporation, 8787 Enterprise Drive, Newark Alameda County) and RWQCB Order No. R2-2002-0060.

## 1.3 TECHNICAL APPROACH

The technical approach to achieving the above stated objectives is based on adherence to the Revised Work Plan; compliance with standardized environmental field investigation procedures designed to provide reliable, representative, and reproducible data; and a comprehensive evaluation of the analytical data in the context of historic monitoring results and regional ground water quality.

Section 2.0 of this report describes the field activities and laboratory analyses associated with the document review and field reconnaissance, geophysical investigation, installation of the two soil borings, collection of grab groundwater samples, and analytical testing of the groundwater samples for VOCs. Section 3.0 presents an evaluation of the CPT data, the laboratory analytical results, and the quality assurance/quality control (QA/QC) measures to provide qualitative and quantitative checks on the analytical. Section 4.0 provides a summary of findings and recommendations. The Work Plan and Revised Work Plan to Install Exploratory Borings North of FMC Corporation are provided in Appendix A. The approved Application for Drilling Permit isued by the ACWD and the request for access to the landowner to drill are presented in

Appendix B. Construction details for DW-5 is presented in Appendix C. CPT data for exploratory soil borings SB-1 and SB-2 are presented in Appendix D. Daily Field Reports are presented in Appendix E. Laboratory analytical results are presented in Appendix F. Survey data is presented in Appendix G.

## 2.0 FIELD ACTIVITIES AND CHEMICAL ANALYSES

Field activities associated with finding monitoring well DW-5 began with a document review. Multiple field reconnaissance of the area in the vicinity of DW-5 (based on information found in related documents) was performed in March 2005 by the ACWD, FMC, and Parsons personnel. As a result of not locating DW-5 during the field reconnaissance, a geophysical investigation of the area was performed on June 30, 2005. The geophysical investigation was also unsuccessful in locating DW-5. Work Plan approval was given by the RWQCB on October 25, 2005 to locate two exploratory borings in the known vicinity of DW-5 and collect groundwater samples. Field activities associated with the exploratory soil borings began on November 17, 2005 with a utility clearance of the proposed soil boring locations. Advancement of the two soil borings along with collection of water samples from the soil borings was performed on November 22 and 23, 2005. Water samples were submitted to the laboratory on November 23, 2005 and final laboratory results were provided to FMC on December 9, 2005. A land survey to determine the coordinates and elevation of the ground surface at the location of the two soil borings was performed on December 5, 2005.

### 2.1 DOCUMENT REVIEW AND FIELD RECONNAISSANCE

Prior to commencement of field activities, Parsons, FMC's consultant, acquired a 1999 Alameda County Water District (ACWD) Nearby Wells Report depicting registered wells within a one mile radius of the Site. The report cited FMC's well DW-5 (ACWD Well No. 5S/2W-02N005) as destroyed. Parsons contacted the ACWD and spoke with Selim Zeyrek of the Well Ordinance Program to confirm the well was destroyed. An ACWD inspector performed a field reconnaissance on March 19, 2005. The ACWD inspector was unsuccessful at locating well DW-5. It was determined by ACWD staff that a nearby production well identified as D-5 was destroyed; the ACWD database incorrectly identified FMC's well DW-5 as destroyed. Page 33 of the Nearby Wells Report shows DW-5 as destroyed.

Parsons further reviewed historical documents and drawings for comparison against known benchmarks and geo-coordinates to determine the approximate location of monitoring well DW-5. According to the geo-coordinates well DW-5 was located in the immediate vicinity of a paved access road leading to the Ohlone Humane Society Wildlife Rehabilitation Center from Hickory Street, south of the existing ProLogis property (see Photograph 1).

Once the approximate well location was identified, a hand held Global Positioning System (GPS) unit was used to further approximate the location of well DW-5. There were no wells with a total depth greater than 25 feet identified within a 100-foot by 100-foot area in the vicinity of the coordinates provided for well DW-5. A large portion of the investigation area is currently overlain with asphalt.



Photograph 1. Approximate location of former monitoring well DW-5

## 2.2 GEOPHYSICAL INVESTIGATIONS

# 2.2.1 Geophysical Investigation to Locate DW-5

As a final measure to find well DW-5 Parsons subcontracted with Subtronic Corporation (Subtronic) to assist in locating well DW-5 using geophysical techniques. FMC and Parsons staff familiar with the FMC Newark facility assisted Subtronic in locating benchmarks and the approximate area of well DW-5. Because well DW-5 was known to be enclosed in a metal well box, a magnetometer search was determined to be the most appropriate method to identify the well location. Subtronic used an electromagnetic field induction instrument capable of detecting buried covers or sleeves up to three feet deep to search for the monitoring well DW-5. An approximate 100-foot by 100-foot area was examined using this technique. The search did not detect the existence of a buried well box or sleeve in the vicinity of well DW-5.

Since the extensive document review and field effort to locate well DW-5 did not reveal any indication that the well still exists, no further attempt was made to locate DW-5.

# 2.2.2 Utility Clearance of CPT Boring Locations

To confirm the presence or absence of VOCs in the Newark Aquifer, FMC proposed to collect grab groundwater samples at two locations in the vicinity of DW-5, approximately 450 feet north of Newark Aquifer well DW-8. The grab groundwater samples would be collected through the interior of CPT borings.

Prior to advancing the CPT borings, Parsons contacted Underground Service Alert (USA) to notify utility providers of upcoming drilling activities. Additionally, Parsons performed a geophysical survey to identify underground utilities within the vicinity of proposed CPT borings SB-1 and SB-2. On November 17, 2005, Parsons' subcontractor, Foresight, performed the utility survey and cleared the proposed CPT boring locations of potential subsurface interferences.

# 2.3 SOIL BORINGS AND GROUNDWATER SAMPLING

# 2.3.1 Advancement of CPT Borings

Prior to performing the soil borings, Parsons performed hand augering at the soil boring locations to a depth of 5 feet to confirm the absence of underground utilities. On November 22, 2005, Parsons' subcontractor, Precision Inc., advanced the CPT boring at SB-1 until refusal occurred at 71.2 ft bgs. SB-2 was completed on November 23, 2005. See Photograph 2.

For both CPT borings, an instrumented piezocone system was used to provide an electronic borehole log for lithologic interpretation. Piezocone measurements were performed in accordance with ASTM D3441. The parameters recorded included tip resistance, sleeve friction, and pore water pressure. Copies of the electronic borehole log for SB-1 and SB-2 are provided in Appendix D. The electronic borehole log provides vertical graphs for Point Stress (Qc), Pore



Photograph 2. CPT drilling at SB-1.

Pressure (Ut), A Factor (Af), Local Friction (LF), and Friction Ratio (FR). A color soil behavior legend is also provided. The vertical location of the Newark Aquifer is best depicted in the Local Friction chart and Soil Behavior Legend which show the top of the Newark Aquifer beginning around 41 ft bgs and extending beyond 65 ft bgs (electronic borehole log stops at 65 ft bgs). The formation data in the two CPT electronic borehole logs is consistent with the formation data recorded in the construction log for DW-5 which indicates sand and gravel beginning at 41 ft bgs and continuing, with lesser amounts of clays and silts, to a depth of 76 ft bgs (bottom of boring DW-5).

# 2.3.2 Collection of Groundwater Samples

Per the request of the ACWD, three depth discrete grab groundwater samples were collected from each of the two CPT borings at depths consistent with the top, middle, and bottom of the screened interval in the former monitoring well DW-5. In SB-1 and SB-2, grab groundwater samples were collected at depths of 44, 62, and 71, ft bgs. Grab samples were collected using a 3/4-inch temporary poly-vinyl chloride (PVC) casing that was installed in the CPT borings. The temporary casings were each equipped with 5 feet of 0.01-inch slotted screen and a slip end cap. Grab groundwater samples were then collected using a disposable bailer. Samples were decanted directly into 40-milliliter vials, sealed, and transported under standard chain-of-custody protocols to Severn Trent Laboratories, Inc. for analysis by EPA Method 8260B for VOCs. Daily Field Reports and chain-of-custody records are provided in Appendix E.

# 2.3.3 Abandonment of CPT Borings

Following completion of the CPT borings, each boring was sealed with a neat cement consisting of one sack of Portland Type I/II Cement (94 lbs) to five gallons of clean water. Sealing of the soil borings was accomplished using a Tremie grout pipe under the supervision of an ACWD inspector.

# 2.3.4 Survey of CPT Boring Locations

On December 5, 2005, the ground surface elevation and coordinates of the soil borings was surveyed by Kier & Wright Civil Engineers and Surveyors, Inc. The elevation of SB-1 is 7.98 ft above mean sea level (msl) and SB-2 is 7.78 ft above msl. The location of SB-1 and SB-2 are shown on Figure 2. Survey data including northing and easting coordinates are provided in Appendix G.

### 2.4 CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

The ground water samples were analyzed by Severn Trent Laboratories, Inc (STL) of Pleasanton, California, for VOCs using U.S. Environmental Protection Agency (U.S. EPA) Method 8260B. Analytical reports for the analyses performed for detectable concentrations of VOCs are provided in Appendix F. Results are also summarized in Table 1. STL is certified through the Environmental Laboratory Accreditation Program of the California Department of Health Services for the analyses performed.

# 3.0 DATA EVALUATION

This section presents an evaluation of the laboratory analytical results for the grab groundwater samples that were collected from the CPT borings. A summary of the Quality Assurance/Quality Control (QA/QC) measures employed during the collection of groundwater samples is also discussed.

## 3.1 RESULTS OF GROUNDWATER SAMPLING

Each of the six groundwater samples collected from the two exploratory borings (three samples from each boring) was "No Detection" (ND) at or below the reporting limit (RL) for VOCs. A complete set of the laboratory analytical results is provided in Appendix F. A summary of the analytical results for the groundwater samples by VOC analyte is presented in Table 1.

# 3.2 EVALUATION OF ANALYTICAL DATA

A comparative summary of water quality data for monitoring well DW-5 and for the two exploratory borings SB-1 and SB-2 is presented in Table 1. The historical VOC data for DW-5 shows that the last documented concentrations of VOCs above the reporting limit (16 µg/l Methylene chloride) was detected on August 25, 1993. During two subsequent groundwater sampling events at DW-5 (March 2, 1994 and August 16, 1994), VOCs were not detected above the reporting limit. The lack of VOCs in groundwater at this location is further supported by the results of the most recent grab groundwater sampling. Given the groundwater samples were taken at depths that coincide with the top, middle, and bottom of the Newark Aquifer as demonstrated by the data in the construction log of DW-5 and the electronic borehole logs of SB-1 and SB-2, it is reasonable to state that the plume of VOC-impacted groundwater north of FMC Corporation does not extend as far north as these soil borings.

# 3.3 QUALITY ASSURANCE/QUALITY CONTROL MEASURES

A total of six groundwater samples were collected from the exploratory borings. Field QA/QC measures included a trip blank sample, identified as "TB" submitted with the six groundwater samples. Laboratory QA/QC measures included two laboratory control samples (LCS) and two method blanks (MB). The results of these QA/QC measures are discussed below in terms of data precision, accuracy, and validity.

## 3.3.1 Blank Sample Analyses

Blank samples analyzed as part of the overall QA/QC program included one trip blank and two method blanks. The trip and method blank samples analyzed by STL using EPA Method 8260B did not contain detectable concentrations of VOCs. An equipment blank was not collected because only disposable bailers were used in the collection of groundwater samples.

# 3.3.2 Data Accuracy

Data accuracy may be defined as the degree of agreement of a measurement with an accepted reference or true value. Data accuracy is evaluated by the analysis of laboratory control samples and matrix QC samples. The calculated percentage recovery of the spiking compound is taken as a measure of the accuracy of the total analytical method. The tolerance limits for acceptable percent recovery vary according to the analytical method and the spike compound(s). The data indicate that the percent recovery calculated for various compounds were within laboratory control requirements. However, surrogate recovery was above the posted QC limits twice for surrogates 1,2-dichloroethane-d4. As the sample analyses were not rerun, and as the analytical data are generally consistent with historical data, it cannot be determined whether these exceedences indicate unrealistically elevated VOC concentration results.

# 3.3.3 Data Validity

Data validity is assessed by quantitatively evaluating data precision and accuracy and by qualitatively evaluating the results of blank sample analyses. The results of the QA/QC measures obtained from the trip blank sample and method blanks showed an acceptable degree of precision and accuracy. The groundwater quality data are generally consistent with the historical data and, thus, are considered valid. A summary of the sampling QA/QC results are presented on page 19 in Appendix F.

STL also reported that the cooler or the samples did not appear to have compromised or tampered with. The samples were received on ice and the cooler temperature was acceptable. The COC was present, filled out with all pertinent information; filled out in ink and legible. There were no discrepancies between the sample IDs on the containers and on the COC. Samples were received within the specified holding time. Sample containers were not leaking and had legible labels with sample collection times and dates. Sample bottles were completely filled and there was sufficient volume of sample to run the requested analyses. VOA sample vials did not have headspace or bubble less than ¼" in diameter.

# 4.0 SUMMARY AND RECOMMENDATIONS

FMC Corporation has performed the following activities in an effort to determine the northerly extent of the VOC-impacted groundwater in the Newark Aquifer in the vicinity of DW-5:

- Conducted a document review and field reconnaissance to locate monitoring well DW-5.
- Conducted a geophysical survey in the area suspected of containing DW-5.
- Installed exploratory borings in the vicinity of the former DW-5 and conducted electronic borehole logs at both borings.
- Collected groundwater samples from two exploratory borings in formation considered to be the top, middle, and bottom of the Newark Aquifer.
- Performed analytical testing of the groundwater samples collected in the exploratory borings for VOCs.
- Performed a comparative evaluation of analytical results for groundwater samples collected routinely from DW-5 with analytical results from groundwater samples collected from the exploratory borings.

It is the conclusion of this report that the VOC-impacted groundwater in the Newark Aquifer north of the FMC Corporation does not extend laterally as far north as the former location of monitoring well DW-5. Therefore, no further action is warranted.

## REFERENCES

- California Regional Water Quality Control Board, San Francisco Bay Region, September 18, 1985, Waste Discharge Requirements for: FMC Corporation and Designed Building Systems, Inc., Remedial Action Program, Newark, Alameda County, Order No. 85-113 issued to FMC Corporation.
- California Regional Water Quality Control Board, San Francisco Bay Region, May 20, 1987, Amendment to Requirements, FMC Corporation and Designed Building Systems, Inc., Remedial Action Program, Newark, Alameda County, Order No. 87-49 issued to FMC Corporation.
- California Regional Water Quality Control Board, San Francisco Bay Region, April 19, 1989, Site Cleanup Requirements for: FMC Corporation Phosphorus Chemicals Division, 8787 Enterprise Drive, Newark, Alameda County, Order No. 89-055 issued to FMC Corporation.
- California Regional Water Quality Control Board, San Francisco Bay Region, April 19, 1993, Proposed Self-Monitoring Program, Order No. 89-055 issued to FMC Corporation.
- California Regional Water Quality Control Board, San Francisco Bay Region, July 15, 1998, Revision of Site Cleanup Requirements and Rescission of Order No. 89-055, FMC Corporation, 8787 Enterprise Drive, Newark, California, Order No. 98-066 issued to FMC Corporation.
- California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), May 22, 2002, Order No. R2-2002-0060, Final Site Cleanup Requirements and Rescission of Order No. 98-066, FMC Corporation, 8787 Enterprise Drive, Newark, California, issued to FMC Corporation.
- FMC, January 30, 2001, Proposed Final Remedial Actions and Cleanup Standards, FMC Corporation, 8787 Enterprise Drive, Newark, California, report submitted to RWQCB.
- Parsons, February 8, 2005, Work Plan to Locate Well DW-5, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California, Report submitted to FMC Corporation.
- . Parsons, October 24, 2005, Work Plan and Permit Application to Install Exploratory Borings, North of FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California Report submitted to FMC Corporation.
- Parsons, November 11, 2005, Revised Work Plan to Install Exploratory Borings, North of FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California Report submitted to FMC Corporation.

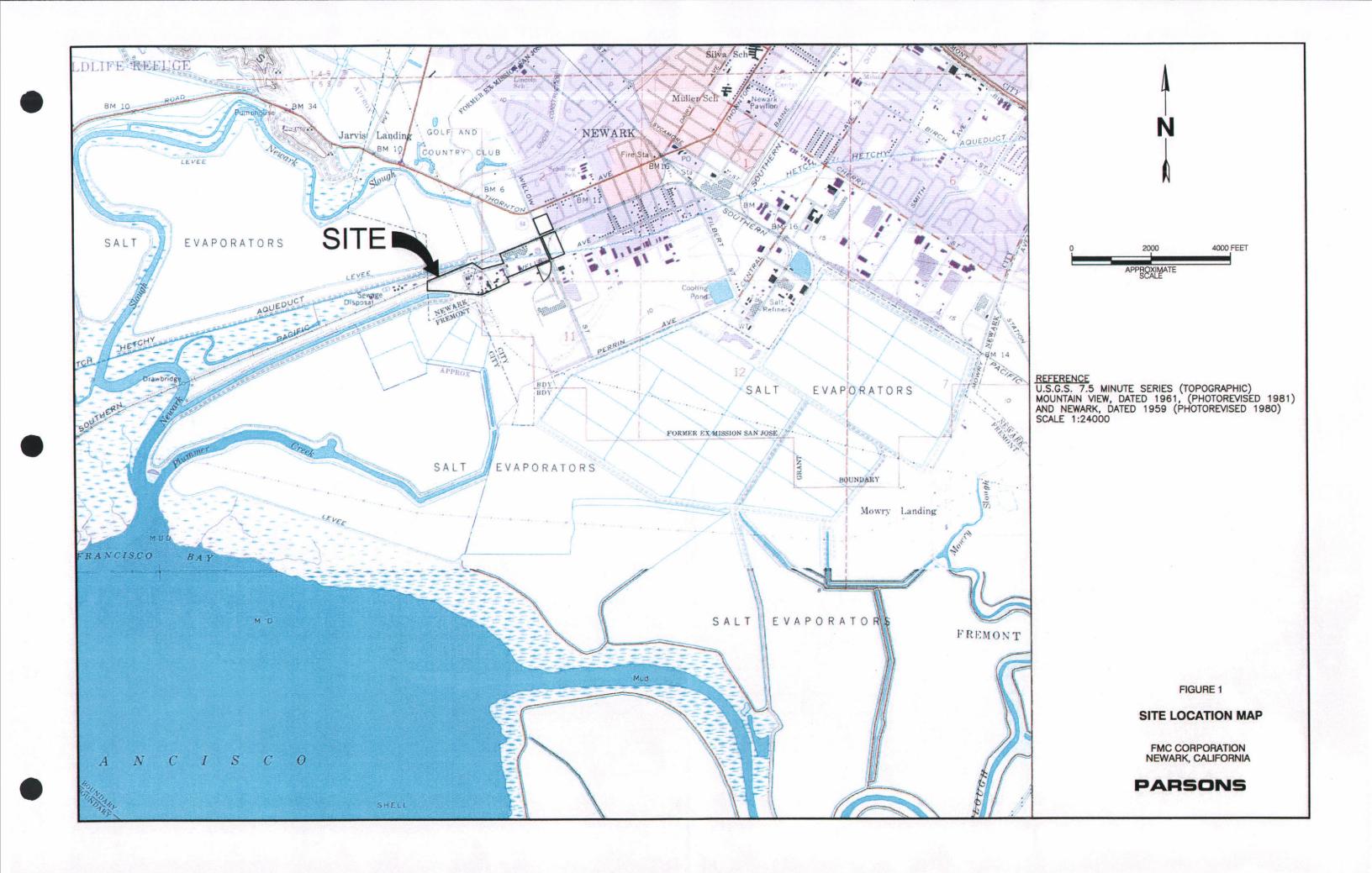
TABLE I

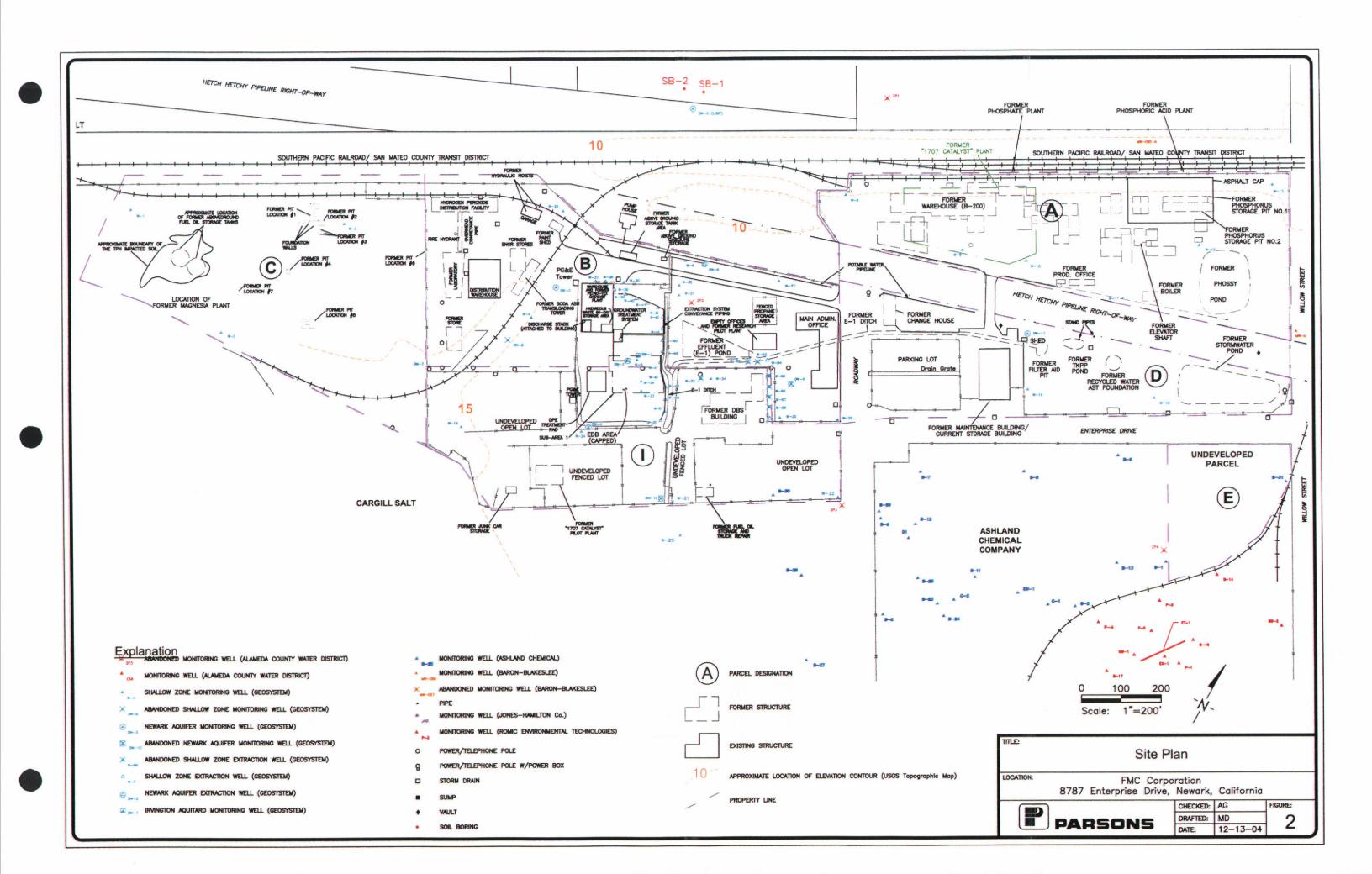
Comparative Summary of Groundwater Analytical Data for Monitoring Well DW-5 and Exploratory Borings SB-1 and SB-2

FMC Corporation, 8787 Enterprise Drive, Newark, California

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Well No.	Date	B. Danielong	- Lander	on the state of th	The Control of the Co	Supplement.	on the state of th	and the state of t	John Marie	on and an	Separation of the second secon	The state of the s	Henning.	Thomas Care		in line of the second s	a	The Park of the Pa	
DW-5	12/16/1985	<0.7	<0.3	<0.5		j		į		}	1					-0.5			Ī
DW-5	1/21/1986	<0.7	<0.3	<0.5	<0.3 <0.3	<0.6 <0.6	<0.4 <0.4	<0.4 <0.4	<0.5 <0.5	<0.5 <0.5	<0.3 <0.3	1.2 <0.5	<1 <1	<0.7 <0.7	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	0	1
DW-5	2/21/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	<0.4	<0.5	<0.5	<0.3	<0.5	<1	<0.7	<0.5	<0.5	<0.5	ő	H
DW-5	3/6/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	<0.4	<0.5	<0.5	<0.3	<0.5	<1	<0.7	<0.5	<0.5	<0.5	o	1
DW-5	4/14/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	<0.4	<0.5	<0.5	<0.3	<0.5	<i< th=""><th>&lt;0.7</th><th>&lt;0.5</th><th>&lt;0.5</th><th>&lt;0.5</th><th>0</th><th>1</th></i<>	<0.7	<0.5	<0.5	<0.5	0	1
DW-5	5/14/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	<0.4	<0.5	<0.5	<0.3	<0.5	<1	<0.7	<0.5	<0.5	<0.5	0	
DW-5 DW-5	6/12/1986 7/22/1986	<0.7 <0.7	<0.3 <0.3	<0.5 <0.5	<0.3 <0.3	<0.6 <0.6	<0.4 <0.4	<0.4 <0.4	<0.5	<0.5	<0.3	<0.5	<[	<0.7	<0.5	<0.5	<0.5	0	
DW-5	8/21/1986	<0.7	1.3	<0.5	<0.3	<0.6	<0.4	<0.4 <0.4	<0.5 <0.5	<0.5 <0.5	<0.3 <0.3	<0.5 <0.5	<1 <1	<0.7 <0.7	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	0	
DW-5	9/15/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	<0.4	<0.5	<0.5	<0.3	<0.5	√; <1	<0.7	<0.5	<0.5	<0.5	o	
DW-5	10/16/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	9.2	<0.5	<0.5	<0.3	<0.5	<1	<0.7	<0.5	<0.5	<0.5	9	
DW-5	11/13/1986	<0.7	<0.3	<0.5	<0.3	<0.6	<0.4	1.2	<0.5	<0.5	<0.3	<0.5	<1	<0.7	<0.5	<0.5	<0.5	1	
DW-5	12/11/1986	<0.7	11	<0.5	<0.3	<0.6	<0.4	1.1	1.8	<0.5	<0.3	8.3	<i< th=""><th>&lt;0.7</th><th>&lt;0.5</th><th>&lt;0.5</th><th>&lt;0.5</th><th>22</th><th></th></i<>	<0.7	<0.5	<0.5	<0.5	22	
DW-5 DW-5	1/21/1987 2/19/1987	<0.7 <0.5	<0.3 <0.5	<0.5 <0.5	<0.3 <0.5	<0.6 <0.5	<0.4 <0.5	2.4 <0.5	<0.5 <0.5	<0.5 ND	<0.3 <0.2	<0.5	<1 <0.5	<0.7	<0.5	<0.5	<0.5	2	
DW-5	3/2/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ND	<0.2	<0.5 <0.5	<0.5	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	0	
DW-S	4/16/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.2	<0.5	<0.5	NA NA	<0.5	<0.5	<0.5	Ö	
DW-5	5/15/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.2	<0.5	<0.5	NA	<0.5	<0.5	<0.5	0	
DW-5	6/4/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.2	<0.5	<0.5	NA	<0.5	<0.5	<0.5	0	
DW-5	7/15/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.2	<0.5	<0.5	NA.	<0.5	<0.5	<0.5	0	1
DW-5 DW-5	8/12/1987 9/8/1987	<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	ND ND	<0.2 <0.2	<0.5	<0.5 <0.5	NA NA	<0.5	<0.5	<0.5	0	1
DW-5	10/5/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.2	<0.5 <0.5	<0.5	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	0	1
DW-5	11/5/1987	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	ő	1
DW-5	12/3/1987	<0.5	<0,5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	ND	<0.2	<0.5	<0.5	NA	<0.5	<0.5	<0.5	1	
DW-5	1/11/1988	<0.5	2.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.2	2.4	<0.5	NA	<0.5	<0.5	<0.5	5	1
DW-5 DW-5	2/10/1988 3/4/1988	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 1.2	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	NA NA	<0.2	<0.5	<0.5	NA NA	<0.5	<0.5	<0.5	0 1	1
DW-5	4/14/1988	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	NA NA	<0.2 <0.2	<0.5 <0.5	<0.5 <0.5	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	0	1
DW-5	5/13/1988	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	1.9	<2	<1	<5	<2	<0.5	2	1
DW-5	6/7/1988	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	<2	<1	<5	<2	<0.5	ō	1
DW-5	7/14/1988	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	<2	<1	<	<2	<0.5	0	
DW-5	8/9/1988	<1	<0.5	<0.5	≪0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	<2	<1	<5	<2	<0.5	0	
DW-5 DW-5	9/6/1988 10/11/1988	<1 <1	<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 <5	<1 <1	<0.5 <0.5	<2 <2	<1	<5	<2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <	<0.5	0	
DW-5	11/8/1988	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	<2	<1 <1	<5 <5	<2 <2	<0.5 <0.5	Ö	
DW-5	12/5/1988	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	<2	<1	<5	<2	<0.5	ő	1
DW-5	1/17/1989	<1	<0.5	<0.5	<0.5	<0.5	<0.5	270	<0.5	<5	<1	<0.5	<2	<1	<5	<2	<0.5	270	1
DW-5	2/13/1989	<1	<0.5	<0.5	<0.5	<0.5	<0.5	4.9	<0.5	<5	<1	<0.5	<2	<1	<5	<2	<0.5	5	1
DW-5 DW-5	3/6/1989 4/14/1989	<br </th <th>&lt;0.5 &lt;0.5</th> <th>&lt;0.5 &lt;0.5</th> <th>&lt;0.5 &lt;0.5</th> <th>&lt;0.5 &lt;0.5</th> <th>&lt;0.5 &lt;0.5</th> <th>5.3 &lt;0.5</th> <th>&lt;0.5 &lt;0.5</th> <th>&lt;5 &lt;5</th> <th><!--<br--><!--</th--><th>&lt;0.5</th><th>&lt;2 €</th><th><i th=""  <=""><th>&lt;5 </th><th>&lt;2</th><th>&lt;0.5</th><th>5</th><th>1</th></i></th></th>	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	5.3 <0.5	<0.5 <0.5	<5 <5	<br </th <th>&lt;0.5</th> <th>&lt;2 €</th> <th><i th=""  <=""><th>&lt;5 </th><th>&lt;2</th><th>&lt;0.5</th><th>5</th><th>1</th></i></th>	<0.5	<2 €	<i th=""  <=""><th>&lt;5 </th><th>&lt;2</th><th>&lt;0.5</th><th>5</th><th>1</th></i>	<5 	<2	<0.5	5	1
DW-5	5/10/1989	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ব	<1	<0.5 <0.5	ζ, Δ,	<br </th <th>&lt;5 &lt;5</th> <th>√2 √2</th> <th>&lt;0.5 &lt;0.5</th> <th>0</th> <th>1</th>	<5 <5	√2 √2	<0.5 <0.5	0	1
DW-5	6/22/1989	<l< th=""><th>&lt;0.5</th><th>&lt;0.5</th><th>&lt;0.5</th><th>&lt;0.5</th><th>&lt;0.5</th><th>43</th><th>&lt;0.5</th><th>&lt;5</th><th>&lt;1</th><th>&lt;0.5</th><th>&lt;2</th><th><i>1</i></th><th>&lt;5</th><th>&lt;2</th><th>&lt;0.5</th><th>43</th><th> </th></l<>	<0.5	<0.5	<0.5	<0.5	<0.5	43	<0.5	<5	<1	<0.5	<2	<i>1</i>	<5	<2	<0.5	43	
DW-5	10/25/1989	<2	<2.	<2	<2	<2	<2	<2.0	<2.0	<2	<2.	<2.0	<2	<2	<2	<2	<2.0	Ö	1
DW-5	8/27/1991	<1	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<2	<0.5	<1	<1	<0.5	0	
DW-5	10/29/1991	<1	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<2	<0.5	<1	<1	<0.5	1	1
DW-5 DW-5	2/24/1992 5/20/1992	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	্ণ থ	<0.5	<0.5	<0.5	<0.5	0	1
DW-5	9/8/1992	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	্ ধ	<0.5 <0.5	<1 <1	<1 <1	<0.5 <0.5	0	
DW-5	8/25/1993	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16	<0.5	<1	<1	<0.5	16	1
DW-5	3/2/1994	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<1	<1	<0.5	0	
DW-5	8/16/1994	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<1	<1	<0.5	0	
SB1-DW5-44'	11/22/2005	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<5	<0.5	<1	<0.5	<0.5	0	1
SB1-DW5-62* SB1-DW5-71*	11/22/2005 11/22/2005	<1 <1	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	₹1	< 5	<0.5	<1	<0.5	<0.5	0	
SB2-DW5-44'	11/23/2005	<1	<0.5	<0.5 <0.5	<0.5	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	<0.5 <0.5	<1 <1	<5 <5	<0.5 <0.5	<1 <1	<0.5 <0.5	<0.5 <0.5	0	1
SB2-DW5-62'	11/23/2005	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<5	<0.5	<1	<0.5	<0.5	Ö	
SB2-DW5-71'	11/23/2005	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<t< th=""><th>&lt;5</th><th>&lt;0.5</th><th>&lt;1</th><th>⊲0.5</th><th>&lt;0.5</th><th>Ō</th><th>1</th></t<>	<5	<0.5	<1	⊲0.5	<0.5	Ō	1
																			2

NOTE: (1) Total VOCs expressed as whole numbers. Compounds below detection limit are assumed zero. Total VOCs value may include detected concentrations for parameters not shown on this table. All units are  $\mu g/\ell$  - parts per billion





# **PARSONS**

2121 N. California Blvd. Suite 500 ● Walnut Creek, California 94596 ● (925) 941-3700 ● Fax (925) 979-9781 ● www.parsons.com

October 24, 2005

Mr. Steven Inn Alameda County Water District 43885 South Grimmer Blvd. P.O. Box 5110 Fremont, CA 94537

Re: Work Plan and Permit Application to Install Exploratory Borings, North of FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California

Dear Mr. Inn:

This letter presents the scope of work and permit applications to confirm the extent of volatile organic compound (VOC)-impacted groundwater in the Newark aquifer north of FMC Corporation's (FMC) former ethylene dibromide (EDB) plant at 8787 Enterprise Drive, Newark, Alameda County, California (Figure 1) (Site). The permit fee of \$335.00 per proposed boring location is also enclosed.

To confirm the absence of VOCs at or above levels of concern in this area, Parsons, on behalf of FMC, proposes to install two borings and collect grab groundwater samples at the ProLogis Trust property located at 37137 Hickory Street in Newark, California, adjacent to the north of the Site. The boring will be located approximately 450 feet north of FMC's Newark aquifer extraction well DW-8 (Figure 2). Groundwater samples will be collected from the borings at a depth of approximately 75 feet by a cone penetrometer testing rig using a direct push methodology. Samples will be labeled and placed on ice in a cooler for shipment via courier to a California state-certified laboratory. All samples will be transported to the laboratory under proper chain-of-custody documentation. Samples will be analyzed for VOCs using USEPA Method 8260B. Historic groundwater quality data from FMC's nearby Newark Aquifer well DW-5 (reported as lost since 1994) is shown in Table 1.

After completion of groundwater sampling, the borings will be sealed with neat cement to the surface by Tremie method in which a grout pipe is placed at the bottom of the hole and moved gradually upward displacing water as the hole is filled with grout. The neat cement grout will be composed of one sack of Portland Type I/II Cement (94 lbs) to five gallons of clean water. The borings will be sealed under the supervision of an Alameda County Water District (ACWD) inspector. Decontamination water generated during the investigation will be placed into a drum, transported to the FMC Corporation property at 8787 Enterprise Drive, and treated at the existing groundwater extraction and treatment system.

Upon receipt of analytical data, a letter report documenting the results of the investigation will be forwarded to ACWD, the State of California Regional Water Quality Control Board, San Francisco Bay Region, and the City of Newark Fire Department.

All work will be performed in accordance with parsons Site-Specific Health and Safety Plan, FMC Newark Facility and the ACWD Site Hazard Information Sheet (attached).

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Mr. Inn October 24, 2005 Page 2 of 2

If you have any questions regarding this work plan or the permit application, please contact me directly at (925) 941-3722.

CERTIFIED ENGINEERING GEOLOGIST

We appreciate your assistance in this matter.

Sincerely, PARSONS

Army Gignad Principal Scientist

Frederick C. Kintzer, P.G., C.E.G. Supervising Geologist

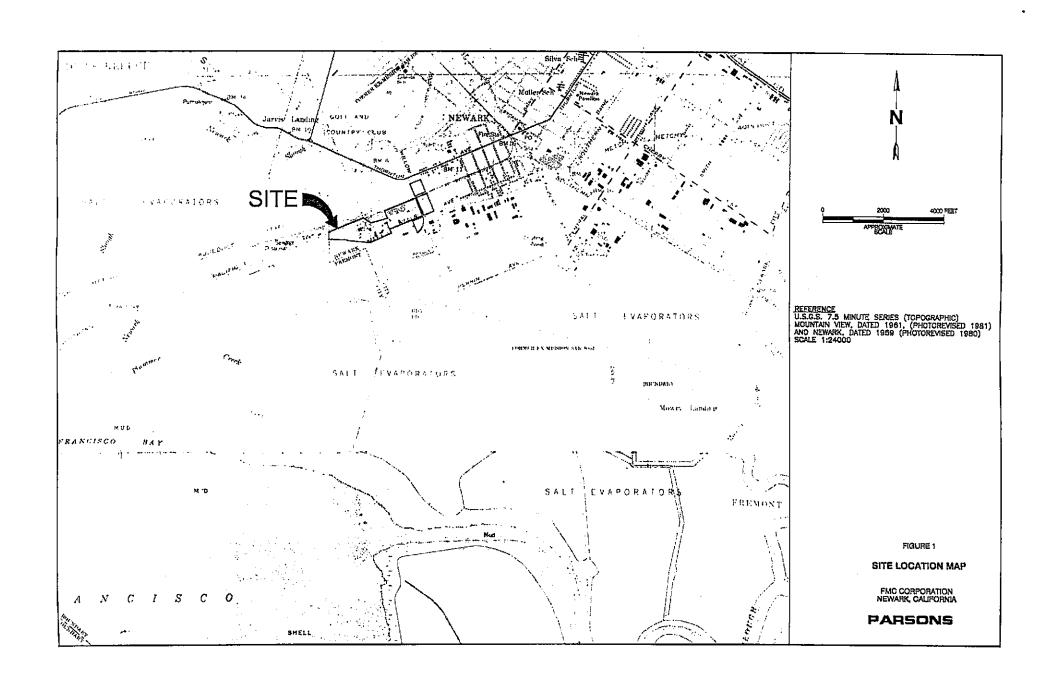
Attachment

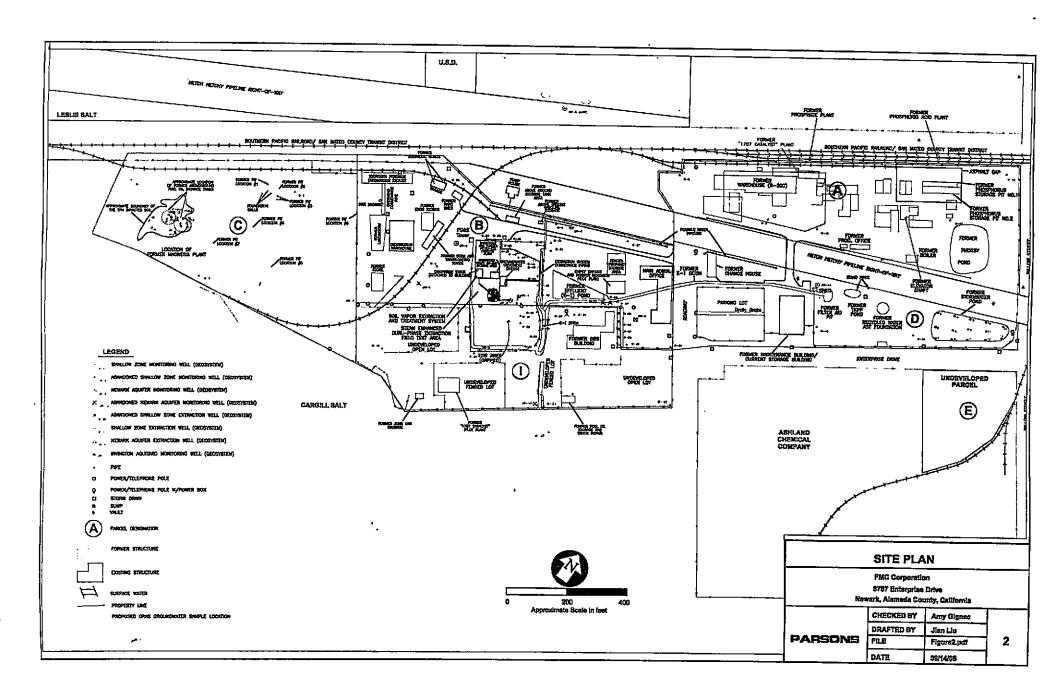
CC: Zahra M. Zahiraleslamzedeh, FMC Corporation Tim Anenson, Parsons

TABLE 1
Historic Groundwater Quality - Volatile Organic Compounds
FMC Corporation, 8787 Enterprise Drive, Newark, California

Pivic Corpora	ion, 6767 Emerp	rise Drive, Newar	к, Свиюнна																	
Well No.	Date	Ryanger Market M	in the state of th	Carrier China.	Junter Carlos	ng Lais	I.L. Dichipano	~ /	I.L.A. Press	Tornenhoro	Cis. 1.3. Bring.	L.1-Dichlander.	Chondon	Pheny Pope Ct.	Ginoria de la composição de la composiçã	Charles and a second	Villy Chart	i de la	one do and a second	
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NOTE: (1) Total VOCs expressed as whole numbers. Compounds below detection limit are assumed zero. Total VOCs value may include detected concentrations for parameters not shown on this table. All units are µg/f - parts per billion





# **ALAMEDA COUNTY WATER DISTRICT**

# APPLICATION FOR

DRILLING PERMIT
(APPLICATION TO BE TYPED)

WELL ORDINAL	NCE
City of Fremont	No. 963
_ City of Newark	No. 136
City of Union City	No 100-7

43885 South Grimmer Blvd. • P.O. Box 5110 Fremont, California 94537-5110 Engineering Department 1 (510) 668-4460

Applic Date:	ation Received By:	Permit Issued Date:	Permit Expiration Date:	n		ermit No. /ell No.				
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	JOB ADDRESS 3713	7 HICKORY	SIEFEI		When properl	y signed				
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	NAME FILIC	CARPORA								
PROPERTY	ADDRESS: 73.3	S MARKET	IS A VAILIED PERMITT							
5 8	PHIC	ADELPHIA	to perform only work described below at the given job address,							
<u></u>	TELEPHONE:	5) 299-67	60		in accordance with the City Ordina					
	NAME: PAK	250NS			other applicable laws and regulations. Discontinuation of work					
E E	ADDRESS: 2/2/ · N	CALIFORIU	may result in revocation of permit by Inspecting Officer. Permittee must schedule the work in advance with the Inspecting Officer,							
CONSULTING	<u> </u>	CREEK CA	94596		ACWD's approval of drawings, de					
Ĺ	TELEPHONE: 425-941-	23/00 RG/CFG/R	CE NO.		and incidental work or materials shi					
置景	NAME: PRECIS	ION SAMP	LING		applicant of responsibility for the					
RACTU	ADDRESS: 1881 Ed	SSEX AVE	NUE		work. Except for special circumstant must be performed within ACWD we					
WELL DRILLING CONTRACTOR	- KiCHALA	ND. CA	14801	<del></del>	p.m., Monday through Friday.	or noces - 7.30 a.m. to 4:30				
	TELEPHONE: 5/0-237	745/5 STATE LI	C. NO. 057 63-63	87_						
	****		PLEASE CHECK TYPE	OF PRO		FIGURE				
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	ruction	Monitoring Wells, Consi			ng Investigation Monitoring Well Cornst. (Compliance Wells)					
Cath	odic Protection Hole	Monitoring Wells, Destr	·		ell Destruction Monitoring Well Const. (Baseline Study)					
Dew	atering		Air Si	arging W	/ell Vapor Extraction Well					
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	/ED FOR SCHEDIII ING RY-	nate-	INSPECTING O	FFICER		DATE:				

DATE:
turnish the Alameda County Water District a complete teen (15) days after completion.  Date: 10/24/05  P. G. 3 6 30  C.E. G. /077



ALAMEDA COUNTY WATER DISTRICT												
43885 South Grimmer Blvd., P.O. Box 5110, Fremont, CA 94537 Tel. No. (510) 668-4460 Fax No. (510) 651-1760												
SITE HAZARD INFORMATION												
Please provide the following information for the site												
Owner's Name: FUC CORPORATION Site Address: 371.37 HICKORY STREET												
Site Safety Officer: ELIC STOPPS Phone No. (921) (983-2864)												
Type of Facility: FURILER FURIGANT PRODUCTION  Anticipated Hazardous Substances - (Attach Additional Sheets if Necessary)  (Please include concentrations below. Note if free product historically on site)												
Name Expected Concentrations (ppm)												
Gasoline (List medium – i.e. soil, water, air) PEL (ppm) Health Effects												
Diesel TCE - Water DOPPH Structurant												
□ Waste Oil at ∠0.5 ppb "												
District Use Only												
Checked Against Reported Contaminants Site Safety Meeting Prior to commencing sile work												
Level of Personal Protection Equipment $\square A$ $\square B$ $\square C$ $\square D$												
Personal Protective Equipment:  R = Required A = As Needed, with description of action concentrations)												
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☐ Orange Traffic Vest ☐ ☐ ☐ Cartridge (Type):												
☐ ☐ Hearing Protection ☐ ☐ Gloves (Type):												
Site Hazard Information Provided By: Amulaiana C. Phone: (325) 941 - 3722												
Parsins Pinkipal Sharthst Date: 1824-05												
ACWD #173 (Revised 10/15/03)												

# PARSONS 4701 HEDGEMORE DRIVE CHARLOTTE, NC 28209

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OF FREMONT, CA 94537

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TO THE

ALAMEDA COUNTY WATER DISTRICT

ORDER P. O. BOX 5110 FREMONT, CA 94537 OF

# REMITTANCE ADVICE

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# **PARSONS**

2121 N. California Blvd. Suite 500 ● Walnut Creek, California 94596 ● (925) 941-3700 ● Fax (925) 979-9781 ● www.parsons.com

October 24, 2005

Mr. Steven Inn Alameda County Water District 43885 South Grimmer Blvd. P.O. Box 5110 Fremont, CA 94537

Re: Revised Work Plan to Install Exploratory Borings

North of FMC Corporation 8787 Enterprise Drive

Newark, Alameda County, California

Dear Mr. Inn:

This Revised Work Plan presents the proposed scope of work to confirm the extent of volatile organic compound (VOC)-impacted groundwater in the Newark aquifer north of FMC Corporation's (FMC) facility at 8787 Enterprise Drive, Newark, Alameda County, California (Site). This Work Plan also incorporates comments received November 7, 2005, via electronic mail, from Mr. Tom Berkins of the Alameda County Water District (ACWD), requesting depth discreet sampling and geotechnical logging. The permit application, permit fee, and relevant site maps and historical data were submitted to the ACWD with the Work Plan and Permit Application to Install Exploratory Borings, dated October 24, 2005.

To confirm the absence of VOCs at or above levels of concern in this area, Parsons, on behalf of FMC, proposes to install two borings, collect standard cone penetrometer testing (CPT) data (i.e., tip resistance, sleeve friction, and dynamic pore pressure), and collect grab groundwater samples at the ProLogis Trust property located at 37137 Hickory Street in Newark, California, adjacent to the north of the Site. The boring will be located approximately 450 feet north of FMC's Newark aquifer extraction well DW-8. The boreholes will be advanced, CPT data logged, and groundwater samples collected in the vicinity of monitoring well DW-5, which has not been located. Given the known thickness of the aquifer in the vicinity of well DW-5 is from approximately 40 feet below ground surface (bgs) to approximately 75 feet bgs, ACWD requested that three depth discrete groundwater samples be collected from each borehole. Collecting samples in relation to the top, middle. and bottom of the screened interval of well DW-5 was recommended. Parsons is proposing to collect the top sample within three feet of encountering groundwater, the middle sample from 55 feet bgs, and the lower sample within three feet of the bottom of the aquifer, or 75 feet bgs, whichever is encountered first. Samples will be collected using a cone penetrometer testing rig using a direct push methodology. Samples will be labeled and placed on ice in a cooler for shipment via courier to a California state-certified laboratory. All samples will be transported to the laboratory under proper chain-of-custody documentation. Samples will be analyzed for VOCs using USEPA Method 8260B.

After completion of groundwater sampling, the borings will be sealed with neat cement to the surface by Tremie method in which a grout pipe is placed at the bottom of the hole and moved gradually upward displacing water as the hole is filled with grout. The neat cement grout will be composed of one sack of Portland Type I/II Cement (94 lbs) to five gallons of

Mr. Steven Inn October 24, 2005 Page 2 of 2

clean water. The borings will be sealed under the supervision of an ACWD inspector.

Decontamination water generated during the investigation will be placed into a drum, transported to the FMC Corporation property at 8787 Enterprise Drive, and treated at the existing groundwater extraction and treatment system.

Upon receipt of analytical data, a letter report documenting the results of the investigation will be forwarded to ACWD, the State of California Regional Water Quality Control Board, San Francisco Bay Region, and the City of Newark Fire Department.

All work will be performed in accordance with Parsons Site-Specific Health and Safety Plan, FMC Newark Facility and the ACWD Site Hazard Information Sheet (attached).

If you have any questions regarding this work plan or the permit application, please contact me directly at (925) 941-3722.

ENGINEERING GEOLOGIST

We appreciate your assistance in this matter.

Sincerely,
PARSONS

Amy Gignac

Principal.Scientist

Frederick C. Kintzer, P.G., C.E.G.

Supervising Geologist

Attachments

CC:

Zahra M. Zahiraleslamzedeh, FMC Corporation

Tim Anenson, Parsons

# APPLICATION

43885 South Grimmer Bivd. • P.O. Box 5110 Fremont, California 94537-5110 Engineering Department 1 (510) 668-4460

**ALAMEDA COUNTY WATER DISTRICT** 

FOR DIRULLING PERMIT (APPLICATION TO BE TYPED)

WELL ORDINANCE City of Fremont No. 963 City of Newark No. 136 City of Union City No. 109-73

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Application Received  Date: 6/2765 By: 20.00	Permit Issued Date: 11/10/05	Permit Expiration Date: ///7/06	Joh Ho	Permit No. 2005 - 353 Wed No. N/A
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AUDRESS: 1981 E	SSEX AVEN	3/1F	work. Except for special of	arcumstances, all work to be inspected
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Tilla: Suppris in Geologist	ors, of this parmet in accordance of (form 168) or accorpable faceing Signature:	with two City Web Oriffiance of Northly year to the consense to	hecres earne, and to furnish the surey results within filleen (15) o	e Alameda County Water District a completed layd offer completed.  Date: 10/24/05
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## **PARSONS**

2121 N. California Blvd. Suite 500 ♥ Walnut Creek, California 94596 ♥ (925) 941-3700 ♥ Fax (925) 979-9781 ♥ www.parsons.com

October 24, 2005

Ms. Michelle D. Judd ProLogis 47775 Fremont Boulevard Fremont, CA 94538

Re:

Request to Perform Groundwater Sampling at ProLogis Trust Property, 37137

Hickory Street, Newark, Alameda County, California

Dear Ms. Judd:

On behalf of FMC Corporation (FMC), Parsons is requesting permission to perform groundwater sampling on ProLogis Trust property (37137 Hickory Street) located north of FMC's former ethylene dibromide (EDB) plant in Newark, California. Two soil borings will be advanced until encountering groundwater in a known deep aquifer (approximately 75 feet below grade) using a cone penetrometer testing rig using direct push methodology. Attached is a figure showing the location of the proposed soil borings. Groundwater samples will be collected from the borings and submitted to a California state-certified laboratory for analysis. Prior to leaving the property, the borings will be sealed with grout under the inspection of the Alameda County Water. District. All steam-cleaning water will be removed from the site upon completion. No soil cuttings will be generated during the drilling.

To gain access to the proposed boring location, it may be necessary to cut the wirefence at the southern property boundary. If this is the case, the fence will be repaired immediately following sampling.

As requested, the certificates of insurance for Parsons and our subcontractor, Precision Sampling, Inc., are attached.

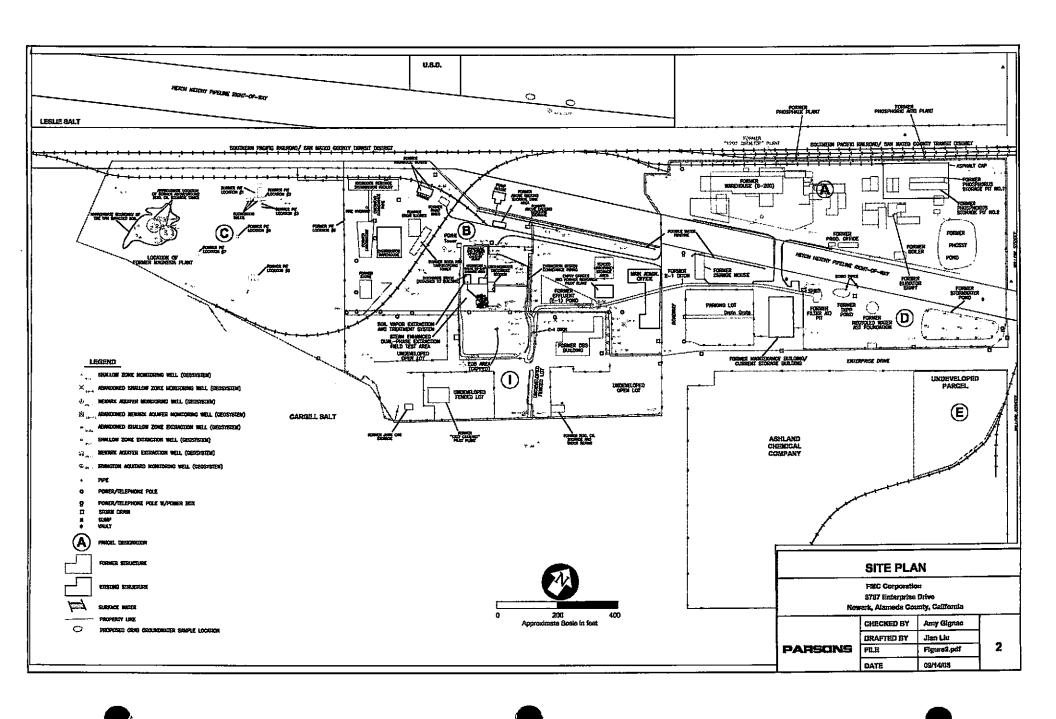
If you have any questions, please feel free to call me at (925) 941-3722. We appreciate your assistance in this matter.

Sincerely, **PARSONS** 

Amy Gignac Principal Scientist

**Attachments** 

cc: Zahra M. Zahiraleslamzedeh, FMC Corporation Tim Anenson, Parsons



Second Commercial General Liability	ACC	<b>DRD</b>	CERTIFIC	ATE OF	LIAB	ility insui	RANCE	
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EXTRACTION OR INJECTION WELL

TRAFFIC BOX

OF 1/2"

12" CHRISTY BOX

TOP CAP

SOLID PIPE

CEMENT GROUT

SAND PACK

PVC PLUG

PVC PLUG

CONSTRUCTION DETAILS								
WELL NO.	a(in)	b(in)	c(ff)	d(ff)	e (ft)	f(ft)_		
DW-5	4	В	39	30	76	2		
DW-6	4	8	4 5.6	14.8	73	2.		
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DW-8	6.	13	47	20	74	2.		
DW-9	6	13	47	20	71.5	2		
DW-10	6	13	36	20	76	8.5		

NOTE: DW 6 HAS OUTER 8" STEEL CASING TO THE DEPTH OF 21.

#### FIGURE 2

CONSTRUCTION DETAILS OF THE NEW WELLS

PREPARED FOR

FMG CORPORATION NEWARK, CALIFORNIA

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. Creating a Safer Tomorrow

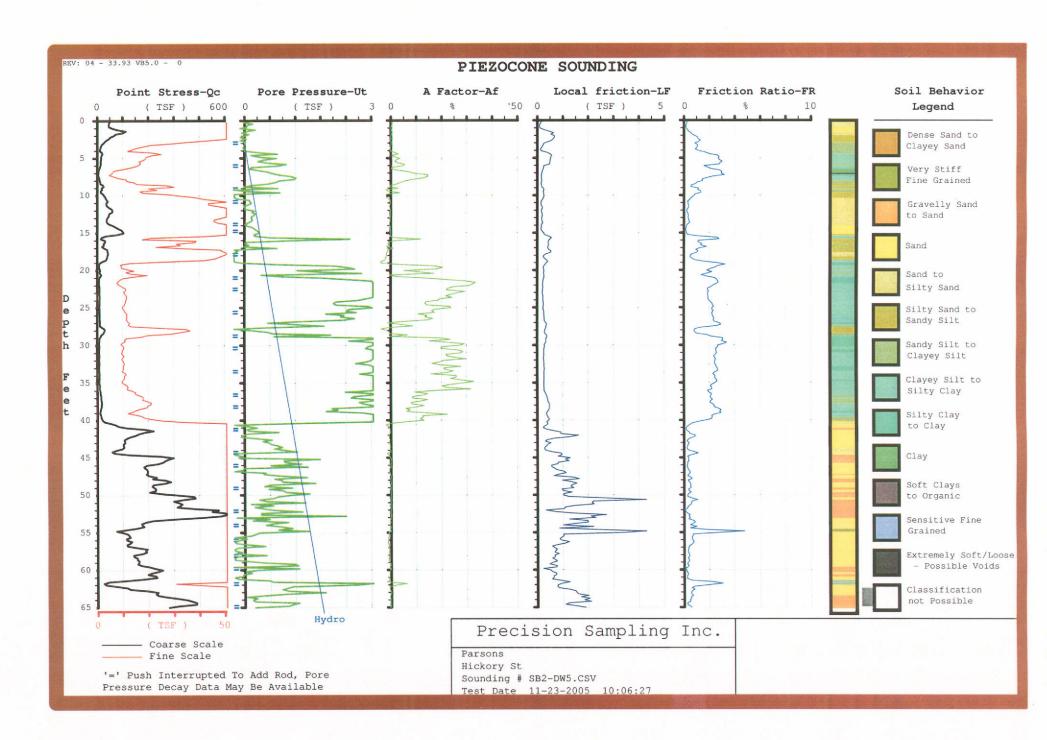
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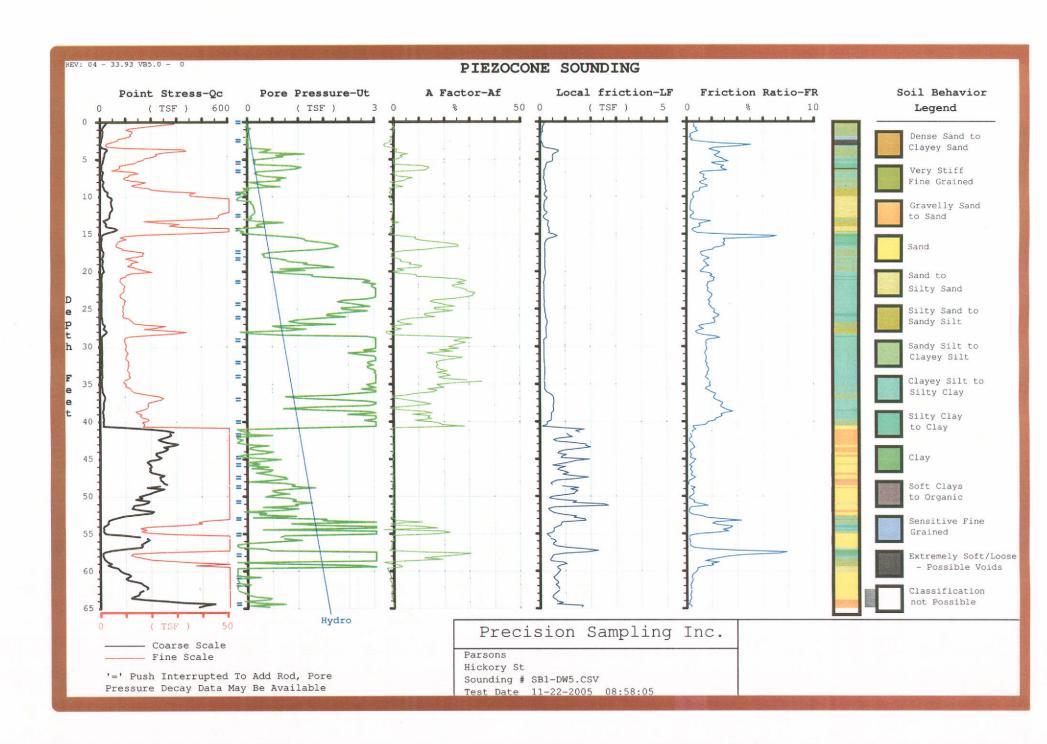
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# PRECISION SAMPLING INC.

# DAILY FIELD REPORT

1081 Essex Alenue Richmond, CA 94801 800-671-4744

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### **ANALYTICAL REPORT**

Job Number: 720-617-1

Job Description: FMC-Newark

For:

Parsons Corporation 2121N. California Blvd., suite 500 Walnut Creek, CA 94596

Attention: Amy Gignac

Afsaneh Salimpour Project Manager I

Manufish D

asalimpour@stl-inc.com 12/06/2005

#### **METHOD SUMMARY**

Client: Parsons Corporation

Job Number: 720-617-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS (Low Level)	STL-SF	SW846 8260I	3
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.

#### METHOD / ANALYST SUMMARY

Client: Parsons Corporation

Job Number: 720-617-1

 Method
 Analyst
 Analyst ID

 SW846
 8260B
 Lew, Matthew
 MLEW

#### **SAMPLE SUMMARY**

Client: Parsons Corporation

Job Number: 720-617-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-617-1	SB1-DW5-44'	Water	11/22/2005 1100	11/23/2005 1140
720-617-2	SB1-DW5-62'	Water	11/22/2005 1200	11/23/2005 1140
720-617-3	SB1-DW5-71'	Water	11/22/2005 1300	11/23/2005 1140
720-617-4 <b>T</b> B	ТВ	Water	11/22/2005 0000	11/23/2005 1140
720-617-5	SB2-DW5-44	Water	11/23/2005 0753	11/23/2005 1140
720-617-6	SB2-DW5-62	Water	11/23/2005 0825	11/23/2005 1140
720-617-7	SB2-DW5-71	Water	11/23/2005 0904	11/23/2005 1140

Job Number: 720-617-1

Client: Parsons Corporation

Client Sample ID:

SB1-DW5-44'

Lab Sample ID:

720-617-1

Client Matrix:

Water

Date Sampled:

11/22/2005 1100

Date Received: 11/23/2005 1140

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

Method:

8260B 5030B Analysis Batch: 720-2538

instrument ID:

HP1

Preparation:

Lab File ID:

VA120212.D

Dilution:

1.0

Initial Weight/Volume:

40 mL

Date Analyzed: Date Prepared: 12/02/2005 1557 12/02/2005 1557 Final Weight/Volume:

40 mL

Analyte	Result (ug/L) Qualifier	RĽ
Methyl tert-butyl ether	ND ·	5.0
Acetone	ND	50
Benzene	ND	0.50
Dichlorobromomethane	ND	0.50
Bromobenzene	ND	1.0
Chlorobromomethane	ND	1.0
Bromoform	ND	1.0
Bromomethane	ND	1.0
Methyl Ethyl Ketone	ND	50
n-Butylbenzene	ND	1.0
sec-Butylbenzene	, ND	1.0
tert-Butylbenzene	ND	1.0
Carbon disulfide	ND	5.0
Carbon tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Chloroethane	ND	1.0
Chloroform	. ND	1.0
Chloromethane	ND	1.0
2-Chlorotoluene	ND	0.50
4-Chlorotoluene	ND	0.50
Chlorodibromomethane	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,3-Dichloropropane	ND	1.0
1,1-Dichloropropene	ND	0.50
1,2-Dibromo-3-Chloropropane	ND	1.0
Ethylene Dibromide	ND	0.50
Dibromomethane	ND	0.50
Dichlorodifluoromethane	ND	0.50
1,1-Dichloroethane	ND .	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,3-Dichloropropene	™ ND	0.50
Ethylbenzene	ND	0.50
Hexachlorobutadiene	ND	1.0
2-Hexanone	ND	50
Isopropylbenzene	ND	0.50
4-Isopropyltoluene	ND	1.0

STL San Francisco

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Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB1-DW5-44"

Lab Sample ID:

720-617-1

Client Matrix:

Water

Date Sampled:

11/22/2005 1100

Date Received: 11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2538

Instrument ID:

HP1

Preparation:

5030B

Lab File ID:

VA120212.D

Dilution:

1.0

Initial Weight/Volume:

40 mL

Date Analyzed: Date Prepared: 12/02/2005 1557 12/02/2005 1557 Final Weight/Volume:

40 mL

Analyte	Result (ug/L)	Qualifier	RL
Methylene Chloride	ND		5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND .		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	108	Mark the second second second	79 - 118
4.0 Dishlasashana d4	400		70 117

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

Ciletit Sample it

SB1-DW5-62'

Lab Sample ID: Client Matrix: 720-617-2

Water

Date Sampled:

11/22/2005 1200

Date Received:

11/23/2005 1140

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

Method: Preparation:

Dilution:

Analyte

8260B 5030B

1.0

Analysis Batch: 720-2538

Result (ug/L)

Instrument ID:

HP1

Lab File ID: VA1 Initial Weight/Volume:

VA120213.D ime: 40 mL

RL

Final Weight/Volume:

Qualifier

40 mL

Date Analyzed: Date Prepared: 12/02/2005 1632 12/02/2005 1632

	- Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Cont	representation of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second o	
	Methyl tert-butyl ether	ND	5.0
	Acetone	ND	50
	Benzene	ND	0.50
	Dichlorobromomethane	ND	0.50
	Bromobenzene	ND	1.0
	Chlorobromomethane	ND	1.0
	Bromoform .	ND	1.0
	Bromomethane	ND	1.0
	Methyl Ethyl Ketone	ND	50
	n-Butylbenzene	ND	1.0
ì	sec-Butylbenzene	ND .	1.0
,	tert-Butylbenzene	ND	1.0
	Carbon disulfide	ND	5.0
	Carbon tetrachloride	ND	0.50
	Chlorobenzene	ND	0.50
	Chloroethane	ND	1.0
	Chloroform	ND	1.0
	Chloromethane	ND	1.0
	2-Chlorotoluene	ND	0.50
	4-Chlorotoluene	ND	0.50
	Chlorodibromomethane	ND	0.50
	1,2-Dichlorobenzene	ND	0.50
	1,3-Dichlorobenzene	ND	0.50
	1,4-Dichlorobenzene	ND	0.50
	1,3-Dichloropropane	ND	1.0
	1,1-Dichloropropene	ND	0.50
	1,2-Dibromo-3-Chloropropane	ND	1.0
	Ethylene Dibromide	ND	0.50
	Dibromomethane	ND	0.50
	Dichlorodifluoromethane	ND	0.50
	1,1-Dichloroethane	ND	0.50
	1,2-Dichloroethane	ND	0.50
	1,1-Dichloroethene	ND	0.50
	cis-1,2-Dichloroethene	ND	0.50
	trans-1,2-Dichloroethene	ND	0.50
	1,2-Dichloropropane	ND	0.50
	cis-1,3-Dichloropropene	ND	0.50
	trans-1,3-Dichloropropene	ND	0.50
	Ethylbenzene	ND	0.50
	Hexachlorobutadiene	ND	1.0
•	2-Hexanone	ND	50
	Isopropylbenzene	ND	0.50
	4-Isopropyltoluene	ND	1.0

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Job Number: 720-617-1

Client: Parsons Corporation

Client Sample ID: SB1-DW5-62'

Lab Sample ID: Client Matrix:

720-617-2

Water

Date Sampled:

11/22/2005 1200

Date Received: 11/23/2005 1140

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

Method: Preparation: 8260B 5030B

1.0

Analysis Batch: 720-2538

Instrument ID:

HP1

Lab File ID: VA120213.D

Initial Weight/Volume:

40 mL

Date Analyzed:

Dilution:

12/02/2005 1632

Final Weight/Volume:

40 mL

Date	Prepared:	12

/02/2005 1632

Analyte	Result (ug/L)	Qualifier	RL
Methylene Chloride	ND		5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		. 1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	NĐ		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	· ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	109		79 - 118
1,2-Dichloroethane-d4	113		78 - 117
Toluene-d8	105		77 - 121

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB1-DW5-71'

Lab Sample ID:

720-617-3

Client Matrix:

Water

Date Sampled:

11/22/2005 1300

Date Received:

11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2538

Instrument ID:

HP1

VA120214.D

Preparation: Dilution:

5030B 1.0

12/02/2005 1707

Initial Weight/Volume:

Lab File ID:

40 mL

Date Analyzed: Date Prepared:

12/02/2005 1707

Final Weight/Volume:

40 mL

Analyte
Methyl tert
Acetone
Benzene
Dichlorobro
Bromoben
Chlorobron
Bromoform
Bromomet
Methyl Eth
n-Butylben
sec-Butylbo
tert-Butylbe
Carbon dis

Analyte	Result (ug/L) Qua	lifier RL
Methyl tert-butyl ether	ND	5.0
Acetone	ND	50
Benzene	ND	0.50
Dichlorobromomethane	ND	0.50
Bromobenzene	ND	1.0
Chlorobromomethane	ND	1.0
Bromoform .	ND	1.0
Bromomethane	ND	1.0
Methyl Ethyl Ketone	ND	50
n-Butylbenzene	ND	1.0
sec-Butylbenzene	ND	. 1.0
tert-Butylbenzene	ND	1.0
Carbon disulfide	ND	5.0
Carbon tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Chloroethane	ND	1.0
Chloroform	ND	1.0
Chloromethane	ND	1.0
2-Chlorotoluene	ND	0.50
4-Chlorotoluene	ND	0.50
Chlorodibromomethane	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1.3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,3-Dichloropropane	ND	1.0
1,1-Dichloropropene	NĎ	0.50
1,2-Dibromo-3-Chloropropane	ND	1.0
Ethylene Dibromide	ND	0.50
Dibromomethane	ND	0.50
Dichlorodifluoromethane	ND	0.50
1,1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,3-Dichloropropene	ND	0.50
Ethylbenzene	ND	0.50
Hexachlorobutadiene	ND	1.0
2-Hexanone	ND	50
Isopropylbenzene	ND	0.50
4-isopropyltoluene	ND	1.0
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Job Number: 720-617-1

Client: Parsons Corporation

Client Sample ID:

SB1-DW5-71'

Lab Sample ID:

720-617-3

Client Matrix:

Water

Date Sampled:

11/22/2005 1300

Date Received:

11/23/2005 1140

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

Method: Preparation: 8260B

Analysis Batch: 720-2538

Instrument ID:

HP1

VA120214.D

Dilution:

5030B

Lab File ID: Initial Weight/Volume:

40 mL

Date Analyzed:

1.0

12/02/2005 1707

Final Weight/Volume:

40 mL

Date Prepared:

12/02/2005 1707

Methylene ChlorideND5.0methyl isobutyl ketoneND50	
mony noonly notice	
Naphthalene ND 1.0	
N-Propylbenzene ND 1.0	
Styrene ND 0.50	
1,1,1,2-Tetrachloroethane ND 0.50	
1,1,2,2-Tetrachloroethane ND 0.50	
Tetrachloroethene ND 0.50	
Toluene ND 0.50	
1,2,3-Trichlorobenzene ND 1.0	
1,2,4-Trichlorobenzene ND 1.0	
1,1,1-Trichloroethane ND 0.50	
1,1,2-Trichloroethane ND 0.50	
Trichloroethene ND 0.50	
Trichlorofluoromethane ND 1.0	
1,2,3-Trichloropropane ND 0.50	
1,1,2-Trichloro-1,2,2-trifluoroethane ND 0.50	
1,2,4-Trimethylbenzene ND 0.50	
1,3,5-Trimethylbenzene ND 0.50	
Vinyl acetate ND 25	
Vinyl chloride ND 0.50	
Xylenes, Total ND 1.0	
2,2-Dichloropropane ND 0.50	
Surrogate %Rec Acceptance Limits	
4-Bromofluorobenzene 109 79 - 118	
1,2-Dichloroethane-d4 119 * 78 - 117	
Toluene-d8 107 77 - 121	

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

TB

Lab Sample ID:

720-617-4TB

Client Matrix:

Water

Date Sampled:

11/22/2005 0000

Date Received:

11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2493

Instrument ID:

Saturn 2K3

Preparation:

5030B

Lab File ID:

d:\data\200512\120105\720-

Dilution:

1.0

Initial Weight/Volume:

40 mL

Date Analyzed: Date Prepared:

12/01/2005 1217 12/01/2005 1217 Final Weight/Volume:

40 mL

Anal <b>yte</b>	Result (ug/L) Qualifier	RL
Methyl tert-butyl ether	ND	5.0
Acetone	ND	50
Benzene	ND	0.50
Dichlorobromomethane	ND	0.50
Bromobenzene	ND	1.0
Chlorobromomethane	ND	1.0
Bromoform	ND .	1.0
Bromomethane	ND	1.0
Methyl Ethyl Ketone	ND	50
n-Butylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
Carbon disulfide	ND	5.0
Carbon tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Chloroethane	ND	1.0
Chloroform	ND	1.0
Chloromethane	ND ·	1.0
2-Chiorotoluene	ND	0.50
4-Chlorotoluene	ND	0.50
Chlorodibromomethane	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	. ND	0.50
1,3-Dichloropropane	ND	1.0
1,1-Dichloropropene	ND.	0.50
1,2-Dibromo-3-Chloropropane	ND	1.0
Ethylene Dibromide	ND	0.50
Dibromomethane	ND	0.50
Dichtorodifluoromethane	ND	0.50
1,1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,3-Dichloropropene	ND	0.50
Ethylbenzene	ND	0.50
Hexachlorobutadiene	ND	1.0
2-Hexanone	ND	50
Isopropylbenzene	ND	0.50
4-Isopropyltoluene	ND	1.0

STL San Francisco

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Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

TB

Lab Sample ID:

720-617-4TB

Client Matrix:

Water

Date Sampled:

11/22/2005 0000

Date Received:

11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2493

Instrument ID: Sa

Saturn 2K3

Preparation:

5030B

Lab File ID:

ile ID: d:\data\20

d:\data\200512\120105\720-

Dilution:

1.0

Initial Weight/Volume:

40 mL

Date Analyzed: Date Prepared: 12/01/2005 1217 12/01/2005 1217 Final Weight/Volume:

40 mL

Analyte	Result (ug/L)	Qualifier	RL
Methylene Chloride	ND	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND	•	0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	ND		0.50
Xylénes, Total	ND		. 1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	105		79 - 118
1,2-Dichloroethane-d4	103		78 - 117
Toluene-d8	96		77 - 121

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB2-DW5-44

Lab Sample ID:

720-617-5

Client Matrix:

Water

Date Sampled:

11/23/2005 0753

Date Received:

11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2538

Result (ug/L)

Instrument ID: HP1

HP1

Preparation:

Analyte

5030B

Lab File ID:

Qualifier

Lab File ID: VA120215.D Initial Weight/Volume: 40

40 mL

Dilution:

1.0

12/02/2005 1742

Final Weight/Volume:

40 mL

RL

Date Analyzed: Date Prepared:

12/02/2005 1742

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Methyl tert-butyl ether	ND	5.0
Acetone	ND	50
Benzene	ND	0.50
Dichlorobromomethane	ND	0.50
Bromobenzene	ND	1.0
Chlorobromomethane	ND	1.0
Bromoform	ND	. 1.0
Bromomethane	ND	1.0
Methyl Ethyl Ketone	ND	50
n-Butylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
Carbon disulfide	ND	5.0
Carbon tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Chloroethane	ND	1.0
Chloroform	ND	1.0
Chloromethane	ND	1.0
2-Chlorotoluene	ND	0.50
4-Chlorotoluene	ND	0.50
Chlorodibromomethane	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,3-Dichloropropane	ND	1.0
1,1-Dichloropropene	ND	0.50
1,2-Dibromo-3-Chloropropane	ND	1.0
Ethylene Dibromide	ND	0.50
Dibromomethane	ND	0.50
Dichlorodifluoromethane	ND	0.50
1.1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1.1-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,3-Dichloropropene	ND	0.50
Ethylbenzene	ND	0.50
Hexachiorobutadiene	ND	1.0
2-Hexanone	ND	50
Isopropylbenzene	ND	0.50
4-Isopropyltoluene	ND	1.0
4-isopropylioiderie	110	

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB2-DW5-44

Lab Sample ID:

720-617-5

Client Matrix:

Water

Date Sampled:

11/23/2005 0753

Date Received: 11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2538

Instrument ID:

HP1

Preparation:

5030B 1.0

Lab File ID:

VA120215.D

Dilution:

12/02/2005 1742

Initial Weight/Volume: Final Weight/Volume:

40 mL 40 mL

Date Analyzed: Date Prepared:

12/02/2005 1742

Analyte	Result (ug/L)	Qualifier	RL
Methylene Chloride	ND		5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	. ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	108	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	79 - 118
1,2-Dichloroethane-d4	109		78 - 117
Toluene-d8	104		77 - 121

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB2-DW5-62

Lab Sample ID:

720-617-6

Client Matrix:

Water

Date Sampled:

11/23/2005 0825

Date Received:

11/23/2005 1140

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

Method: Preparation:

Analyte

8260B 5030B

1.0

Analysis Batch: 720-2538

Result (ug/L)

Instrument ID:

Qualifier

HP1

Lab File ID: VA120216.D Initial Weight/Volume:

40 mL

RL

Dilution: Date Analyzed:

12/02/2005 1817

Final Weight/Volume:

40 mL

Date Prepared:

12/02/2005 1817

	A CONTROL OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF T	CONTRACTOR OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF	
	Methyl tert-butyl ether	ND	5.0
	Acetone	ND	50
	Benzene	ND	0.50
	Dichlorobromomethane	ND	0.50
	Bromobenzene	ND	1.0
	Chlorobromomethane	ND	1.0
	Bromoform	ND	1.0
	Bromomethane	ND	1.0
	Methyl Ethyl Ketone	ND	50
	n-Butylbenzene	ND	1.0
	sec-Butylbenzene	ND	1.0
)	tert-Butylbenzene	ND	1.0
	Carbon disulfide	ND	5.0
	Carbon tetrachloride	ND	0.50
	Chlorobenzene	ND	0.50
	Chloroethane	ND	1.0
	Chloroform	ND	1.0
	Chloromethane	ND	1.0
	2-Chlorotoluene	ND	0.50
	4-Chlorotoluene	ND	0.50
	Chlorodibromomethane	ND	0.50
	1,2-Dichlorobenzene	ND	0.50
	1,3-Dichlorobenzene	ND	0.50
	1,4-Dichlorobenzene	ND	0.50
	1,3-Dichloropropane	ND	1.0
	1,1-Dichloropropene	ND	0.50
	1,2-Dibromo-3-Chloropropane	ND	1.0
	Ethylene Dibromide	ND	0.50
	Dibromomethane	ND	0.50
	Dichlorodifluoromethane	ND	0.50
	1,1-Dichloroethane	ND	0.50
	1,2-Dichloroethane	ND	0.50
	1,1-Dichloroethene	ND	0.50
	cis-1,2-Dichloroethene	ND	0.50
	trans-1,2-Dichloroethene	ND	0.50
	1,2-Dichloropropane	ND	0.50
	cis-1,3-Dichloropropene	ND	0.50
	trans-1,3-Dichloropropene	ND	0.50
	Ethylbenzene	ND	0.50
	Hexachlorobutadiene	ND	1.0
١	2-Hexanone	ND	50
	Isopropyibenzene	ND	0.50
	4-Isopropyltoluene	ND	1.0

STL San Francisco

Page 15 of 27

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB2-DW5-62

Lab Sample ID:

720-617-6

Client Matrix:

Water

Date Sampled:

11/23/2005 0825

Date Received:

11/23/2005 1140

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

Method:

8260B

Analysis Batch: 720-2538

Instrument ID:

HP1

Preparation:

5030B

Lab File ID:

VA120216.D

40 mL

Dilution: Date Analyzed: 1.0

12/02/2005 1817

Initial Weight/Volume: Final Weight/Volume:

40 mL

Date Prepared:

12/02/2005 1817

Analyte	Result (ug/L)	Qualifier	RL
Methylene Chloride	ND		5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichtoropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND	•	0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec	•	Acceptance Limits
4-Bromofluorobenzene	106	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	79 - 118
1,2-Dichloroethane-d4	116		78 - 117
Toluene-d8	107		77 - 121

Job Number: 720-617-1

Client: Parsons Corporation

Client Sample ID:

SB2-DW5-71

Lab Sample ID:

720-617-7

Client Matrix:

Water

Date Sampled:

11/23/2005 0904

Date Received:

11/23/2005 1140

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

Method: Preparation: 8260B 5030B

1.0

Analysis Batch: 720-2538

ND

D

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

Instrument ID:

HP1

VA120217.D Lab File ID:

Initial Weight/Volume: Final Weight/Volume:

40 mL

12/02/2005 1852

Date Analyzed: Date Prepared:

Dilution:

Acetone

Benzene

12/02/2005 1852

40 mL

Analyte
Methyl tert-butyl ether

Bromobenzene

Bromomethane

Bromoform

Dichlorobromomethane

Chlorobromomethane

Methyl Ethyl Ketone n-Butylbenzene

sec-Butylbenzene

tert-Butylbenzene

Carbon tetrachloride

Carbon disulfide

Chlorobenzene

Chloromethane

2-Chlorotoluene

4-Chlorotoluene

Chlorodibromomethane

1,2-Dichlorobenzene

1,3-Dichlorobenzene

1,4-Dichiorobenzene

1,3-Dichloropropane

1,1-Dichloropropene

Ethylene Dibromide

1,1-Dichloroethane

1,2-Dichloroethane

1,1-Dichloroethene

cis-1,2-Dichloroethene

1,2-Dichloropropane

Hexachlorobutadiene

Ethylbenzene

2-Hexanone

trans-1,2-Dichloroethene

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

Dibromomethane Dichlorodifluoromethane

1,2-Dibromo-3-Chloropropane

Chloroethane

Chloroform

		_		
		Re:	sult (u	a/L) -

Qualifier	
	2-2-2-3-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2

50 0.50 0.50 1.0 1.0 1.0

RL

5.0

1.0

50 1.0 1.0 1.0 5.0 0.50 0.50 1.0 1.0 1.0 0.50 0.50 0.50 0.50 0.50 0.50 1.0 0.50 1.0 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 1.0 50 0.50 1.0

4-Isopropyltoluene STL San Francisco

Isopropylbenzene

Page 17 of 27

Job Number: 720-617-1

Client Sample ID:

Client: Parsons Corporation

SB2-DW5-71

Lab Sample ID:

720-617-7

Client Matrix:

Water

Date Sampled:

11/23/2005 0904

Date Received:

11/23/2005 1140

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

Method: Preparation: 8260B 5030B Analysis Batch: 720-2538

Instrument ID:

HP1

VA120217.D

Lab File ID: Initial Weight/Volume:

40 mL

Dilution:

1.0

12/02/2005 1852

Final Weight/Volume:

40 mL

Date Analyzed: Date Prepared:

12/02/2005 1852

Analyte	Result (ug/L)	Qualifier	RL
Methylene Chloride	ND	AND THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF THE PERSON NAMED OF TH	5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		. 0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	107	AND A STATE OF THE PROPERTY OF THE PARTY OF	79 - 118
1.2-Dichloroethane-d4	121	*	78 - 117
Toluene-d8	104		77 - 121

Job Number: 720-617-1

Client: Parsons Corporation

# **Surrogate Recovery Report**

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

Client Matrix: Water

Lab Sample ID	Client Sample	(BFB) (%Rec)	(TOL) (%Rec)	1,2-Dichl oroetha
720-617-1	SB1-DW5-44'	108	106	108
720-617-2	SB1-DW5-62'	109	105	113
720-617-3	SB1-DW5-71'	109	107	119 *
720-617-4TB	ТВ	105	96	103
720-617-5	\$B2-DW5-44	108	104	109
720-617-6	SB2-DW5-62	106	107	116
720-617-7	SB2-DW5-71	107	104	121 *
LCS 720-2493/17	LCS	97	97	106
LCS 720-2538/1	LCS	109	104	100
MB 720-2493/18	МВ	106	97	99
MB 720-2538/2	МВ	110	104	103

Surrogate           (BFB)         4-Bromofluorobenzene           (TOL)         Toluene-d8	Acceptance Limits	
(BFB)	4-Bromofluorobenzene	79 - 118
(TOL)	Toluene-d8	77 - 121
1.2-Dichloroet	1,2-Dichloroethane-d4	78 - 117

Job Number: 720-617-1

Method Blank - Batch: 720-2493

Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-2493/18

Client: Parsons Corporation

Client Matrix: Water

Dilution: 1.0
Date Analyzed: 12/01/20

Date Analyzed: 12/01/2005 1111 Date Prepared: 12/01/2005 1111

Analysis Batch: 720-2493

Prep Batch: N/A

Units: ug/L

Instrument ID: Saturn 2K3

Lab File ID: d:\data\200512\120105\MB

Initial Weight/Volume: 40 mL Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
Methyl Ethyl Ketone	ND		50
n-Butylbenzene	NĎ		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	NĎ		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	NĎ		0.50
Dibromomethane	NĎ		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	NĎ		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50

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

Client: Parsons Corporation Job Number: 720-617-1

Method Blank - Batch: 720-2493

Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-2493/18

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 12/01/2005 1111 Date Prepared: 12/01/2005 1111 Analysis Batch: 720-2493

Prep Batch: N/A

Units: ug/L

Instrument ID: Saturn 2K3

Lab File ID: d:\data\200512\120105\MB

Initial Weight/Volume: 40 mL Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
4-Isopropyltoluene	ND	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	1.0
Methylené Chloride	ND		5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		25
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	% Rec	Acceptance Limits	and the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second o
4-Bromofluorobenzene	106	79 - 118	
1,2-Dichloroethane-d4	99	78 - 117	
Toluene-d8	97	77 - 121	

Job Number: 720-617-1

Laboratory Control Sample - Batch: 720-2493

Method: 8260B Preparation: 5030B

Lab Sample ID: LCS 720-2493/17

Client: Parsons Corporation

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 12/01/2005 1038 Date Prepared: 12/01/2005 1038 Analysis Batch: 720-2493

Prep Batch: N/A

Units: ug/L

Instrument ID: Saturn 2K3

Lab File ID: d:\data\200512\120105\LC\

Initial Weight/Volume: 40 mL Final Weight/Volume: 40 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	20.0	16	79	69 - 129	grave in page yallo consiste and the Address of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution o
Chlorobenzene	20.0	18	89	61 - 121	
1,1-Dichloroethene	20.0	16	78	65 - 125	
Toluene	20.0	16	80	70 - 130	
Trichloroethene	20.0	15	75	74 - 134	
Surrogate	% R		Aα	eptance Limits	·
4-Bromofluorobenzene	97			79 - 118	
1.2-Dichloroethane-d4	100	6		78 - 1 <b>1</b> 7	
Toluene-d8	97	-		77 - 121	

Job Number: 720-617-1

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Method Blank - Batch: 720-2538

Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-2538/2

Client: Parsons Corporation

Client Matrix: Water Dilution: 1.0

Date Analyzed: 12/02/2005 1042 Date Prepared: 12/02/2005 1042 Analysis Batch: 720-2538

Prep Batch: N/A

Units: ug/L

Instrument ID: HP1

Lab File ID: VA120203.D Initial Weight/Volume: 40 mL Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND	engagegene en en en en en en en en en en en en	5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
Methyl Ethyl Ketone	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	NĎ	•	0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
7			

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

Job Number: 720-617-1

Method Blank - Batch: 720-2538

Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-2538/2

Client: Parsons Corporation

Client Matrix: Water Dilution:

1.0

Date Analyzed: 12/02/2005 1042 Date Prepared: 12/02/2005 1042

Analysis Batch: 720-2538

Prep Batch: N/A

Units: ug/L

Instrument ID: HP1

Lab File ID: VA120203.D Initial Weight/Volume: 40 mL

Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
4-Isopropyltoluene	ND	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	1.0
Methylene Chloride	ND		5.0
methyl isobutyl ketone	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND	•	25
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	% Rec	Acceptance Limit	<b>s</b>
4-Bromofluorobenzene	110	79 - 118	
1,2-Dichloroethane-d4	103	78 - 117	
Toluene-d8	104	77 - 121	

Job Number: 720-617-1

Laboratory Control Sample - Batch: 720-2538

Method: 8260B Preparation: 5030B

Lab Sample ID: LCS 720-2538/1

Client: Parsons Corporation

Client Matrix: Water

Dilution:

1.0

Date Analyzed: 12/02/2005 1006 Date Prepared: 12/02/2005 1006 Analysis Batch: 720-2538

Prep Batch: N/A

Units: ug/L

Instrument ID: HP1

Lab File ID: VA120202.D Initial Weight/Volume: 40 mL

Final Weight/Volume: 40 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	20.0	18	88	69 - 129	en engan i manamanan engan manamanan en eri eri adamban an eri
Chlorobenzene	20.0	18	88	61 - 121	
1,1-Dichloroethene	20.0	17	87	65 - 125	
Toluene	20.0	19	93	70 - 130	
Trichloroethene	20.0	18	89	74 - 134	
Surrogate	% R		Acc	ceptance Limits	Annual Medium out of the second of the
4-Bromofluorobenzene	10			79 - 118	
1,2-Dichloroethane-d4	10	D		78 - 117	
Toluene-d8	10	=		77 - 121	



2121 N. California Blvd., Suite 500 Walnut Creek, California 94596 Phone: (925) 941-3700

FAX: (925) 979-9781



720-614 CHAIN OF CUSTODY RECORD

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Sampler(s): (Printed Name and Signature)  Andrew CR 150  January Manager				NO. OF CONTAINERS	100	15 Con 18						RNAROLL	Remarks	
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## LOGIN SAMPLE RECEIPT CHECK LIST

Client: Parsons Corporation

Job Number: 720-617-1

Login Number: 617

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background		
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	

