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Interim Ground-Water Sampling Event 02 – January 2003 Site 03

Naval Construction Battalion Center Davisville North Kingstown, Rhode Island

Contract No. N62472-92-D-1296
Task Order No. 0099

Prepared for

Department of the Navy
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop No. 82
Lester, Pennsylvania 19113-2090

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December 2004
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James A. Shultz, CPG
Project Manager

22 December 2004
Date

Kenneth W. Kilmer
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22 December 2004
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QUALITY REVIEW STATEMENT

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Naval Construction Battalion Center Davisville, North Kingstown, Rhode Island

EA CTO Manager: James A. Shultz, C.P.G.

In compliance with EA's Quality Procedures for review of deliverables outlined in the Quality Management Plan, this final deliverable has been reviewed for quality by the undersigned Senior Technical Reviewer(s). The information presented in this report/deliverable has been prepared in accordance with the approved Implementation Plan for the Contract Task Order (CTO) and reflects a proper presentation of the data and/or the conclusions drawn and/or the analyses or design completed during the conduct of the work. This statement is based upon the standards identified in the CTO and/or the standard of care existing at the time of preparation.

Senior Technical Reviewer

22 Dec 04

Richard W. Waterman (Date)
Vice President

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ACRONYMS AND ABBREVIATIONS

BRAC	Base Realignment and Closure
CED	Construction Engineering Division
CVOC	Chlorinated volatile organic compounds
EPA	U.S. Environmental Protection Agency
HHRA	Human health risk assessment
IGWSE 01	Interim Ground-Water Sampling Event 01
IGWSE 02	Interim Ground-Water Sampling Event 02
IGWSP	Interim Ground-Water Sampling Program
MCL	Maximum Contaminant Level
NCBC	Naval Construction Battalion Center
PCB	Polychlorinated biphenyl
ppm	Parts per million
QA/QC	Quality assurance/quality control
RI/FS	Remedial Investigation/Feasibility Study
RIDEM	Rhode Island Department of Environmental Management
ROD	Record of Decision
RRF	Relative response factor
TCL	Target compound list
TPH	Total petroleum hydrocarbon
µg/L	Micrograms per liter
USACE	U.S. Army Corps of Engineers
VOC	Volatile organic compounds

1. INTRODUCTION

1.1 BACKGROUND

This report has been prepared to present the results of the Interim Ground-Water Sampling Event 02 (IGWSE 02) for Installation Restoration (IR) Program Site 03 (Site 03) at the former Naval Construction Battalion Center (NCBC) Davisville facility, North Kingstown, Rhode Island. This IGWSE 02 was performed as part of the Interim Ground-Water Sampling Program (IGWSP) at Site 03 for the U.S. Navy, Engineering Field Activity Northeast, under the Base Realignment and Closure Act (BRAC) Contract No. N62472-92-D-1296, Contract Task Order 0099.

NCBC Davisville is located in the Town of North Kingstown, Rhode Island, approximately 18 mi south of the state capital, Providence. A significant portion of the NCBC Main Center is situated adjacent to Narragansett Bay. NCBC Davisville is composed of three areas: the Main Center (comprised of Zone 1 through Zone 4); the West Davisville storage area; and Camp Fogarty, a training facility located approximately 4 mi west of the Main Center (Figure 1). Adjoining the NCBC Main Center's southern boundary is the decommissioned Naval Air Station Quonset Point, which was transferred by the Navy to the Rhode Island Port Authority (now known as the Rhode Island Economic Development Corporation) and others between 1974 and 1980. NCBC Davisville was primarily used for training Naval seamen in construction operations, and as storage and freight yards for construction materials. NCBC Davisville closed on 1 April 1994.

The Site 03 IGWSP area is located in the paved and open areas east of SeaBee Avenue, south of Perimeter Road, north of Davisville Road, and approximately bounded on the east by monitoring wells MW01-13 and MW01-14 (Figure 2). The areas comprising the Site 03 IGWSP include: Study Areas 01 (Construction Engineering Division [CED] Drum Storage Area) and 04 (CED Asphalt Disposal Area), and IR Program Sites 02 (CED Battery Acid Disposal Area) and 03 (CED Solvent Disposal Area). These areas and sites are located in the western portion of Zone 3 at the former NCBC Davisville facility.

Study Area 01 is the CED Drum Storage Area and is located approximately 200 ft north of Building 224 (Figure 2). It is currently a grassed, open field, a portion of which was converted into a leaching field in 1991. From the late 1960s to 1974, 55-gal drums of liquid waste, reportedly containing waste oil and solvent, were stored in an open field north of Building 224. As many as 500 drums were stored there at one time. The drums were reported to be in deteriorating condition, and may have leaked liquids into the ground (Fred C. Hart 1984). The drums were removed in 1974. No testing of the soil beneath the drums was performed at that time. File information indicates that the leaching field was operative from December 1991 to April 1992 to dispose of surface water runoff and storm water from a truck washing area located south of the site at Building 224 (Halliburton NUS 1994a). The leaching field was closed in

accordance with the Rhode Island Department of Environmental Management (RIDEM) Regulations. Based on a human health risk assessment (HHRA) of surface and total soil (EA 2000), non-carcinogenic risks did not exceed the U.S. Environmental Protection Agency (EPA) threshold of 1.0 for potential future receptors including for surface soil (commercial workers, child residents, adult residents) and total soil (construction workers, child residents, adult residents) for Study Area 01. Additionally, there were no cancer risks which exceeded EPA's "acceptable risk range" of 10^{-6} to 10^{-4} for potential future industrial receptors and cumulative risks were below 10^{-5} for potential commercial receptors. Also, there were no cancer risks which exceeded EPA's "acceptable risk range" of 10^{-6} to 10^{-4} for potential future residential receptors. However, individual soil samples may exceed RIDEM Remediation Regulation Direct Exposure Criteria.

Site 02 is a paved, flat area bounded to the west by Sayers Street, to the south by Warren Street, and to the north and east by Building 224 (Figure 2). Building 224 is not included in Site 02. A dry well and leaching field were located at the southwest corner of the CED Building 224. A floor drain inside the battery shop discharged into the dry well and leaching field in the northern portion of Site 02 (Hart 1984). It was estimated that approximately 18,000 gal of dilute sulfuric acid were disposed, at a rate of approximately 60 gal per month, between 1955 and 1980. The acid reportedly contained lead (TRC 1991). The dry well and associated leach field were removed by Foster Wheeler in June 1996 (see Close-Out Report for the Time-Critical Removal Action at Site 02, NCBC Davisville, Rhode Island, FWENC, 6 September 1996). Closeout for Site 02 included removal of water and sediment from the dry well chamber, removal and demolition of the dry well chamber and associated piping, removal of piping from the adjacent leach field, excavation of lead-impacted soil, decommissioning of three monitoring wells, and cleanup of the battery rooms in Building 224 and Building A10CT.

Site 03 is referred to as the CED Solvent Disposal Area where workers from the maintenance shop reportedly disposed paint thinners and unidentified solvents on the ground west of Sayers Street and Building 224 from 1955 until the late 1970s (Figure 2). Neither the exact manner of solvent disposal nor the precise limits of the disposal area are known; however, the solvent disposal activity is thought to have occurred in an area that borders Sayers Street. Aerial photographs from 1951, 1957, 1963, and 1970 show that the area between Battalion Boulevard, Seabee Avenue, and Parade Road was paved and used for vehicle and equipment storage. Vehicles awaiting maintenance were also temporarily stored in this area. The area north of Battalion Boulevard and extending north to Perimeter Road was also used as a storage area, but as early as 1970, the area was used as an equipment operator training area. There are no records of vehicle maintenance occurring in these areas. Building 378, which is located southeast of the corner of the intersection of Battalion Boulevard and Seabee Avenue, was built in 1968 for equipment operator training. All vehicle maintenance reportedly occurred in Building 224. Stained or darkened surfaces suggesting disposal of waste oils on the ground were not observed on aerial photographs (dated 1951, 1957, 1963, and 1970) of the area to the west of Building 224, or during site inspections or field activities by the Navy in 1993, 1994, and 1995.

The extent of the original Site 03 solvent disposal area has grown, as a result of a phased investigation, to include a large plume of chlorinated volatile organic compounds (CVOC) dissolved in deep ground water emanating from an adjacent, west property that was formerly Navy property, and was used by the Army as the PR-58 Nike missile site. The former Nike Site is currently under investigation via the Formerly Utilized Defense Sites program by the New England District of the U.S. Army Corps of Engineers (USACE). The investigation, to date, shows the major CVOC source area to be on the former Nike Site with the main plume moving southeast, east, and east-northeast toward and beneath a portion of the adjacent Navy property (designated as Parcel 7). A branch of the plume in deep ground water extends to the northeast beyond the Navy property line toward private residences where private wells have been identified. The wells located in the eastern portion of Site 03 (e.g., around and east of Building 224), appear to also monitor minor contributions to the plume from former Navy activities in that area. The Navy has agreed to monitor the Site 03 area as part of their Remedial Investigation/Feasibility Study (RI/FS) process. This will continue annually until the offsite primary source area is addressed by USACE, a Record of Decision (ROD) is signed for Site 03, and the Navy's Parcel 7 property can be transferred.

Study Area 04 is located approximately 500 ft west of Building 224 (Figure 2). Battalion Boulevard is located about 70 ft south of Study Area 04. Sometime in the late 1960s, a black, pliable, solid, asphaltic material was placed in a trench in this area. The source of this material is unknown (Halliburton NUS 1994b). This area was excavated by Foster Wheeler in November 1996 under contract with the Navy. Asphaltic material and affected soil were removed during the excavation. Four pits were excavated to remove asphalt material. Confirmatory sampling was performed on the sidewalls and bottom of the excavation pits. Samples were analyzed for total petroleum hydrocarbon (TPH) and polychlorinated biphenyl (PCB). Excavations were backfilled with clean soil in December 1996 after confirmatory sampling yielded results below the RIDEM criteria of 10 parts per million (ppm) for PCB and 300 ppm for TPH. Details of the excavation can be found in the Contractor's Close-Out Report for the Removal Action at Study Area 04, NCBC Davisville, Rhode Island (Foster Wheeler 1997). Based on an HHRA of surface and total soil (EA 2000), non-carcinogenic risks did not exceed the EPA threshold of 1.0 for potential future receptors including for surface soil (commercial workers, child residents, adult residents) and total soil (construction workers, child residents, adult residents) for Study Area 01. Additionally, there were no cancer risks which exceeded EPA's "acceptable risk range" of 10^{-6} to 10^{-4} for potential future industrial receptors and cumulative risks were below 10^{-5} for potential commercial receptors. Also, there were no cancer risks that exceeded EPA's "acceptable risk range" of 10^{-6} to 10^{-4} for potential future residential receptors. The only residential constituent of potential concern with risks greater than 10^{-5} was Aroclor-1260 in surface soil and total soil with a cumulative risk for the combined adult and child resident of 2.5×10^{-5} and 2.3×10^{-5}, respectively.

1.2 INTERIM GROUND-WATER SAMPLING PROGRAM

The work presented in this report was performed in accordance with the November 2001 Final Work Plan Addendum No. 2 (EA 2001), Interim Ground-Water Sampling Program for the Navy Site 03 Portion of the Final Work Plan (dated April 2000, with Revised Final pages dated May 2000) for the Characterization of Chlorinated Volatile Organic Compound (CVOC) Contamination at the Former PR-58 Nike Site and Adjacent Naval Construction Battalion Center (NCBC) Site 03, North Kingstown, Rhode Island. The related site field and laboratory methods are referenced in the Final Work Plan Addendum No. 2 (EA 2001).

The objective of the Work Plan Addendum No. 2 (EA 2001) is to provide the Navy with annual documentation and monitoring of the nature and extent of that portion of the CVOC plume that has migrated from the former PR-58 Nike Site to beneath a portion of the adjacent former NCBC Davisville facility. The wells located in the eastern portion of the IGWSP area (e.g., around and east of Building 224), appear to also monitor minor contributions to the plume from former Navy activities in that area. The IGWSP is planned to continue with annual sampling until the ROD is signed for Site 03.

Based upon the available data (including the September–October 2000 sampling event results), 23 monitoring wells were selected for the IGWSP. The locations of the selected monitoring wells are shown on Figure 2. The rationale for including each of these wells is summarized in Table 1. In general, monitoring wells located near the upgradient (west) edge of the Navy property are used to continue to characterize ground water entering Navy property (i.e., to evaluate the migration of CVOC from the upgradient Nike PR-58 Site). Selected monitoring wells located within the plume area, and downgradient and side-gradient, are used to continue to document the character and extent of the plume beneath the Navy property.

This IGWSP includes the following:

- Measurement of depth to water in each of the 23 monitoring wells for each monitoring event and gauging round prior to initiation of ground-water sample collection. These data are used in the preparation of ground-water surface contour maps for the deep overburden and bedrock ground-water zones. The depth to water level measurements and the condition of each of these wells are recorded on the Inspection Checklist.

- Collection of ground-water samples from 23 monitoring wells (Figure 2) using the low-flow method in accordance with the Final Work Plan Addendum No. 2 (EA 2001).

- Analysis of the ground-water samples for Target Compound List (TCL) volatile organic compounds (VOC) in accordance with the methods and criteria referenced in the Final Work Plan Addendum No. 2 (EA 2001).

- Preparation and submittal of the validated annual analytical results summarized in tables and on "tag" maps to the BCT.

1.3 REPORT ORGANIZATION

This report documents the project activities conducted for the IGWSE 02 of January 2003. Chapter 1 provides an introduction and overview of the IGWSP. Chapter 2 presents the results of the sampling event conducted during January 2003, and Chapter 3 presents conclusions and recommendations based upon site data. Appendix A contains the Field Sampling Forms. Appendix B provides a copy of the data validation reports. Appendix C provides the Institutional Control Inspection Checklist. Appendix D provides the Navy's responses to EPA and RIDEM comments on the Draft IGWSE 02 Report.

2. INTERIM GROUND-WATER SAMPLING PROGRAM – 2003

2.1 MEASUREMENT OF WATER LEVEL ELEVATIONS

Water level measurements for the IGWSE 02 were collected on 21 January 2003 from the 23 monitoring wells indicated in Table 2. Additionally, depth to water was measured in the LTM wells on 13 December 2002 for the annual water level measurement and Institutional Control Inspection as outlined in the Final Work Plan Addendum No. 2 (EA 2001) and the Land-Use Control Implementation Plan (LUCIP) (EA 2002a). The locations of site IGWSP monitoring wells are provided on Figure 2. The water level measurement procedures are referenced in the Final Work Plan Addendum No. 2 (EA 2001). Figures 3A and 3B provide the interpretive ground-water surface contour maps for the deep and bedrock ground-water zones underlying the Site 03 area based on the water level measurement elevation data from 13 December 2002, and Figures 3C and 3D provide interpretive contour maps for the same zones based upon data collected on 21 January 2003.

2.2 GROUND-WATER SAMPLING AND ANALYSIS

2.2.1 Sampling Activities

IGWSE 02 occurred 21 to 28 January 2003 in accordance with the general methodologies established in the Final Work Plan Addendum No. 2 (EA 2001). Dedicated GeoLog® and TIMCO® bladder pumps were utilized for low-flow sample collection. Ground-water samples were collected using the low-flow sampling technique as has been used during previous Navy investigations at this site. Prior to sampling, depth to water was measured (21 January 2003) in these wells for use in interpreting ground-water flow direction(s).

Water quality indicator parameters, including pH, conductivity, temperature, dissolved oxygen, salinity and turbidity, were measured during well purging. Stabilization of water quality indicator parameters was achieved in accordance with the Final Work Plan Addendum No. 2 (EA 2001). Each of the 23 monitoring wells reached equilibrium with respect to water quality indicators prior to sampling, except for 15 of the 23 wells where turbidity measurements were in excess of the 5 nephelometric turbidity unit goal. Copies of the Field Sampling Forms are provided in Appendix A. Water quality parameters measured just prior to ground-water sample collection are summarized in Table 3.

In accordance with the Final Work Plan Addendum No. 2 (EA 2001), 26 ground-water samples (23 wells, plus 3 duplicate samples) collected from monitoring wells were analyzed for the TCL VOC (Table 4) by EPA Method SW-846/8260B.

2.2.2 Analytical Data

Table 4 summarizes the analytical data for the ground-water samples from monitoring wells collected in January 2003. Appendix B contains the data validation report, which contains the validated laboratory Form I summary tables for the analyses performed.

2.2.2.1 Volatile Organic Compounds

VOC were detected in 25 of 26 samples collected from monitoring wells in 2001 (Table 4, Figures 4 through 9). CVOC were detected in 24 of 26 samples. CVOC were not detected in samples collected from MW01-10R and EA-110R (Figure 5). CVOC were detected in 18 of 18 deep ground-water zone samples. Detected total CVOC concentrations ranged from 0.251 micrograms per liter (µg/L) (MW01-13D) to 2,043 µg/L (MW03-08D) in the deep overburden ground-water zone (Figure 6). Comparison of these results to as many as 5 previous sampling events is illustrated in Figure 7.

CVOC were detected in 6 of 8 ground-water samples collected from monitoring wells completed in the upper bedrock (Figure 5). CVOC were not detected in samples collected from MW01-10R and EA-110R (Figure 5). In the bedrock ground-water zone, detected total CVOC concentrations ranged from 0.778 µg/L (MW01-15R) to 3,109.7 µg/L (MW03-08R) (Figure 8). Comparison of these results to those of 5 previous sampling events is illustrated in Figure 9.

2.3 VISUAL INSPECTION

Site inspection activities at Site 03 were completed on 13 December 2002 and 21 January 2003 in accordance with the Final Work Plan Addendum No. 2 (EA 2001). The site monitoring wells were observed to be capped, labeled, locked, and in good condition with the following exceptions:

Well ID	Problem (as noted on Inspection Form)
MW02-08D	Outer cap separated into two pieces, seal intact
MW03-05D	Outer cap separated into two pieces, seal intact

These issues will be addressed in Summer 2003 when the drilling subcontractor will be onsite. Copies of the completed Inspection Checklists for 13 December 2002 and 21 January 2003 are provided in Appendix C.

2.4 QUALITY ASSURANCE/QUALITY CONTROL

The data obtained during interim ground-water sampling were determined to be of sufficient quality to be used to monitor and document the extent of the portion of the CVOC plume that has migrated from the former PR-58 Nike Site to beneath a portion of the adjacent former NCBC Davisville facility and the apparent minor contributions to the plume from former Navy

activities around and east of Building 224. Quality Assurance/Quality Control (QA/QC) samples collected during this monitoring event included 1 matrix spike, 1 matrix spike duplicate, and 3 duplicate samples. Other QA/QC samples included 3 trip blanks (1 per cooler with VOC samples) and 3 temperature blanks (1 per cooler).

For consistency with the data from previous sampling events, validation of the analytical results of the ground-water samples has been performed in accordance with the Final Work Plan Addendum No. 2 (EA 2001); i.e., the EPA Region 1 Laboratory Data Validation, Functional Guidelines for Evaluating Organic and Inorganic Analyses, using the Tier II Approach, dated 1 February 1988, modified 1 November 1988. The resultant data validation qualifiers were then added to the data as necessary.

Acetone, 2-butanone, and 2-hexanone were rejected in all samples due to low initial calibration mean relative response factor (RRF) values. All of the compounds rejected through data validation had been laboratory qualified as "U" (not detected) prior to validation (detection limits ranged from 1 μg/L to 10 μg/L). Additionally, none of the compounds rejected through data validation are Constituents of Concern for Site 03; therefore, rejection of these data should not affect the usability of the data. The data validation reports are provided as Appendix B.

Samples were collected and analyzed from all planned locations, resulting in 100 percent completeness.

Duplicate field samples were collected to assess field precision. Three ground-water samples were collected in duplicate and analyzed as part of the January 2003 sampling event. The duplicate samples were collected from MW02-08D (MW02-DUP1), MW03-08D (MW03-DUP3), and MW03-03R (MW03-DUP2). Acceptable field precision of less than 30 percent difference was observed for all analytes detected in the ground-water samples collected in January 2003.

3. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

3.1 SUMMARY AND CONCLUSIONS

3.1.1 Measurement of Water Level Elevations

Results of the water level measurement field activity conducted on 13 December 2002 are illustrated on Figures 3A through 3D.

Based on data collected on 13 December 2002:

- Ground water in the deep zone is interpreted to flow toward the east, northeast, and southeast beneath the Navy Site 03 area (Figures 3A and 3C). Historical ground-water flow patterns in the deep ground-water zone interpreted from the July 2000 and IGWSE 01 (EA 2002b) sampling events data were similar. The 13 December 2002 data indicate that compared to the December 2002 data, there appears to be greater variation in the water surface in the northwestern portion of the site area (MW-Z3-01; approximately 0.25 ft lower in November 2001, but approximately 2 ft higher in July 2000). Conversely, there was only a maximum variation of 0.37 ft in the southeastern portion of the site area (EA-110D).

- Ground water beneath the site in the rock zone is interpreted to flow toward the east and southeast beneath the Navy Site 03 area (Figures 3B and 3D). This ground-water flow pattern is similar to historical ground-water flow patterns interpreted from the January 2001 and IGWSE 01 (EA 2002b) data, with the January 2001 water surface approximately 0.5-1.0 ft higher in elevation. The data indicate that compared to the December 2002 data, there appears to be greater variation in the water surface in the central portion of the site area (MW03-03R; approximately 0.7 ft higher in November 2001 and approximately 1.7 ft higher in January 2001). Conversely, there was only a maximum variation of 0.45 ft during that period of time in the southeastern portion of the site area (EA-110R).

Negative (downward) vertical hydraulic gradients were calculated for monitoring wells located in the northern (MW01-10D/R) and southern (EA-110D/R and EA-111D/R) portions of the site. Positive (upward) vertical hydraulic gradients were observed in the northern (MW01-15D/R), eastern (MW02-03D/R), western (MW03-08D/R), and center (MW03-03D/R) portions of the site. Vertical hydraulic gradient data is summarized in Table 5. A few calculation errors were identified since the draft version of this report. These have been corrected in the Table 5 of this final version of the report. Additionally, four older measurements were identified for MW03-08D/R and were added to Table 5. There are now 3 to 8 sets of vertical hydraulic gradient data for deep (D) and rock (R) well pairs in the site area. Based on these data (Table 5), the central (MW03-03D/R), eastern (MW02-03D/R), and northeastern (MW01-15D/R) portions

of the site area have consistently shown upward vertical gradients. For the other well pairs, the data have shown some upward and some downward gradients through this time period of the available data. The database is currently too small to determine average vertical gradient trends across the site area. However, the variability documented to date suggests that the vertical ground-water flow component is apparently not consistent in a single direction across the site.

Based on data collected on 21 January 2003:

- Ground water in the deep zone is interpreted to flow toward the east, northeast, and southeast beneath the Navy Site 03 area (Figure 3C). Historical ground-water flow patterns in the deep ground-water zone interpreted from the July 2000, IGWSE 01 (EA 2002b), and December 2002 gauging events were similar, but the ground-water surface was higher in elevation between December 2002 and January 2003 (Figures 3A and 3C), ranging from approximately 3.4 ft higher at MW-Z3-01 to 0.6 ft higher at EA-110D.

- Ground water beneath the site in the rock zone is interpreted to flow toward the southeast, east, and east-northeast beneath the Navy Site 03 area (Figure 3D). This ground-water flow pattern is similar to historical ground-water flow patterns interpreted from the January 2001, IGWSE 01 (EA 2002b), and December 2002 measurements, but the ground-water surface was higher in elevation between December 2002 and January 2003 (Figures 3B and 3D), ranging from approximately 2.9 ft higher at MW03-03R to 0.6 ft higher at EA-110R.

3.1.2 Ground-Water Sampling

3.1.2.1 Volatile Organic Compound Concentrations

The results of the ground-water sampling and analysis program conducted at Site 03 during 2003 indicate the following:

- Eighteen ground-water samples (including 2 duplicate samples) were collected from deep monitoring wells in January 2003. VOC were detected in each of these ground-water samples (Table 4). VOC were detected below the Maximum Contaminant Level (MCL)/RIDEM GA ground-water standards in ground-water samples submitted for laboratory analysis from 8 deep monitoring wells sampled in January 2003 (EA-110D, EA-111D, MW01-14D, MW01-15D, MW01-10D, MW01-13D, MW03-05D, and MW-Z3-02). VOC were detected above the MCL/RIDEM GA ground-water standards in 10 deep ground-water samples, summarized below:

Monitoring Well	Compounds Detected Above MCL/RIDEM GA
MW02-03D	TCE
MW02-08D	TCE
MW02-08D, DUP	TCE
MW02-11D	TCE
MW03-03D	*cis*-1,2-DCE; TCE; VC
MW03-08D	1,1,2-TCA; *cis*-1,2-DCE; TCE; PCE, VC
MW03-08D, DUP	1,1,2-TCA; *cis*-1,2-DCE; TCE; PCE, VC
MW03-09D	1,1,2-TCA; *cis*-1,2-DC; TCE; VC
MW03-10D	TCE
MW-Z3-01	1,1,2-TCA; *cis*-1,2-DCE; TCE; VC

NOTE: DCE = Dichloroethene.
MCL = Maximum Contaminant Level.
RIDEM = Rhode Island Department of Environmental Management.
TCA = Trichloroethane.
TCE = Trichloroethene.
PCE = Tetrachloroethene.
VC = Vinyl chloride.

The detected total CVOC concentrations for the IGWSE 02 data were highest in the western portion of Site 03 and lowest in the eastern and southern portions of Site 03 (Figure 6). Variations in the VOC and total CVOC concentrations detected to date are summarized in Tables 6 and 7. The variations in the total CVOC concentrations detected in the deep ground-water zone since 1995 are illustrated on Figure 7. These data confirm the continued presence of the CVOC plume detected during the Phase III Remedial Investigation (RI), the September 2000 sampling event, and IGWSE 01 (EA 2002b). Because there are only 3 to 6 sets of ground-water sample results for specific wells, actual trends in the data can not be statistically assessed (at least 8 sets would be necessary). The slight variations and minor trends suggested so far by the available data are included in Table 1 (updated from the Final Work Plan Addendum No. 2 version, EA 2001).

- Eight ground-water samples (including one duplicate sample) were collected in January 2003 from monitoring wells screened in the upper 25 ft of bedrock (Table 4). VOC were detected in each of the samples from rock wells. VOC were detected in 4 of the samples at concentrations below the MCL/RIDEM GA ground-water standards (EA-110R, EA-111R, MW01-10R, and MW01-15R). VOC were detected in the remaining 4 samples at concentrations above MCL/RIDEM GA ground-water standards as follows:

Monitoring Well	Compounds Detected Above MCL/RIDEM GA
MW02-03R	TCE
MW03-03R	TCE
MW03-03R, DUP	TCE
MW03-08R	1,1,2-TCA; *cis*-1,2-DCE; *trans*-1,2 DCE; TCE; VC

NOTE: DCE = Dichloroethene.
MCL = Maximum Contaminant Level.
RIDEM = Rhode Island Department of Environmental Management.
TCA = Trichloroethane.
TCE = Trichloroethene.
VC = Vinyl chloride.

In addition, trichloroethene was detected above the RIDEM GB ground-water standard (540 µg/L) in the sample from well MW03-08R (1,900 µg/L). Total CVOC concentrations were highest in the western portion of Site 03 and lowest in the southern and northern portions of the IGWSP area (Figure 9). Variations in the VOC and total CVOC concentrations detected in rock wells to date are summarized in Tables 6 and 7. The variations in the total CVOC concentrations detected in the samples from wells completed in the bedrock ground-water zone since 1995 are illustrated on Figure 9. There are only 3 sets of sample results for 4 of the 7 wells completed in the bedrock ground-water zone, making it inappropriate to suggest trends in the data. However, the data for these 7 wells confirm the continued presence of the CVOC plume detected during the Phase III RI, the September-October 2000 sampling event, and IGWSE 01 (EA 2002b). These data indicate that a plume has migrated from the Former PR-58 Nike Site to beneath a portion of the adjacent former NCBC Davisville facility, plus apparent minor contributions to the plume may originate from former Navy activities around and east of Building 224.

- The available data shows that the total CVOC concentrations detected in the deep-well sample locations (with the exception of MW01-10D, MW01-13D, MW01-15D, MW03-05D, and MW-Z3-02) are at least slightly higher when compared to IGWSE 01 (Figure 7), but are typically within the range of previously detected concentrations. Note that "ND" on Figure 7 is typically 1 µg/L to 5 µg/L.

- Based on the available data, the monitoring well network appears to be adequate for the intended interim monitoring purpose.

3.1.3 Visual Inspection

Monitoring wells were inspected and issues to be addressed are listed in Section 2.3. A copy of the completed Inspection Checklist is included in Appendix C.

3.2 RECOMMENDATIONS

Based on an analysis of the data collected at Site 03 for IGWSE 02, the following recommendation is made:

- Continue the IGWSP annually in accordance with the Final Work Plan Addendum No. 2 (EA 2001).
- As noted in Section 2.3, the outer caps of wells MW02-08D and MW03-05D should be repaired.

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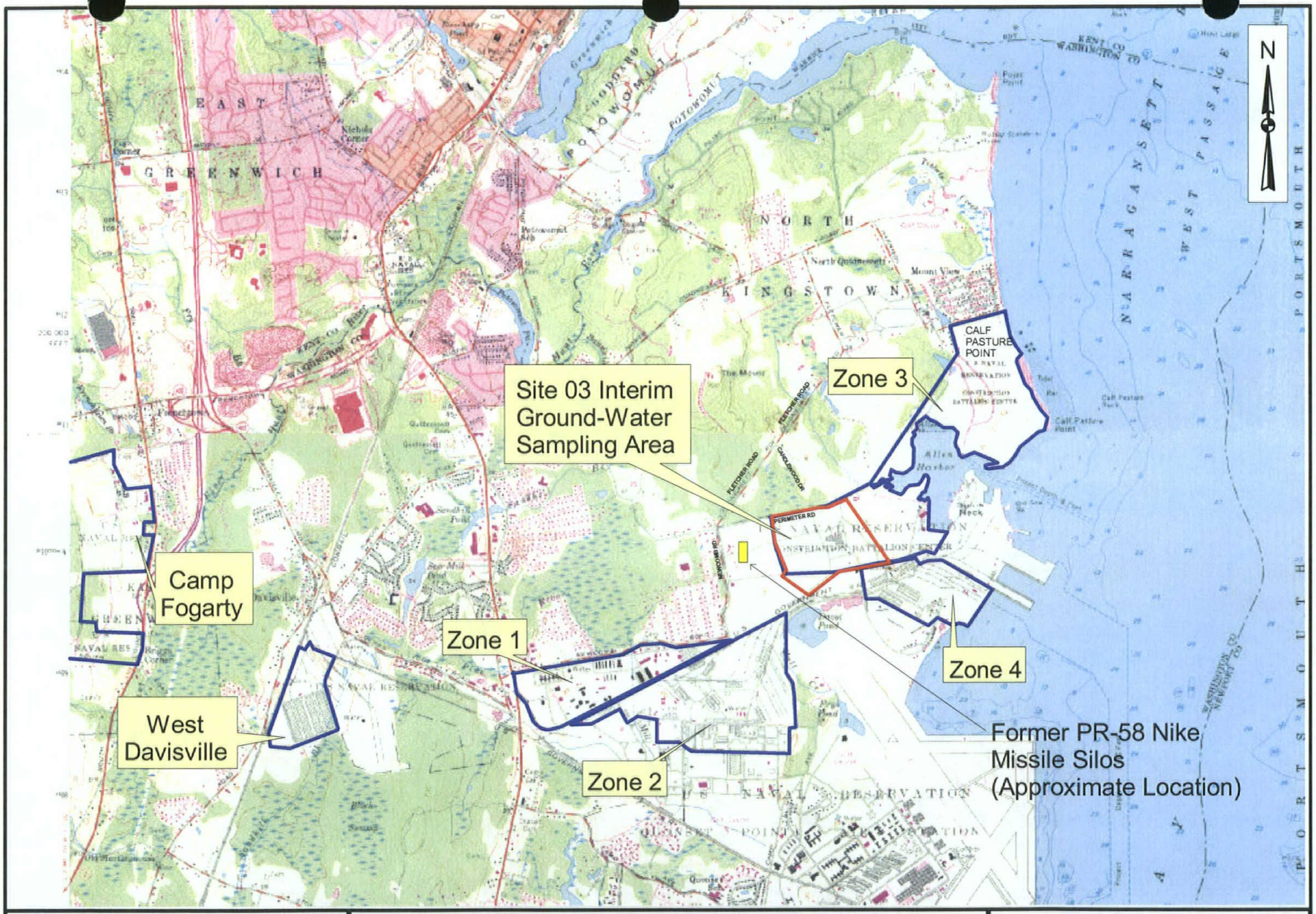

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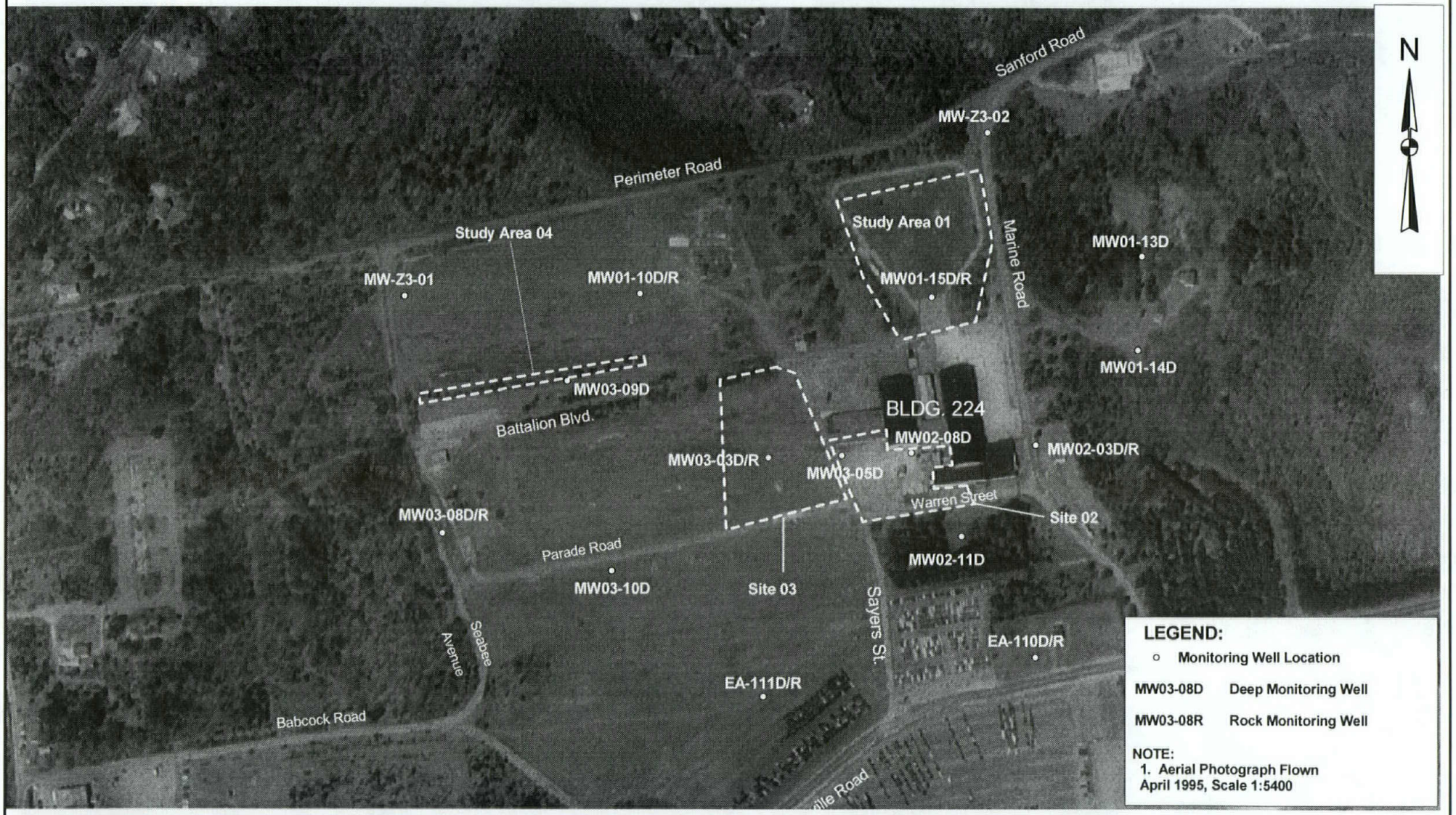
EFANE
SITE 03
INTERIM GROUND-WATER SAMPLING
NCBC DAVISVILLE, NORTH KINGSTOWN, RHODE ISLAND

SITE LOCUS MAP

Figure 1



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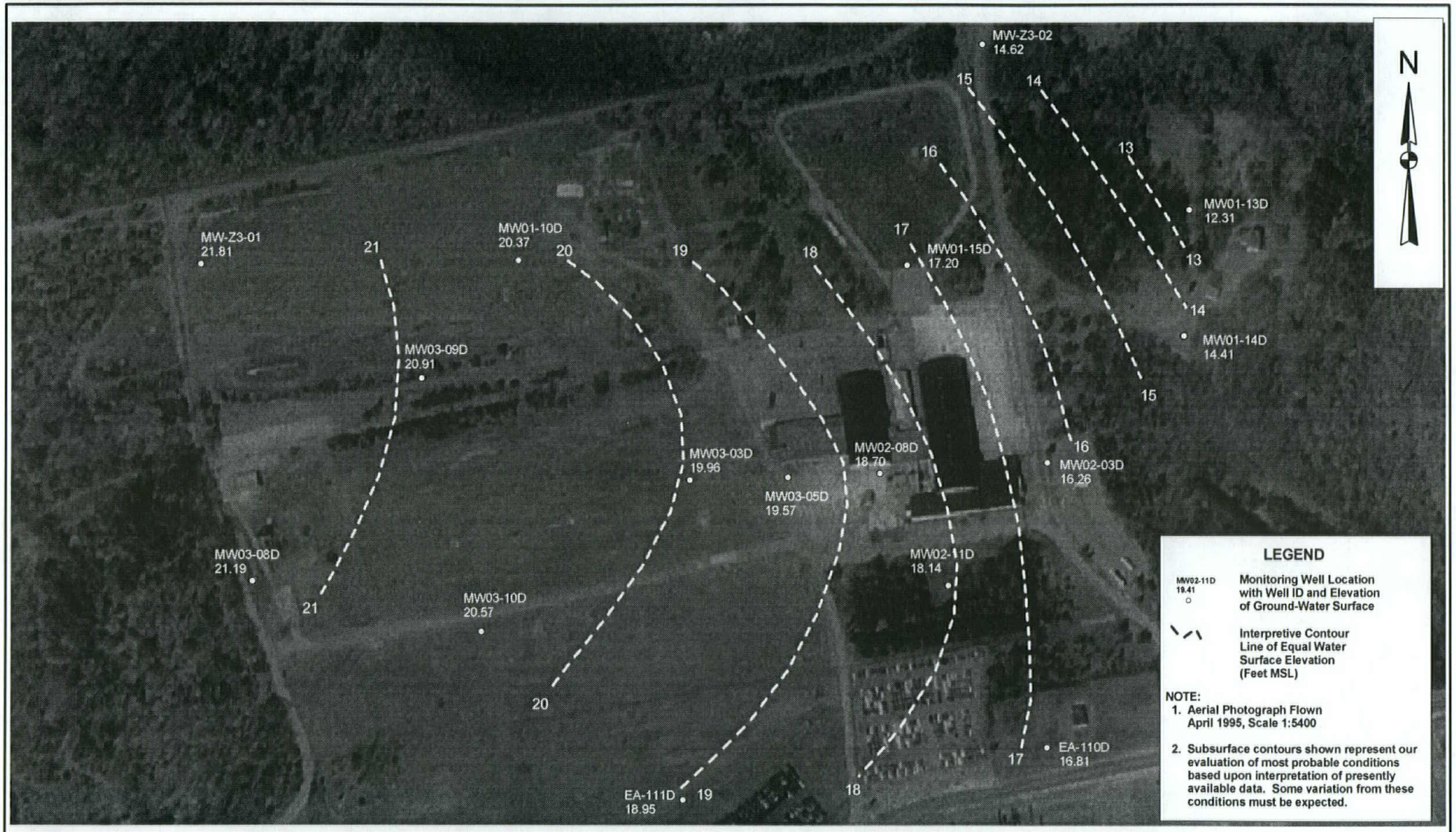
200 0 200 Feet

EFANE
INTERIM GROUND-WATER SAMPLING
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

LOCATION OF MONITORING WELLS FOR SITE 03 INTERIM GROUND-WATER SAMPLING EVENTS

FIGURE 2



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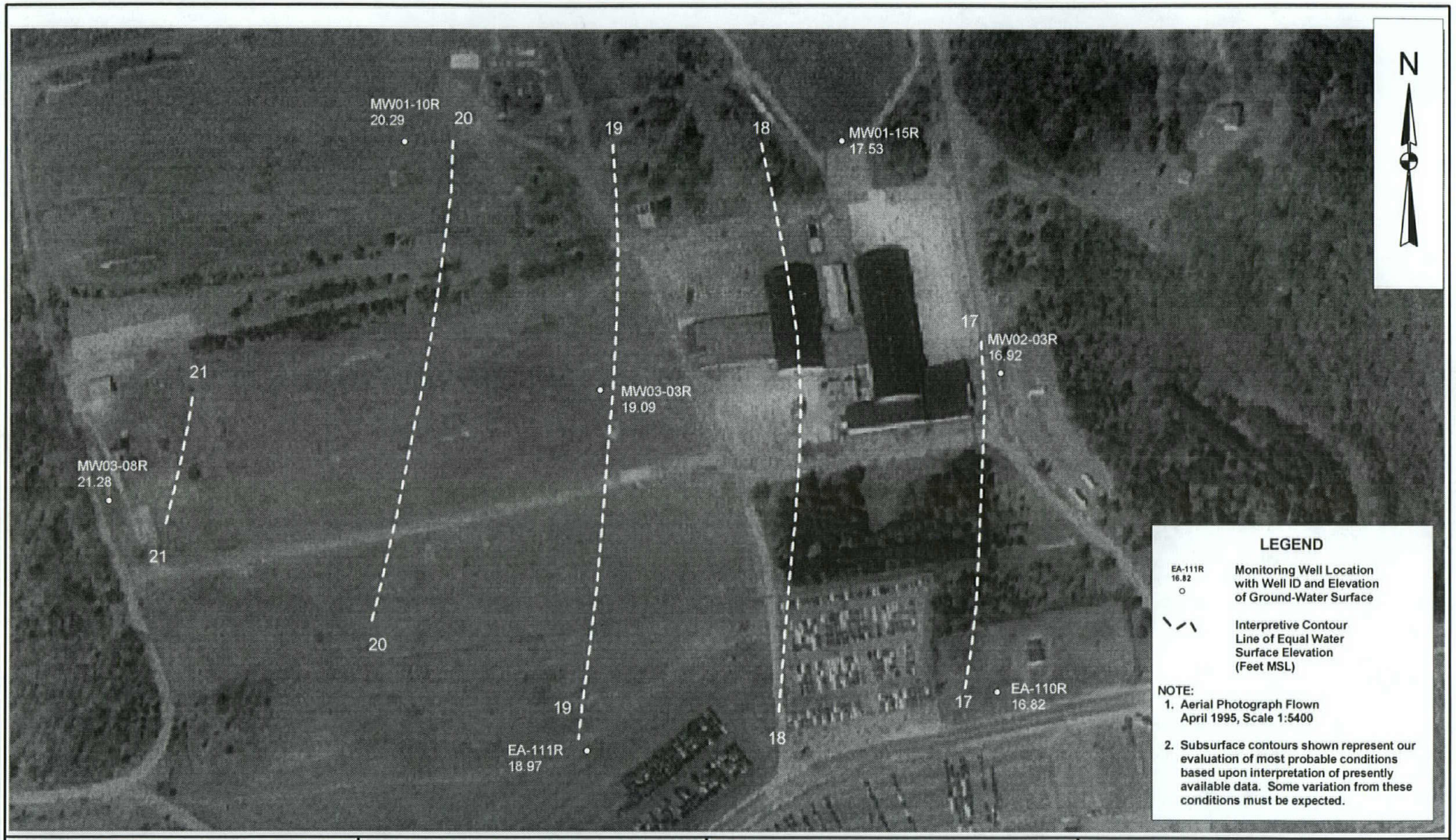
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

GROUND-WATER SURFACE CONTOURS - DEEP WELLS
13 DECEMBER 2002

FIGURE 3A



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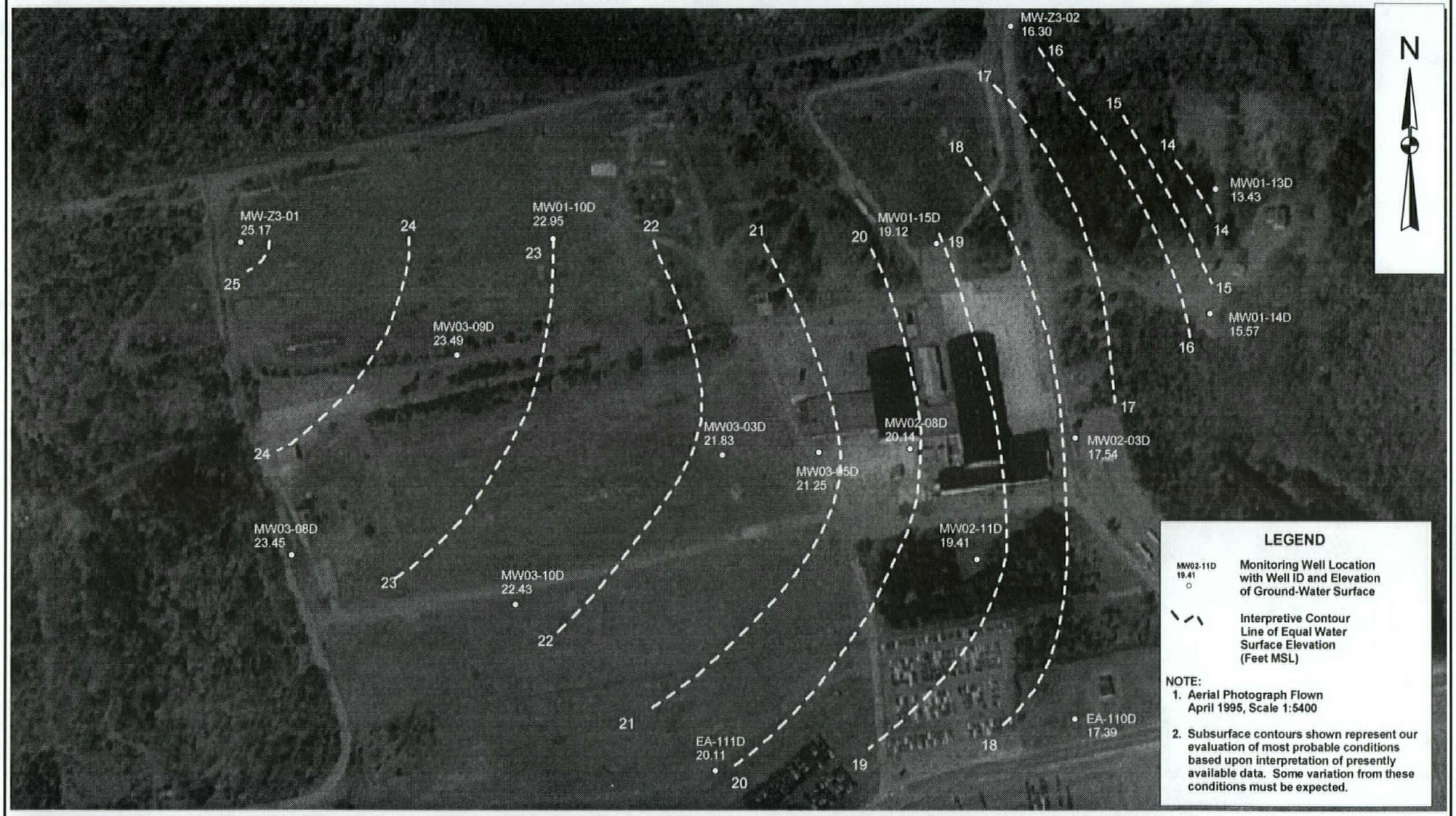
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

GROUND-WATER SURFACE CONTOURS - ROCK WELLS
13 DECEMBER 2002

FIGURE 3B



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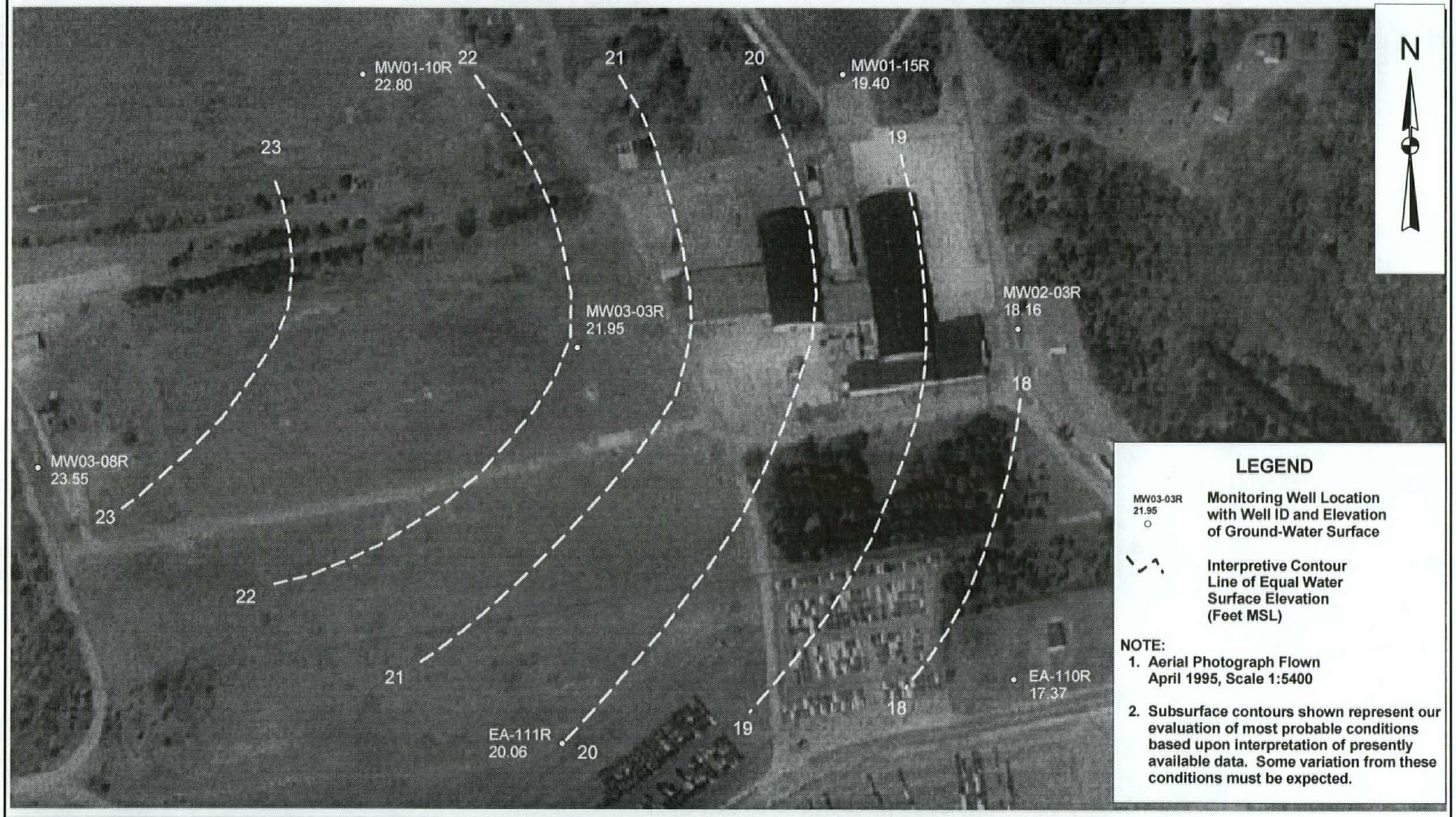
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

GROUND-WATER SURFACE CONTOURS - DEEP WELLS
21 JANUARY 2003

FIGURE 3C



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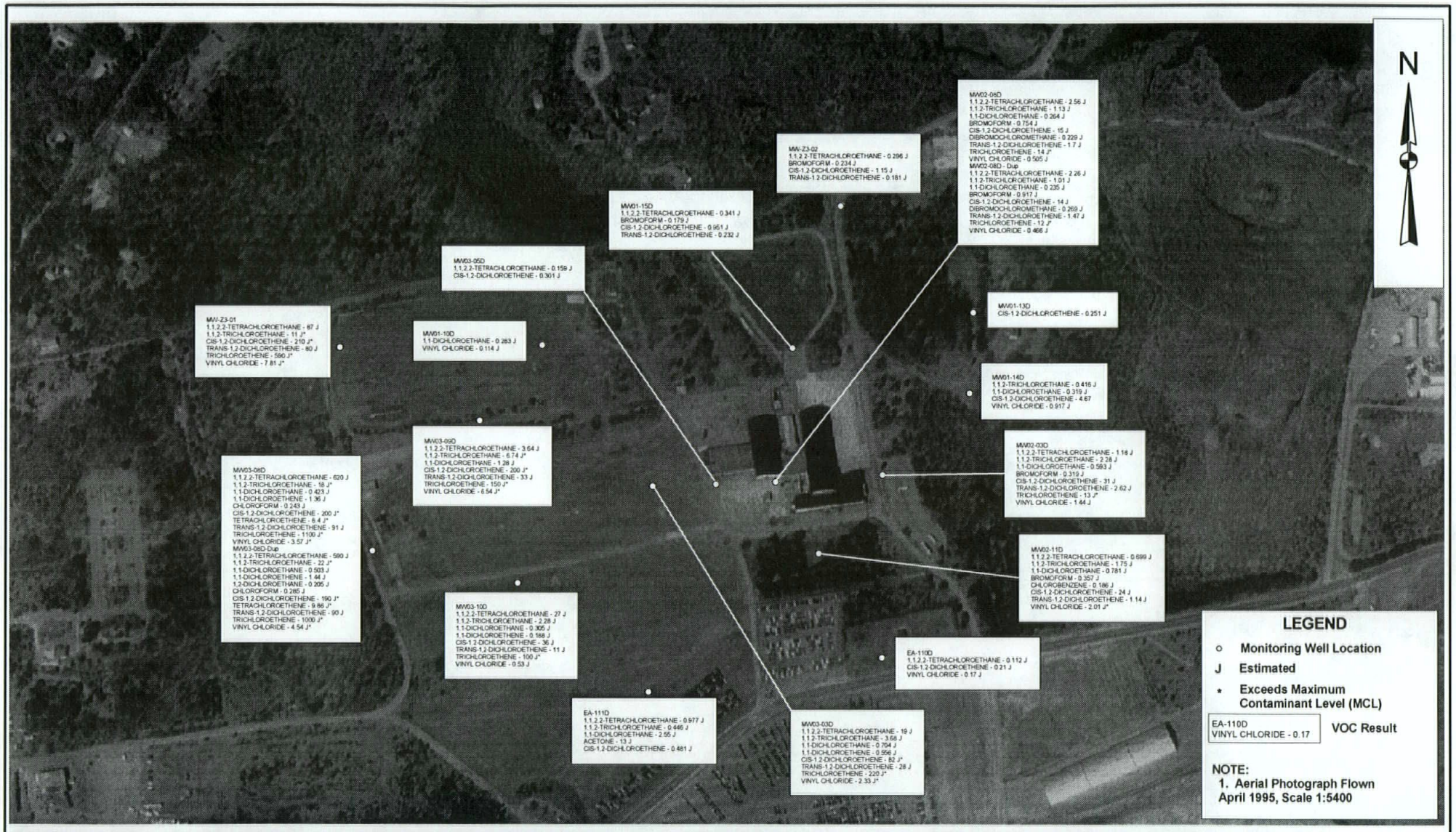
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

GROUND-WATER SURFACE CONTOURS - ROCK WELLS
21 JANUARY 2003

FIGURE 3D



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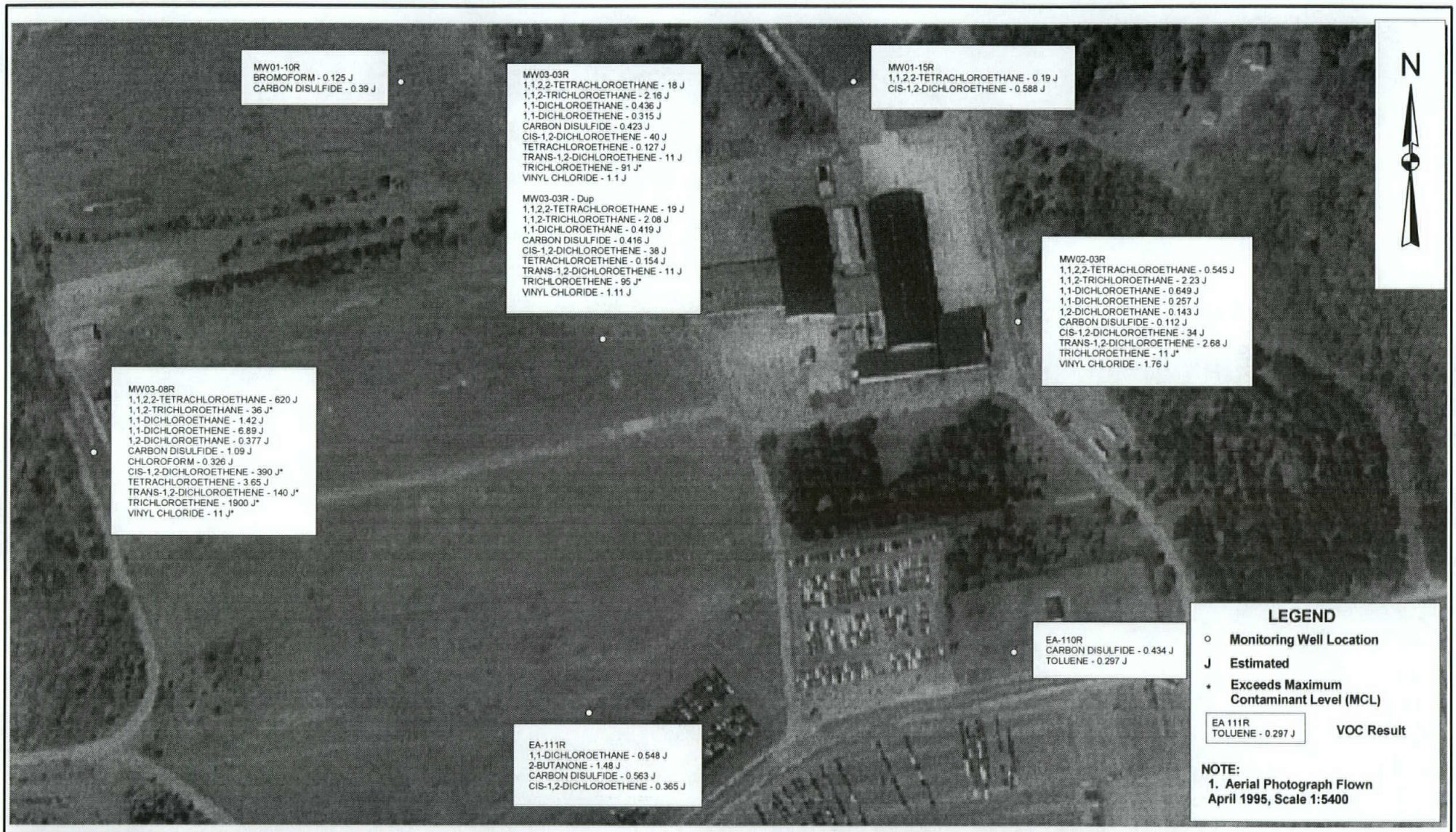
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

VOLATILE ORGANIC COMPOUNDS (ug/L)
DETECTED IN GROUND-WATER SAMPLES
FROM DEEP WELLS JANUARY 2003

FIGURE 4



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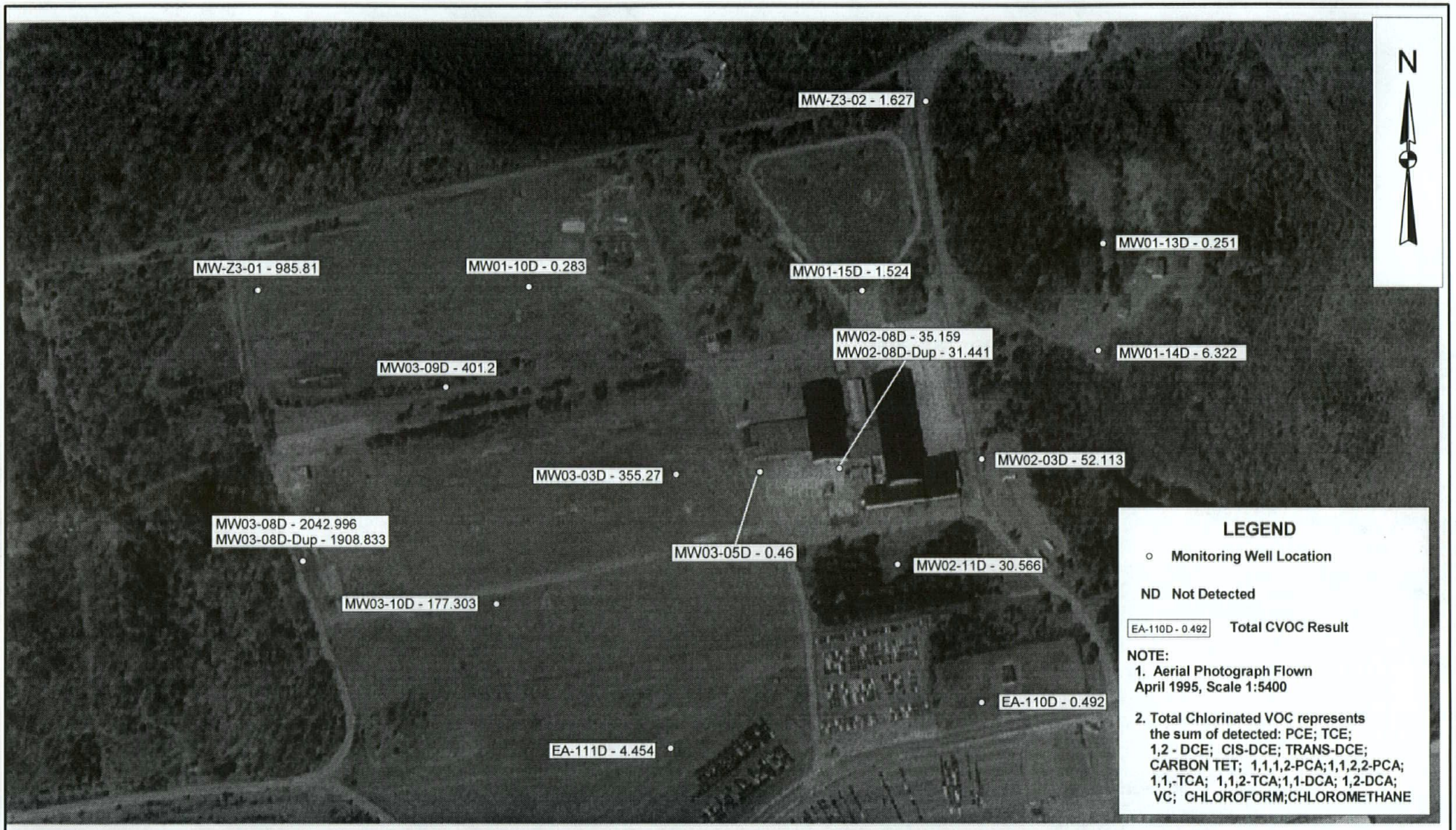
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

VOLATILE ORGANIC COMPOUNDS (ug/L)
DETECTED IN GROUND-WATER SAMPLES
FROM ROCK WELLS JANUARY 2003

FIGURE 5



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EFANE
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS (ug/L) DETECTED IN GROUND-WATER SAMPLES FROM DEEP WELLS IN JANUARY 2003

FIGURE 6

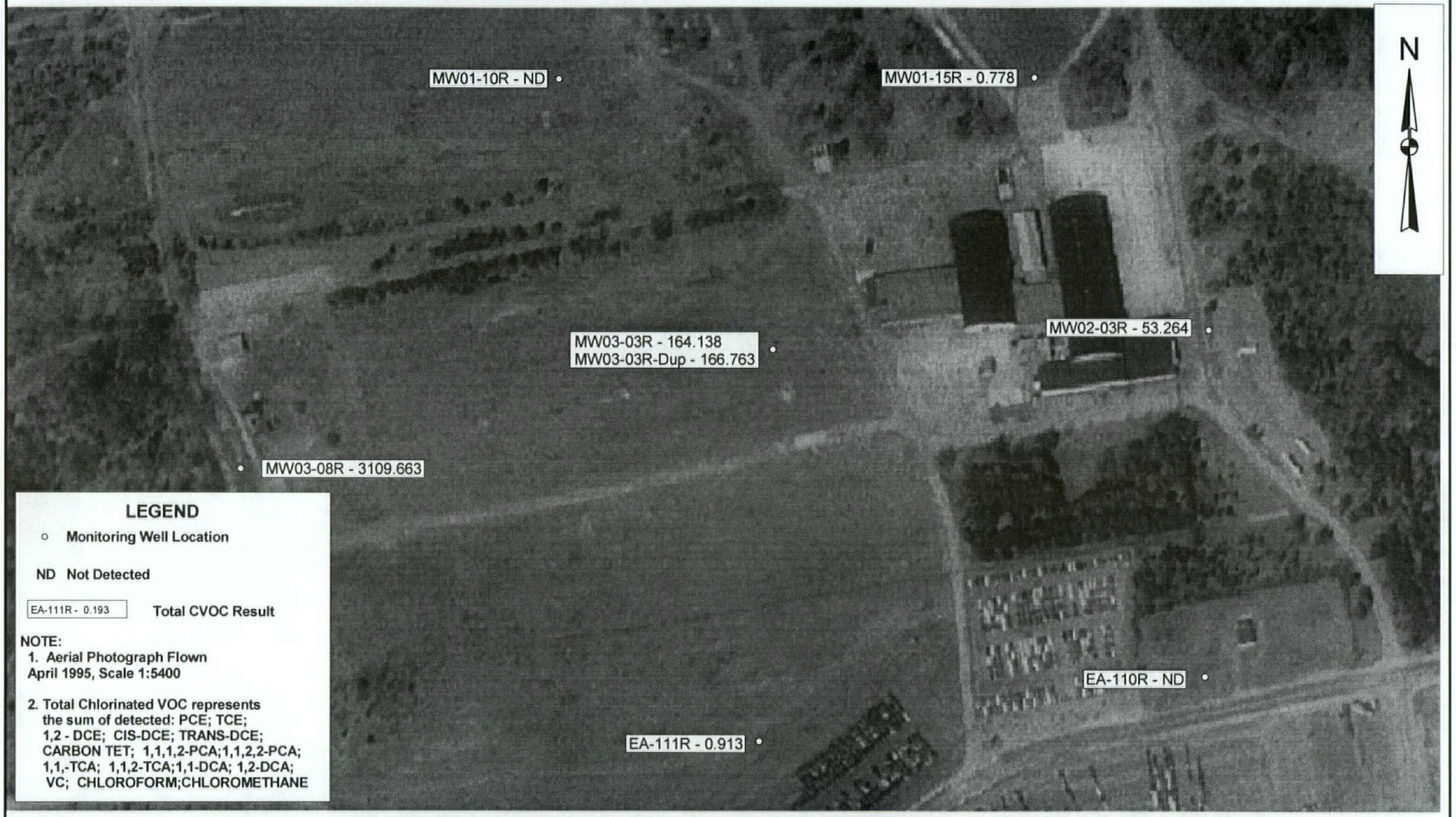
EA ENGINEERING, SCIENCE, AND TECHNOLOGY

200 0 200 Feet

EFANE
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS (ug/L) DETECTED IN GROUND-WATER SAMPLES FROM DEEP WELLS IN MAY/DECEMBER 1995, DECEMBER 1996, MARCH 1998, SEPTEMBER 2000, NOVEMBER 2001 AND JANUARY 2003.

FIGURE 7



EA ENGINEERING, SCIENCE, AND TECHNOLOGY

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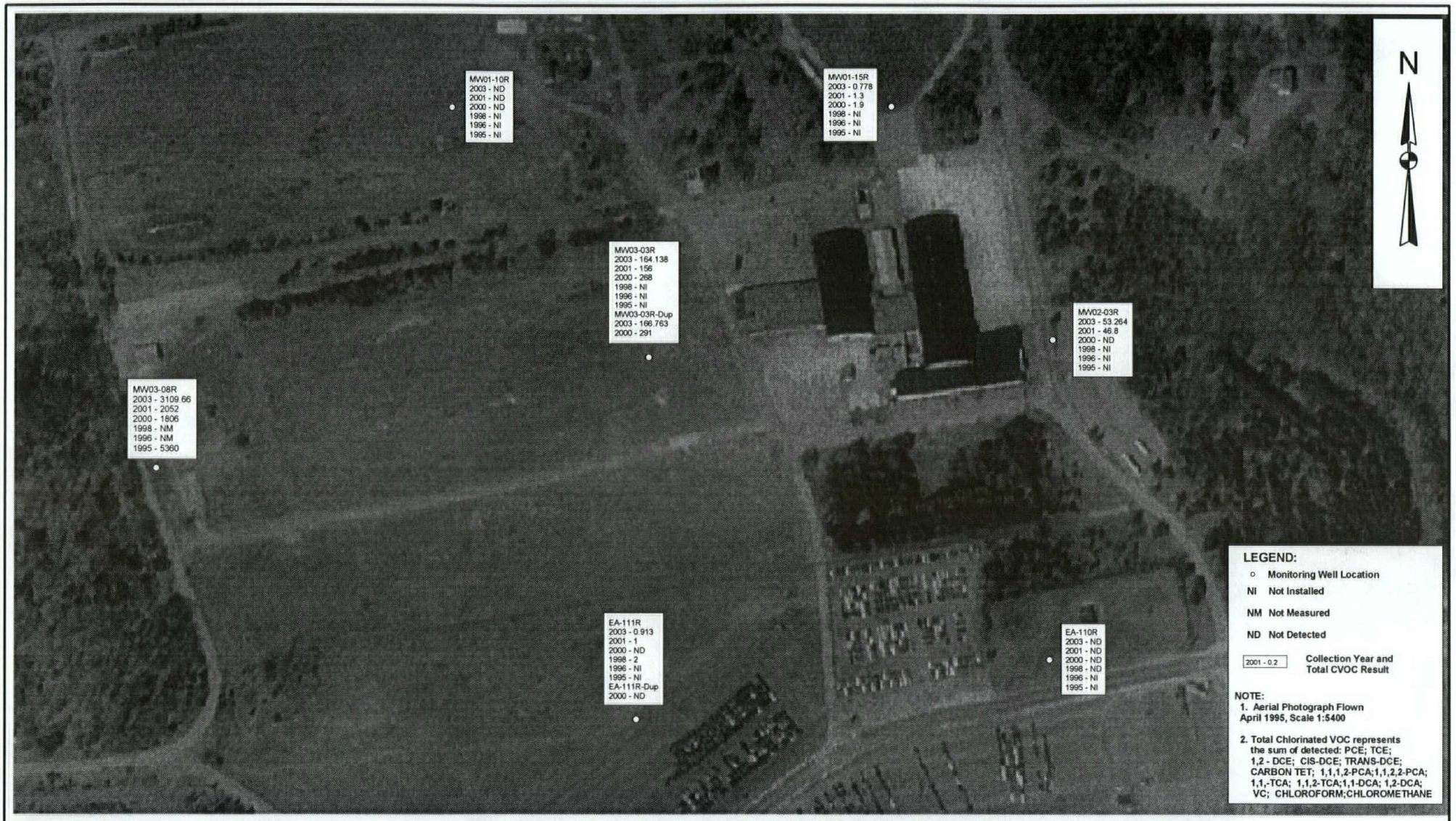
EFANE
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS (ug/L) DETECTED IN GROUND-WATER SAMPLES FROM ROCK WELLS IN JANUARY 2003

FIGURE 8



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70 0 70 140 Feet

EFANE
INTERIM GROUND-WATER SAMPLING EVENT 02
SITE 03 NCBC DAVISVILLE
NORTH KINGSTOWN, RHODE ISLAND

TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS (ug/L) DETECTED IN GROUND-WATER SAMPLES FROM ROCK WELLS IN MAY/DECEMBER 1995, DECEMBER 1996, MARCH 1998, SEPTEMBER 2000, NOVEMBER 2001 AND JANUARY 2003.

FIGURE 9

TABLE 1 RATIONALE FOR SELECTION OF MONITORING WELLS FOR INTERIM GROUND-WATER SAMPLING EVENTS AT SITE 03 FORMER NCBC DAVISVILLE FACILITY, NORTH KINGSTOWN, RHODE ISLAND

Well Designation	Zone Screened	Purpose / Rationale
MW01-10D	Deep Overburden	Northern sentinel well in the deep overburden zone where historical results of 5 samples have been 'ND' to 0.4 µg/L total CVOC.
MW01-13D		Eastern sentinel well in the deep overburden zone where results of the last 4 samples have been 'ND' for CVOC, with a positive CVOC result (0.2 µg/L) during IGWSE 02.
MW01-14D		Located near the east edge of the plume where results of 5 samples have been slightly increasing for CVOC in the deep overburden zone.
MW01-15D		Located at Study Area 01 and along potential northeast extent of plume where results of 5 samples suggest a decreasing trend of CVOC in the deep overburden zone.
MW02-03D		Located near the east edge of the plume where results of 6 samples may suggest slight increasing trend of CVOC in the deep overburden zone.
MW02-08D		Located east just downgradient from Site 02 where results of 5 samples have been nearly the same for CVOC in the deep overburden zone. To provide data to assess if MW02-07D needs to replaced in the Site 02 area where the dry well and leach field were removed.
MW02-11D		Located southeast downgradient from Site 02 and underground storage tanks where results of 5 samples have been nearly the same for CVOC in the deep overburden zone.
MW03-03D		Located within the plume at Site 03 where overall the results of 6 samples suggest decreasing trend of CVOC in the deep overburden zone.
MW03-05D		Well located between Sites 02 and 03 in the deep overburden zone where results of last 4 samples have been 'ND' to 0.5 µg/L for CVOC.
MW03-08D		Well with the highest detected concentration in the deep overburden zone at the upgradient property boundary. Generally shows a decreasing CVOC trend except for the 1998 and 2003 sampling event results.
MW03-09D		Located within the plume at Study Area 04 where results of the first 3 samples suggest an increasing trend of CVOC in the deep overburden zone. Results for the last 4 sampling events have been nearly the same total CVOC.
MW03-10D		Located to monitor along the southern side of the CVOC plume. Data suggests a decreasing trend over 4 sampling events.
MW-Z3-01		Northwest corner of the property where the plume extends north offsite in the deep overburden zone (wide variation in the results of 3 samples).
MW-Z3-02		Northeast perimeter of the plume where results of last 3 samples suggests increasing trend of CVOC in the deep overburden zone back to the 'not detected' of the 1996 data.
EA-110D		Southeastern sentinel well in the deep overburden zone where results of 4 samples have been at 'ND' to 0.5 µg/L for CVOC.
EA-111D		Southern perimeter of the plume in the deep overburden zone where results of 4 samples have been 0.6-4.4 µg/L for CVOC.
MW01-10R	Shallow Bedrock	Northern sentinel well in the shallow bedrock zone where results of 3 samples were 'ND' for CVOC.
MW01-15R		New well that may be near the northeast perimeter of plume in the shallow bedrock zone. Total CVOC results have been < 2 µg/L for 3 sampling events.
MW02-03R		New well that could be at the eastern plume boundary in the shallow bedrock zone. Increase from ND to 53 µg/L from 2000 to 2003.
MW03-03R		New well located within the plume in the shallow bedrock zone. Decrease in the data from 2000 to 2003.
MW03-08R		Well with the highest detected CVOC concentration in the shallow bedrock zone at the upgradient property boundary. Overall decrease from 1995 to 2001, with a slight increase in total CVOC concentration in 2003.
EA-110R		Southeastern perimeter of the plume in the shallow bedrock zone where results of 4 samples have been ND to 0.6 µg/L total CVOC.
EA-111R		Southern perimeter of the plume in the shallow bedrock zone where results of 4 samples have been ND to 1.0 µg/L for CVOC.

NOTE: CVOC = Chlorinated volatile organic compounds (total detected).
ND = Not detected.

TABLE 2 SUMMARY OF DEPTH TO AND ELEVATION OF GROUND-WATER

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Depth to groundwater (ft BTOR)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
NETW	0.1	32.23	16.68	14.13	NM	NM	15.95	NM	NM	NM	NM	NM	NM	NM	NM
MW01-05S	2.5	35.26	19.58	17.11	17.26	19.63	19.20	NM	NM	19.02	NM	17.36	NM	NM	NM
MW01-06S	-0.3	33.69	17.58	15.03	15.12	17.65	17.21	NM	NM	NM	NM	13.54	NM	NM	NM
MW01-07S	1.0	33.92	17.76	15.02	15.19	17.89	17.20	NM	NM	NM	NM	15.20	NM	NM	NM
MW01-08D	-0.6	37.50	NI	NI	NI	NI	19.27	NM	16.08	NM	15.94	16.70	NM	NM	NM
MW01-09D	-0.5	39.18	NI	NI	NI	NI	21.88	NM	19.56	21.52	19.36	19.36	NM	NM	NM
MW01-10S	1.5	42.73	NI	NI	NI	NI	23.37	NM	NM	22.89	NM	20.08	NM	NM	NM
MW01-10D	1.3	42.88	NI	NI	NI	NI	23.63	20.86	19.76	23.30	19.46	20.82	23.77	22.51	19.93
MW01-10R	2.10	43.96	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	23.90	23.67	21.16
MW01-11D	-0.3	38.98	NI	NI	NI	NI	23.28	NM	21.00	22.94	20.66	21.17	NM	NM	NM
MW01-12S	-0.3	36.01	NI	NI	NI	NI	19.15	NM	NM	18.91	NM	16.84	NM	NM	NM
MW01-12D	-0.4	35.96	NI	NI	NI	NI	19.06	NM	16.02	18.77	15.74	16.91	NM	NM	NM
MW01-13S	1.3	25.99	NI	NI	NI	NI	15.98	NM	NM	15.85	NM	15.65	NM	NM	NM
MW01-13D	1.6	26.29	NI	NI	NI	NI	14.72	NM	12.80	14.59	12.37	13.61	14.68	13.98	12.86
MW01-13R	1.80	26.74	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
MW01-14S	1.2	37.38	NI	NI	NI	NI	24.15	NM	NM	23.95	NM	23.35	NM	NM	NM
MW01-14D	1.4	37.62	NI	NI	NI	NI	23.84	NM	21.80	23.75	21.60	22.86	23.86	23.21	22.05
MW01-15D	-0.4	32.39	NI	NI	NI	NI	15.96	NM	13.32	15.73	12.70	14.19	15.60	15.19	13.27
MW01-15R	-0.50	32.88	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	15.85	15.35	13.48
MW02-01S	2.2	39.80	21.88	19.21	19.26	21.70	22.60	NM	NM	21.28	NM	NM	NM	NM	NM
MW02-02S	2.8	43.42	29.55	26.01	26.03	28.67	28.22	NM	NM	NM	NM	NM	NM	NM	NM
MW02-03S	3.1	42.61	27.14	25.27	25.31	27.19	27.50	NM	NM	26.71	NM	25.14	NM	NM	NM
MW02-03D	1.70	41.23	25.71	23.87	23.91	25.77	25.66	NM	23.80	25.37	23.34	23.49	25.15	24.97	23.69
MW02-03R	1.80	41.11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	24.40	24.19	22.95
MW02-04S	-0.3	38.19	19.74	18.47	18.42	20.54	19.60	NM	NM	19.13	NM	18.10	NM	NM	NM

NOTE: Stickup* = Negative number denotes a flushmounted well, riser below grade.
BGS = Below ground surface.
MSL = Mean sea level.
NI = Not installed.
NM = Not measured.
NA = Not applicable. The well had recently been installed and developed and the water level had not fully recovered prior to the water level measurement event.

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Depth to groundwater (ft BTOR)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
MW02-05S	-0.3	38.17	20.59	18.29	18.23	20.36	20.37	NM	NM	19.96	NM	17.92	NM	NM	NM
MW02-06S	-0.4	36.98	19.45	17.20	17.11	NM	19.24	NM	NM	18.79	NM	16.83	NM	NM	NM
MW02-08S	-0.3	38.64	21.05	18.70	18.62	20.80	20.89	NM	NM	20.49	NM	18.36	NM	NM	NM
MW02-08D	-0.4	38.63	20.95	18.75	18.69	20.87	20.94	NM	18.41	20.55	NM	18.43	20.20	19.93	18.49
MW02-09S	-0.6	37.93	20.00	17.50	17.46	19.75	19.74	NM	NM	19.24	NM	17.21	NM	NM	NM
MW02-10S	-0.6	37.01	19.62	17.38	17.32	19.41	19.45	NM	NM	19.04	NM	17.03	NM	NM	NM
MW02-10D	-0.4	37.36	20.09	17.80	17.77	19.85	19.86	NM	17.40	19.47	18.21	17.48	NM	NM	NM
MW02-11S	2.2	40.22	23.30	21.27	21.26	23.11	23.18	NM	NM	22.75	NM	20.95	NM	NM	NM
MW02-11D	2.0	40.04	22.94	20.87	20.88	22.78	22.80	NM	20.68	NM	20.27	20.63	22.18	21.90	20.63
MW03-01S	-0.4	36.61	18.20	15.30	15.30	17.88	17.47	NM	NM	NM	NM	NM	NM	NM	NM
MW03-02S	2.2	38.37	19.95	16.97	16.98	19.59	19.64	NM	NM	19.14	NM	16.83	NM	NM	NM
MW03-02D	2.4	38.57	20.13	17.21	17.25	19.88	19.89	17.32	17.04	NM	16.42	17.14	NM	NM	NM
MW03-03S	2.0	38.36	19.75	16.84	16.88	19.51	19.48	NM	NM	18.98	NM	16.66	NM	NM	NM
MW03-03D	2.0	38.43	19.84	16.95	16.99	19.62	19.59	17.01	16.77	19.10	16.16	16.89	18.80	19.47	16.60
MW03-03R	1.27	38.21	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	18.46	19.12	16.26
MW03-04S	-0.5	37.24	18.97	16.11	16.11	18.64	18.72	NM	NM	NM	NM	16.01	NM	NM	NM
MW03-05S	-0.5	37.89	19.58	16.92	16.91	19.35	19.38	NM	NM	18.86	NM	16.76	NM	NM	NM
MW03-05D	-0.4	37.87	19.68	16.94	16.95	19.38	19.44	NM	16.50	18.95	16.32	16.82	18.70	18.30	16.62
MW03-06D	2.2	38.19	19.13	16.13	16.25	19.09	18.86	16.16	15.31	18.45	15.24	16.21	NM	NM	NM
MW03-07D	2.3	35.41	16.07	12.90	13.07	16.10	NM	12.95	12.21	15.32	11.99	13.10	NM	NM	NM
MW03-08D	2.1	32.74	13.05	9.54	9.85	13.26	NM	NM	8.62	12.30	8.36	10.18	11.20	11.55	9.29
MW03-08R	1.9	32.15	NI	NI	9.31	12.57	NM	9.11	NM	11.61	7.67	9.99	11.47	10.87	8.60
MW03-09D	2.2	43.40	NI	NI	20.34	23.76	NM	20.60	19.89	NM	19.57	20.51	22.80	22.49	19.91
MW03-10D	1.9	35.94	NI	NI	13.96	16.79	NM	13.78	13.02	NM	12.81	13.92	15.85	15.37	13.51
MW03-11S	1.4	30.98	NI	NI	NI	NI	NI	NI	NI	NI	NI	9.76	NM	NM	NM
MW03-11R	1.4	31.02	NI	NI	8.57	11.88	NM	8.54	NM	10.78	NM	9.07	NM	NM	NM
MW03-12D	1.6	36.11	NI	NI	12.05	15.91	NM	12.34	10.62	15.42	10.38	12.84	NM	NM	NM
MW03-12R	2.0	36.21	NI	NI	12.40	16.22	NM	12.61	NM	15.16	10.65	13.38	NM	NM	NM
MW03-13D	2.4	32.56	NI	NI	9.26	12.82	NM	9.28	7.92	11.86	7.81	9.78	NM	NM	NM
MW03-13R	2.3	32.38	NI	NI	9.34	12.71	NM	9.16	NM	11.76	7.56	9.96	NM	NM	NM
MW03-14D	1.6	34.00	NI	NI	8.98	13.36	NM	9.27	7.05	11.95	6.47	10.01	NM	NM	NM
MW03-14R	1.7	33.98	NI	NI	8.95	13.37	NM	9.25	NM	11.86	6.06	9.73	NM	NM	NM
MW03-14R2	1.50	33.35	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
MW-Z3-01	2.3	43.80	NI	NI	NI	NI	NI	19.98	17.88	22.92	NM	20.01	22.35	21.99	18.63

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Depth to groundwater (ft BTOR)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
MW-Z3-02	-0.5	36.67	NI	NI	NI	NI	NI	NM	20.67	NM	19.63	21.21	22.50	22.05	20.37
MW-Z3-03D	1.9	40.00	NI	NI	NI	NI	NI	NM	19.26	22.59	19.26	19.79	NM	NM	NM
MW-Z4-01	1.9	40.77	NI	NI	NI	NI	NI	NM	22.76	23.82	22.35	22.88	NM	NM	NM
MW-Z4-02	2.2	34.18	NI	NI	NI	NI	NI	NM	NM	NM	15.94	16.72	NM	NM	NM
RMW-01S	-0.4	38.20	NM	NM	18.63	21.16	19.55	NM	NM	19.49	NM	19.25	NM	NM	NM
RMW-01I	0.8	38.20	NM	NM	18.69	20.96	19.23	NM	NM	NM	NM	19.15	NM	NM	NM
RMW-01D	1.1	38.26	NM	NM	19.34	21.41	19.81	NM	17.90	NM	17.65	19.61	NM	NM	NM
RMW-02S	1.7	25.50	NM	NM	8.48	11.15	NM	NM	NM	NM	NM	NM	NM	NM	NM
RMW-02D	1.9	25.55	NM	NM	8.46	11.11	NM	NM	6.00	NM	5.56	NM	NM	NM	NM
RMW-03S	1.7	16.67	NM	NM	3.69	6.63	NM	NM	NM	NM	NM	NM	NM	NM	NM
RMW-03D	2.0	16.82	NM	NM	3.36	6.90	NM	NM	NM	NM	1.81	NM	NM	NM	NM
PGU-Z2-07	2.44	29.49	NI	NI	NI	NM	NM	NM	NM	NM	4.95	NM	NM	NM	NM
PGU-Z2-08D	2.52	27.70	NI	NI	NI	NM	NM	NM	NM	NM	8.22	9.42	NM	NM	NM
PGU-Z3-1	2.33	43.49	NI	NI	NI	23.09	NM	19.65	NM	22.65	17.29	19.49	NM	NM	NM
PGU-Z3-2	2.56	42.35	NI	NI	NI	23.23	23.20	NM	NM	22.83	18.81	20.01	NM	NM	NM
PGU-Z3-3S	2.51	15.41	NI	NI	NI	12.04	11.24	NM	NM	11.37	NM	11.39	NM	NM	NM
PGU-Z3-3D	2.41	15.19	NI	NI	NI	11.55	10.70	NM	NM	NM	9.70	10.78	NM	NM	NM
PGU-Z3-5	2.41	37.52	NI	NI	NI	18.92	NM	NM	NM	18.17	15.51	16.30	NM	NM	NM
PGU-Z3-6	2.45	40.73	NI	NI	NI	22.83	22.81	NM	NM	21.33	20.22	20.53	NM	NM	NM
PGU-Z3-7S	2.27	31.66	NI	NI	NI	14.55	NM	NM	NM	NM	NM	12.87	NM	NM	NM
PGU-Z3-7D	2.29	31.89	NI	NI	NI	14.80	NM	NM	NM	NM	12.65	13.10	NM	NM	NM
PGU-Z3-8	2.38	40.49	NI	NI	NI	24.83	24.69	NM	NM	24.36	22.46	23.05	NM	NM	NM
PGU-Z3-9S	2.45	20.31	NI	NI	NI	12.17	NM	NM	NM	10.56	NM	10.14	NM	NM	NM
PGU-Z3-9D	2.59	20.21	NI	NI	NI	12.82	NM	NM	NM	NM	8.27	10.99	NM	NM	NM
PGU-Z3-10S	2.42	42.80	NI	NI	NI	28.24	NM	NM	NM	NM	NM	26.24	NM	NM	NM
PGU-Z3-10D	2.54	42.79	NI	NI	NI	28.22	NM	NM	NM	NM	25.07	26.32	NM	NM	NM
PGU-Z3-11	2.42	27.43	NI	NI	NI	10.85	NM	NM	NM	NM	7.90	9.27	NM	NM	NM
PGU-Z4-01	2.18	38.14	NI	NI	NI	NI	NI	NI	NI	NI	20.22	22.88	NM	NM	NM
PGU-Z4-02	2.15	31.44	NI	NI	NI	NI	NI	NI	NI	NI	13.62	NM	NM	NM	NM
PGU-Z4-03S	-0.13	26.17												NM	NM
PGU-Z4-03D	-0.48	25.87	NI	NI	NI	NI	NI	NI	NI	NI	11.97	13.25	NM	NM	NM
EA-101	1.5	32.29	NI	NI	NI	NI	NI	7.39	5.10	10.20	4.62	8.35	NM	NM	NM
EA-102	1.4	33.37	NI	NI	NI	NI	NI	8.32	6.07	NM	NM	9.38	NM	NM	NM
EA-103	1.6	35.13	NI	NI	NI	NI	NI	10.46	8.15	13.45	7.72	11.15	NM	NM	NM

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Depth to groundwater (ft BTOR)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
EA-104	1.5	37.40	NI	NI	NI	NI	NI	13.22	11.15	16.24	10.81	13.43	NM	NM	NM
EA-104R	1.70	37.54	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-105	1.3	31.95	NI	NI	NI	NI	NI	7.66	5.22	9.39	4.71	8.96	NM	NM	NM
EA-105R	1.60	31.15	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-106D	1.3	33.17	NI	NI	NI	NI	NI	8.33	5.80	11.59	5.11	8.85	NM	NM	NM
EA-106R	2.3	33.84	NI	NI	NI	NI	NI	NI	NI	NI	5.59	NA	NM	NM	NM
EA-107D	1.5	31.34	NI	NI	NI	NI	NI	7.96	5.66	9.13	5.52	9.26	NM	NM	NM
EA-107R	1.30	30.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-108D	1.3	33.50	NI	NI	NI	NI	NI	8.21	5.82	10.52	5.64	9.90	NM	NM	NM
EA-108R	1.20	32.79	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-109D	1.5	33.39	NI	NI	NI	NI	NI	8.26	6.54	10.73	5.62	9.62	NM	NM	NM
EA-110D	2.1	40.15	NI	NI	NI	NI	NI	NI	NI	NI	22.23	23.71	23.61	23.34	22.76
EA-110R	2.2	39.71	NI	NI	NI	NI	NI	NI	NI	NI	21.81	22.74	23.20	22.89	22.34
EA-111D	-0.26	33.20	NI	NI	NI	NI	NI	NI	NI	NI	15.21	15.96	17.14	14.25	13.09
EA-111R	-0.32	33.30	NI	NI	NI	NI	NI	NI	NI	NI	15.13	16.61	17.12	14.33	13.24
EA-112D	2.2	48.06	NI	NI	NI	NI	NI	NI	NI	NI	22.58	24.79	NM	NM	NM
EA-112R	2.5	48.52	NI	NI	NI	NI	NI	NI	NI	NI	22.85	25.90	NM	NM	NM
EA-112R2	1.3	46.54	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-113D	2.7	31.42	NI	NI	NI	NI	NI	NI	NI	NI	3.31	7.56	NM	NM	NM
EA-113R	1.50	29.31	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-114D	2.30	32.03	NI	NI	NI	NI	NI	NI	NI	NI	NI	9.06	NM	NM	NM
EA-114R	1.50	31.67	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-116D	1.60	45.51	NI	NI	NI	NI	NI	NI	NI	NI	NI	23.64	NM	NM	NM
EA-116R	1.00	44.15	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-116R2	1.50	45.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
ME-1	1.5	32.27	NM	6.63	7.50	11.68	NM	7.59	NM	NM	NM	9.11	NM	NM	NM
ME-2	2.1	37.31	NM	12.69	13.04	16.95	NM	13.37	NM	NM	NM	NM	NM	NM	NM
ME-3	1.5	34.90	NM	8.61	9.64	14.44	NM	10.08	NM	NM	NM	NM	NM	NM	NM
ME-4	1.6	34.63	NM	9.51	10.36	15.17	NM	11.06	NM	NM	NM	NM	NM	NM	NM
NMW-1	1.7	34.23	NM	7.00	8.66	13.05	NM	8.75	NM	11.27	NM	10.39	NM	NM	NM
NMW-2	1.7	35.08	NM	NM	9.54	14.00	NM	9.72	NM	12.77	NM	10.90	NM	NM	NM
NMW-3	1.9	35.01	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
NMW-4	1.9	32.59	NM	6.30	7.11	11.62	NM	7.36	NM	NM	NM	NM	NM	NM	NM

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Elevation of Ground-Water Surface (MSL)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
NETW	0.1	32.23	15.55	18.10	NM	NM	16.28	NM	NM	NM	NM	NM	NM	NM	NM
MW01-05S	2.5	35.26	15.68	18.15	18.00	15.63	16.06	NM	NM	16.24	NM	17.90	NM	NM	NM
MW01-06S	-0.3	33.69	16.11	18.66	18.57	16.04	16.48	NM	NM	NM	NM	20.15	NM	NM	NM
MW01-07S	1.0	33.92	16.16	18.90	18.73	16.03	16.72	NM	NM	NM	NM	18.72	NM	NM	NM
MW01-08D	-0.6	37.50	NI	NI	NI	NI	18.23	NM	21.42	NM	21.56	20.80	NM	NM	NM
MW01-09D	-0.5	39.18	NI	NI	NI	NI	17.30	NM	19.62	17.66	19.82	19.82	NM	NM	NM
MW01-10S	1.5	42.73	NI	NI	NI	NI	19.36	NM	NM	19.84	NM	22.65	NM	NM	NM
MW01-10D	1.3	42.88	NI	NI	NI	NI	19.25	22.02	23.12	19.58	23.42	22.06	19.11	20.37	22.95
MW01-10R	2.10	43.96	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	20.06	20.29	22.80
MW01-11D	-0.3	38.98	NI	NI	NI	NI	15.70	NM	17.98	16.04	18.32	17.81	NM	NM	NM
MW01-12S	-0.3	36.01	NI	NI	NI	NI	16.86	NM	NM	17.10	NM	19.17	NM	NM	NM
MW01-12D	-0.4	35.96	NI	NI	NI	NI	16.90	NM	19.94	17.19	20.22	19.05	NM	NM	NM
MW01-13S	1.3	25.99	NI	NI	NI	NI	10.01	NM	NM	10.14	NM	10.34	NM	NM	NM
MW01-13D	1.6	26.29	NI	NI	NI	NI	11.57	NM	13.49	11.70	13.92	12.68	11.61	12.31	13.43
MW01-13R	1.80	26.74	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
MW01-14S	1.2	37.38	NI	NI	NI	NI	13.23	NM	NM	13.43	NM	14.03	NM	NM	NM
MW01-14D	1.4	37.62	NI	NI	NI	NI	13.78	NM	15.82	13.87	16.02	14.76	13.76	14.41	15.57
MW01-15D	-0.4	32.39	NI	NI	NI	NI	16.43	NM	19.07	16.66	19.69	18.20	16.79	17.20	19.12
MW01-15R	-0.50	32.88	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	17.03	17.53	19.40
MW02-01S	2.2	39.80	17.92	20.59	20.54	18.10	17.20	NM	NM	18.52	NM	NM	NM	NM	NM
MW02-02S	2.8	43.42	13.87	17.41	17.39	14.75	15.20	NM	NM	NM	NM	NM	NM	NM	NM
MW02-03S	3.1	42.61	15.47	17.34	17.30	15.42	15.11	NM	NM	15.90	NM	17.47	NM	NM	NM
MW02-03D	1.70	41.23	15.52	17.36	17.32	15.46	15.57	NM	17.43	15.86	17.89	17.74	16.08	16.26	17.54
MW02-03R	1.80	41.11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	16.71	16.92	18.16
MW02-04S	-0.3	38.19	18.45	19.72	19.77	17.65	18.59	NM	NM	19.06	NM	20.09	NM	NM	NM
MW02-05S	-0.3	38.17	17.58	19.88	19.94	17.81	17.80	NM	NM	18.21	NM	20.25	NM	NM	NM
MW02-06S	-0.4	36.98	17.53	19.78	19.87	NM	17.74	NM	NM	18.19	NM	20.15	NM	NM	NM
MW02-08S	-0.3	38.64	17.59	19.94	20.02	17.84	17.75	NM	NM	18.15	NM	20.28	NM	NM	NM
MW02-08D	-0.4	38.63	17.68	19.88	19.94	17.76	17.69	NM	20.22	18.08	NM	20.20	18.43	18.70	20.14
MW02-09S	-0.6	37.93	17.93	20.43	20.47	18.18	18.19	NM	NM	18.69	NM	20.72	NM	NM	NM
MW02-10S	-0.6	37.01	17.39	19.63	19.69	17.60	17.56	NM	NM	17.97	NM	19.98	NM	NM	NM
MW02-10D	-0.4	37.36	17.27	19.56	19.59	17.51	17.50	NM	19.96	17.89	19.15	19.88	NM	NM	NM
MW02-11S	2.2	40.22	16.92	18.95	18.96	17.11	17.04	NM	NM	17.47	NM	19.27	NM	NM	NM
MW02-11D	2.0	40.04	17.10	19.17	19.16	17.26	17.24	NM	19.36	NM	19.77	19.41	17.86	18.14	19.41

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Elevation of Ground-Water Surface (MSL)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
MW03-01S	-0.4	36.61	18.41	21.31	21.31	18.73	19.14	NM	NM	NM	NM	NM	NM	NM	NM
MW03-02S	2.2	38.37	18.42	21.40	21.39	18.78	18.73	NM	NM	19.23	NM	21.54	NM	NM	NM
MW03-02D	2.4	38.57	18.44	21.36	21.32	18.69	18.68	21.25	21.53	NM	22.15	21.43	NM	NM	NM
MW03-03S	2.0	38.36	18.61	21.52	21.48	18.85	18.88	NM	NM	19.38	NM	21.70	NM	NM	NM
MW03-03D	2.0	38.43	18.59	21.48	21.44	18.81	18.84	21.42	21.66	19.33	22.27	21.54	19.63	18.96	21.83
MW03-03R	1.27	38.21	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	19.75	19.09	21.95
MW03-04S	-0.5	37.24	18.27	21.13	21.13	18.60	18.52	NM	NM	NM	NM	21.23	NM	NM	NM
MW03-05S	-0.5	37.89	18.31	20.97	20.98	18.54	18.51	NM	NM	19.03	NM	21.13	NM	NM	NM
MW03-05D	-0.4	37.87	18.19	20.93	20.92	18.49	18.43	NM	21.37	18.92	21.55	21.05	19.17	19.57	21.25
MW03-06D	2.2	38.19	19.06	22.06	21.94	19.10	19.33	22.03	22.88	19.74	22.95	21.98	NM	NM	NM
MW03-07D	2.3	35.41	19.34	22.51	22.34	19.31	NM	22.46	23.20	20.09	23.42	22.31	NM	NM	NM
MW03-08D	2.1	32.74	19.69	23.20	22.89	19.48	NM	NM	24.12	20.44	24.38	22.56	21.54	21.19	23.45
MW03-08R	1.9	32.15	NI	NI	22.84	19.58	NM	23.04	NM	20.54	24.48	22.16	20.68	21.28	23.55
MW03-09D	2.2	43.40	NI	NI	23.06	19.64	NM	22.80	23.51	NM	23.83	22.89	20.60	20.91	23.49
MW03-10D	1.9	35.94	NI	NI	21.98	19.15	NM	22.16	22.92	NM	23.13	22.02	20.09	20.57	22.43
MW03-11S	1.4	30.98	NI	NI	NI	NI	NI	NI	NI	NI	NI	21.22	NM	NM	NM
MW03-11R	1.4	31.02	NI	NI	22.45	19.14	NM	22.48	NM	20.24	NM	21.95	NM	NM	NM
MW03-12D	1.6	36.11	NI	NI	24.06	20.20	NM	23.77	25.49	20.69	25.73	23.27	NM	NM	NM
MW03-12R	2.0	36.21	NI	NI	23.81	19.99	NM	23.60	NM	21.05	25.56	22.83	NM	NM	NM
MW03-13D	2.4	32.56	NI	NI	23.30	19.74	NM	23.28	24.64	20.70	24.75	22.78	NM	NM	NM
MW03-13R	2.3	32.38	NI	NI	23.04	19.67	NM	23.22	NM	20.62	24.82	22.42	NM	NM	NM
MW03-14D	1.6	34.00	NI	NI	25.02	20.64	NM	24.73	26.95	22.05	27.53	23.99	NM	NM	NM
MW03-14R	1.7	33.98	NI	NI	25.03	20.61	NM	24.73	NM	22.12	27.92	24.25	NM	NM	NM
MW03-14R2	1.50	33.35	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
MW-Z3-01	2.3	43.80	NI	NI	NI	NI	NI	23.82	25.92	20.88	NM	23.79	21.45	21.81	25.17
MW-Z3-02	-0.5	36.67	NI	NI	NI	NI	NI	NM	16.00	NM	17.04	15.46	14.17	14.62	16.30
MW-Z3-03D	1.9	40.00	NI	NI	NI	NI	NI	NM	20.74	17.41	20.74	20.21	NM	NM	NM
MW-Z4-01	1.9	40.77	NI	NI	NI	NI	NI	NM	18.01	16.95	18.42	17.89	NM	NM	NM
MW-Z4-02	2.2	34.18	NI	NI	NI	NI	NI	NM	NM	NM	18.24	17.46	NM	NM	NM
RMW-01S	-0.4	38.20	NM	NM	19.57	17.04	18.65	NM	NM	18.71	NM	18.95	NM	NM	NM
RMW-01I	0.8	38.20	NM	NM	19.51	17.24	18.97	NM	NM	NM	NM	19.05	NM	NM	NM
RMW-01D	1.1	38.26	NM	NM	18.92	16.85	18.45	NM	20.36	NM	20.61	18.65	NM	NM	NM
RMW-02S	1.7	25.50	NM	NM	17.02	14.35	NM	NM	NM	NM	NM	NM	NM	NM	NM
RMW-02D	1.9	25.55	NM	NM	17.09	14.44	NM	NM	19.55	NM	19.99	NM	NM	NM	NM

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Elevation of Ground-Water Surface (MSL)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
RMW-03S	1.7	16.67	NM	NM	12.98	10.04	NM	NM	NM	NM	NM	NM	NM	NM	NM
RMW-03D	2.0	16.82	NM	NM	13.46	9.92	NM	NM	NM	NM	15.01	NM	NM	NM	NM
PGU-Z2-07	2.44	29.49	NI	NI	NI	NM	NM	NM	NM	NM	24.54	NM	NM	NM	NM
PGU-Z2-08D	2.52	27.70	NI	NI	NI	NM	NM	NM	NM	NM	19.48	18.28	NM	NM	NM
PGU-Z3-1	2.33	43.49	NI	NI	NI	20.40	NM	23.84	NM	20.84	26.20	24.00	NM	NM	NM
PGU-Z3-2	2.56	42.35	NI	NI	NI	19.12	19.15	NM	NM	19.52	23.54	22.34	NM	NM	NM
PGU-Z3-3S	2.51	15.41	NI	NI	NI	3.37	4.17	NM	NM	4.04	NM	4.02	NM	NM	NM
PGU-Z3-3D	2.41	15.19	NI	NI	NI	3.64	4.49	NM	NM	NM	5.49	4.41	NM	NM	NM
PGU-Z3-5	2.41	37.52	NI	NI	NI	18.60	NM	NM	NM	19.35	22.01	21.22	NM	NM	NM
PGU-Z3-6	2.45	40.73	NI	NI	NI	17.90	17.92	NM	NM	19.40	20.51	20.20	NM	NM	NM
PGU-Z3-7S	2.27	31.66	NI	NI	NI	17.11	NM	NM	NM	NM	NM	18.79	NM	NM	NM
PGU-Z3-7D	2.29	31.89	NI	NI	NI	17.09	NM	NM	NM	NM	19.24	18.79	NM	NM	NM
PGU-Z3-8	2.38	40.49	NI	NI	NI	15.66	15.80	NM	NM	16.13	18.03	17.44	NM	NM	NM
PGU-Z3-9S	2.45	20.31	NI	NI	NI	8.14	NM	NM	NM	9.75	NM	10.17	NM	NM	NM
PGU-Z3-9D	2.59	20.21	NI	NI	NI	7.39	NM	NM	NM	NM	11.94	9.22	NM	NM	NM
PGU-Z3-10S	2.42	42.80	NI	NI	NI	14.56	NM	NM	NM	NM	NM	16.56	NM	NM	NM
PGU-Z3-10D	2.54	42.79	NI	NI	NI	14.57	NM	NM	NM	NM	17.72	16.47	NM	NM	NM
PGU-Z3-11	2.42	27.43	NI	NI	NI	16.58	NM	NM	NM	NM	19.53	18.16	NM	NM	NM
PGU-Z4-01	2.18	38.14	NI	NI	NI	NI	NI	NI	NI	NI	17.92	15.26	NM	NM	NM
PGU-Z4-02	2.15	31.44	NI	NI	NI	NI	NI	NI	NI	NI	17.82	NM	NM	NM	NM
PGU-Z4-03S	-0.13	26.17												0.00	NM
PGU-Z4-03D	-0.48	25.87	NI	NI	NI	NI	NI	NI	NI	NI	13.90	12.62	NM	NM	NM
EA-101	1.5	32.29	NI	NI	NI	NI	NI	24.90	27.19	22.09	27.67	23.94	NM	NM	NM
EA-102	1.4	33.37	NI	NI	NI	NI	NI	25.05	27.30	NM	NM	23.99	NM	NM	NM
EA-103	1.6	35.13	NI	NI	NI	NI	NI	24.67	26.98	21.68	27.41	23.98	NM	NM	NM
EA-104	1.5	37.40	NI	NI	NI	NI	NI	24.18	26.25	21.16	26.59	23.97	NM	NM	NM
EA-104R	1.70	37.54	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-105	1.3	31.95	NI	NI	NI	NI	NI	24.29	26.73	22.56	27.24	22.99	NM	NM	NM
EA-105R	1.60	31.15	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-106D	1.3	33.17	NI	NI	NI	NI	NI	24.84	27.37	21.58	28.06	24.32	NM	NM	NM
EA-106R	2.3	33.84	NI	NI	NI	NI	NI	NI	NI	NI	28.25	NA	NM	NM	NM
EA-107D	1.5	31.34	NI	NI	NI	NI	NI	23.38	25.68	22.21	25.82	22.08	NM	NM	NM
EA-107R	1.30	30.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-108D	1.3	33.50	NI	NI	NI	NI	NI	25.29	27.68	22.98	27.86	23.60	NM	NM	NM

Well Number	Stickup* ft BGS	Elev. Top of Riser (MSL)	Elevation of Ground-Water Surface (MSL)												
			11/30/94-12/01/94	4/27/95	5/31/95-6/2/95	10/3/95	11/17/95	7/18/96	12/96	12/97	02/98	7/26/00-7/28/00	11/14/01	12/13/02	1/21/03
EA-108R	1.20	32.79	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-109D	1.5	33.39	NI	NI	NI	NI	NI	25.13	26.85	22.66	27.77	23.77	NM	NM	NM
EA-110D	2.1	40.15	NI	NI	NI	NI	NI	NI	NI	NI	17.92	16.44	16.54	16.81	17.39
EA-110R	2.2	39.71	NI	NI	NI	NI	NI	NI	NI	NI	17.90	16.97	16.51	16.82	17.37
EA-111D	-0.26	33.20	NI	NI	NI	NI	NI	NI	NI	NI	17.99	17.24	16.06	18.95	20.11
EA-111R	-0.32	33.30	NI	NI	NI	NI	NI	NI	NI	NI	18.17	16.69	16.18	18.97	20.06
EA-112D	2.2	48.06	NI	NI	NI	NI	NI	NI	NI	NI	25.48	23.27	NM	NM	NM
EA-112R	2.5	48.52	NI	NI	NI	NI	NI	NI	NI	NI	25.67	22.62	NM	NM	NM
EA-112R2	1.3	46.54	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-113D	2.7	31.42	NI	NI	NI	NI	NI	NI	NI	NI	28.11	23.86	NM	NM	NM
EA-113R	1.50	29.31	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-114D	2.30	32.03	NI	NI	NI	NI	NI	NI	NI	NI	NI	22.97	NM	NM	NM
EA-114R	1.50	31.67	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-116D	1.60	45.51	NI	NI	NI	NI	NI	NI	NI	NI	NI	21.87	NM	NM	NM
EA-116R	1.00	44.15	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
EA-116R2	1.50	45.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	NM	NM	NM
ME-1	1.5	32.27	NM	25.64	24.77	20.59	NM	24.68	NM	NM	NM	23.16	NM	NM	NM
ME-2	2.1	37.31	NM	24.62	24.27	20.36	NM	23.94	NM	NM	NM	NM	NM	NM	NM
ME-3	1.5	34.90	NM	26.29	25.26	20.46	NM	24.82	NM	NM	NM	NM	NM	NM	NM
ME-4	1.6	34.63	NM	25.12	24.27	19.46	NM	23.57	NM	NM	NM	NM	NM	NM	NM
NMW-1	1.7	34.23	NM	27.23	25.57	21.18	NM	25.48	NM	22.96	NM	23.84	NM	NM	NM
NMW-2	1.7	35.08	NM	NM	25.54	21.08	NM	25.36	NM	22.31	NM	24.18	NM	NM	NM
NMW-3	1.9	35.01	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
NMW-4	1.9	32.59	NM	26.29	25.48	20.97	NM	25.23	NM	NM	NM	NM	NM	NM	NM

TABLE 3 GROUND-WATER QUALITY FIELD PARAMETERS MEASURED PRIOR TO SAMPLING (JANUARY 2003)

Well Number	Date	Time	Temp (°C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Salinity (ppth)	Eh (mV)	Depth to Water (ft BTOC)
EA-111R	1/21/03	1505	4.25	11.90	0.685	2.09	3.22	0.32	14.5	15.45
EA-111D	1/21/03	1505	6.33	6.07	0.117	24.53*	33.9	0.09	27.6	13.14
EA-110R	1/27/03	1425	9.47	8.93	0.145	9.75	3.68	0.10	-117.9	12.66
EA-110D	1/27/03	1440	9.80	6.97	0.165	1.78	42	0.11	-373	22.81
MW01-10D	1/22/03	1430	7.60	6.65	0.099	2.70	7.04	0.07	-4.4	19.97
MW01-10R	1/22/03	1420	9.09	7.17	0.202	0.65	8.50	0.10	-87.2	21.54
MW01-13D	1/22/03	0940	0.59	6.63	0.207	2.76	37.5	0.10	-23.1	13.05
MW01-14D	1/22/03	1055	8.76	6.47	0.114	1.01	4.51	0.08	-33.3	22.80
MW01-15D	1/23/03	1525	7.54	6.24	0.077	2.02	11	0.05	79	13.38
MW01-15R	1/23/03	1500	9.92	7.23	0.122	1.42	18.1	0.08	-111.1	13.40
MW02-03D	1/23/03	1010	6.92	6.60	0.107	2.92	20.0	0.08	-3.7	23.61
MW02-03R	1/24/03	1000	10.66	7.51	0.168	2.34	41	0.11	-195	22.91
MW02-08D	1/22/03	1435	10.14	5.55	0.068	0.64	10	0.04	172.0	18.75
MW02-11D	1/23/03	1020	6.28	6.27	0.194	3.90	4.59	0.09	10.7	20.60
MW03-03D	1/27/03	1415	11.51	6.52	0.133	0.53	9.85	0.09	-15.3	16.75
MW03-03R	1/27/03	1356	11.10	6.27	0.157	14.82*	0.5	0.10	-20.5	16.35
MW03-05D	1/28/03	1045	10.31	5.87	0.059	7.55	33.2	0.04	221.2	17.08
MW03-08D	1/27/03	0952	7.29	5.46	0.089	4.69	1.45	0.06	252.8	9.54
MW03-08R	1/27/03	0940	4.29	6.84	0.122	0.83	3.34	0.10	13.5	9.02
MW03-09D	1/24/03	0918	5.19	6.56	0.169	0.78	5.3	0.08	-40.3	20.01**
MW03-10D	1/28/03	1028	9.64	5.39	0.070	4.71	2	0.05	-355.6	13.78
MW-Z3-01	1/24/03	0928	7.84	6.31	0.139	1.15	10.1	0.10	0.4	18.75
MW-Z3-02	1/23/03	1406	8.47	6.25	0.161	0.67	6.92	0.11	4.8	20.64

NOTE: NTU = Nephelometric turbidity units.
BTOC = Below top of casing.
* = Instrument error. Instruments calibrated well at beginning and mid-point of the sampling day. However, for instrument used at EA-111D, a problem was identified and the membrane was replaced at end of day. During the end-of-day calibration process, the instrument used at MW03-03R would not calibrate properly and the instrument was taken out of service and returned to the rental company.
** = Last reading not recorded, second to last measurement shown.
Equipment used: YSI 6-Series (pH, temperature, conductivity, salinity, dissolved oxygen), dedicated bladder pump, and Lamotte turbidimeter.

TABLE 4 VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUND-WATER SAMPLES, SITE 03, JANUARY 2003

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	EA-110D	EA-110R	EA-111D	EA-111R	MW01-10D	MW01-10R	MW01-13D	MW01-14D	MW01-15D
				1/27/03	1/27/03	1/21/03	1/21/03	1/22/03	1/22/03	1/22/03	1/22/03	1/23/03
				Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			0.112J	<1UJ	0.977J	<1U	<1UJ	<1UJ	<1UJ	<1U	0.341J
1,1,2-Trichloroethane	µg/L	5		<1UJ	<1UJ	0.446J	<1U	<1UJ	<1UJ	<1UJ	0.416J	<1UJ
1,1-Dichloroethane	µg/L			<1UJ	<1UJ	2.55J	0.548J	0.283J	<1UJ	<1UJ	0.319J	<1UJ
1,1-Dichloroethene	µg/L	7	7	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
1,2-Dichloroethane	µg/L	5	110	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
2-Butanone	µg/L			<5R	<5R	<5R	1.48J	<5R	<5R	<5R	<5R	<5R
2-Hexanone	µg/L			<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R
4-Methyl-2-pentanone	µg/L			<5UJ	<5UJ	<5UJ	<5U	<5UJ	<5UJ	<5UJ	<5U	<5UJ
Acetone	µg/L			<5R	<5R	13J	<5R	<5R	<5R	<5R	<5R	<5R
Benzene	µg/L	5	140	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Bromodichloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Bromoform	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	0.125J	<1UJ	<1U	0.179J
Bromomethane	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Carbon disulfide	µg/L			<1UJ	0.434J	<1UJ	0.563J	<1UJ	0.39J	<1UJ	<1U	<1UJ
Carbon tetrachloride	µg/L	5	70	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Chlorobenzene	µg/L	100	3,200	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Chloroethane	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Chloroform	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Chloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	0.21J	<1UJ	0.481J	0.365J	<1UJ	<1UJ	0.251J	4.67	0.951J
cis-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Dibromochloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Ethylbenzene	µg/L	700	1,600	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Methylene chloride	µg/L	5		<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Styrene	µg/L	100	2,200	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Tetrachloroethene	µg/L	5	150	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Toluene	µg/L	1,000	1,700	<1UJ	0.297J	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	0.232J
trans-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ
Trichloroethene	µg/L	5	540	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Vinyl chloride	µg/L	2		0.17J	<1UJ	<1UJ	<1U	0.114J	<1UJ	<1UJ	0.917J	<1UJ
Xylenes (total)	µg/L	10,000		<3UJ	<3UJ	<3UJ	<3U	<3UJ	<3UJ	<3UJ	<3U	<3UJ
Total CVOC	µg/L			0.492	ND	4.454	0.913	0.397	ND	0.251	6.322	1.524
Total BTEX	µg/L			ND	0.297	ND	ND	ND	ND	ND	ND	ND

NOTES: * = Concentration exceeds MCL/RIDEM GA.
RIDEM = Rhode Island Department of Environmental Management.
MCL = Maximum contaminant level.
BTEX = Benzene, toluene, ethylbenzene, and total xylene.
CVOC = Chlorinated volatile organic compound.
UJ = The compound was analyzed for but not detected, estimated quantitation limit shown.
U = Not detected
J = Estimated value.
R = Rejected.
ND = Not detected.

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW01-15R	MW02-03D	MW02-03R	MW02-08D	MW02-08D Dup	MW02-11D	MW03-03D	MW03-03R Dup	MW03-03R
				1/23/03	1/23/03	1/23/03	1/22/03	1/22/03	1/23/03	1/27/03	1/27/03	1/27/03
				Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			0.19J	1.18J	0.545J	2.56J	2.26J	0.699J	19J	19J	18J
1,1,2-Trichloroethane	µg/L	5		<1UJ	2.28J	2.23J	1.13J	1.01J	1.75J	3.68J	2.08J	2.16J
1,1-Dichloroethane	µg/L			<1UJ	0.593J	0.649J	0.264J	0.235J	0.781J	0.704J	0.419J	0.436J
1,1-Dichloroethene	µg/L	7	7	<1UJ	<1UJ	0.257J	<1UJ	<1UJ	<1UJ	0.556J	<1UJ	0.315J
1,2-Dichloroethane	µg/L	5	110	<1UJ	<1UJ	0.143J	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
2-Butanone	µg/L			<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R
2-Hexanone	µg/L			<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R
4-Methyl-2-pentanone	µg/L			<5UJ	<5UJ	<5UJ	<5UJ	<5UJ	<5UJ	<5UJ	<5UJ	<5UJ
Acetone	µg/L			<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R	<5R
Benzene	µg/L	5	140	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Bromodichloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Bromoform	µg/L			<1UJ	0.319J	<1UJ	0.754J	0.917J	0.357J	<1UJ	<1UJ	<1UJ
Bromomethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Carbon disulfide	µg/L			<1UJ	<1UJ	0.112J	<1UJ	<1UJ	<1UJ	<1UJ	0.416J	0.423J
Carbon tetrachloride	µg/L	5	70	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Chlorobenzene	µg/L	100	3,200	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	0.186J	<1UJ	<1UJ	<1UJ
Chloroethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Chloroform	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Chloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	0.588J	31J	34J	15J	14J	24J	82J*	38J	40J
cis-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Dibromochloromethane	µg/L			<1UJ	<1UJ	<1UJ	0.229J	0.269J	<1UJ	<1UJ	<1UJ	<1UJ
Ethylbenzene	µg/L	700	1,600	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Methylene chloride	µg/L	5		<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Styrene	µg/L	100	2,200	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Tetrachloroethene	µg/L	5	150	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	0.154J	0.127J
Toluene	µg/L	1,000	1,700	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	<1UJ	2.62J	2.68J	1.7J	1.47J	1.14J	28J	11J	11J
trans-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ	<1UJ
Trichloroethene	µg/L	5	540	<1UJ	13J*	11J*	14J*	12J*	<1UJ	220J*	95J*	91J*
Vinyl chloride	µg/L	2		<1UJ	1.44J	1.76J	0.505J	0.466J	2.01J*	2.33J*	1.11J	1.1J
Xylenes (total)	µg/L	10,000		<3UJ	<3UJ	<3UJ	<3UJ	<3UJ	<3UJ	<3UJ	<3UJ	<3UJ
Total CVOC	µg/L			0.778	52.113	53.264	35.159	31.441	30.566	356.27	166.763	164.138
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW03-05D	MW03-08D Dup	MW03-08D	MW03-08R	MW03-09D	MW03-10D	MW-Z3-01	MW-Z3-02
				1/28/03	1/27/03	1/27/03	1/27/03	1/24/03	1/28/03	1/24/03	1/23/03
				Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			0.159J	590J	620J	620J	3.64J	27J	87J	0.296J
1,1,2-Trichloroethane	µg/L	5		<1UJ	22J*	18J*	36J*	6.74J*	2.28J	11J*	<1UJ
1,1-Dichloroethane	µg/L			<1UJ	0.503J	0.423J	1.42J	1.28J	0.305J	<20UJ	<1UJ
1,1-Dichloroethene	µg/L	7	7	<1UJ	1.44J	1.36J	6.89J	<10UJ	0.188J	<20UJ	<1UJ
1,2-Dichloroethane	µg/L	5	110	<1UJ	0.205J	<1UJ	0.377J	<10UJ	<1UJ	<20UJ	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
2-Butanone	µg/L			<5R	<5R	<5R	<5R	<50R	<5R	<100R	<5R
2-Hexanone	µg/L			<5R	<5R	<5R	<5R	<50R	<5R	<100R	<5R
4-Methyl-2-pentanone	µg/L			<5UJ	<5UJ	<5UJ	<5UJ	<50UJ	<5UJ	<100UJ	<5UJ
Acetone	µg/L			<5R	<5R	<5R	<5R	<50R	<5R	<100R	<5R
Benzene	µg/L	5	140	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Bromodichloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Bromoform	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	0.234J
Bromomethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Carbon disulfide	µg/L			<1UJ	<1UJ	<1UJ	1.09J	<10UJ	<1UJ	<20UJ	<1UJ
Carbon tetrachloride	µg/L	5	70	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Chlorobenzene	µg/L	100	3,200	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Chloroethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Chloroform	µg/L			<1UJ	0.285J	0.243J	0.326J	<10UJ	<1UJ	<20UJ	<1UJ
Chloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	0.301J	190J*	200J*	390J*	200J*	36J	210J*	1.15J
cis-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Dibromochloromethane	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Ethylbenzene	µg/L	700	1,600	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Methylene chloride	µg/L	5		<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Styrene	µg/L	100	2,200	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Tetrachloroethene	µg/L	5	150	<1UJ	9.86J*	8.4J*	3.65J	<10UJ	<1UJ	<20UJ	<1UJ
Toluene	µg/L	1,000	1,700	<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	<1UJ	90J	91J	140J*	33J	11J	80J	0.181J
trans-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<1UJ	<1UJ	<10UJ	<1UJ	<20UJ	<1UJ
Trichloroethene	µg/L	5	540	<1UJ	1,000J*	1,100J*	1,900J*	150J*	100J*	590J*	<1UJ
Vinyl chloride	µg/L	2		<1UJ	4.54J*	3.57J*	11J*	6.54J*	0.53J	7.81J*	<1UJ
Xylenes (total)	µg/L	10,000		<3UJ	<3UJ	<3UJ	<3UJ	<30UJ	<3UJ	<60UJ	<3UJ
Total CVOC	µg/L			0.46	1,908.833	2,042.996	3,109.663	401.2	177.303	985.81	1.627
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND

TABLE 5 SUMMARY OF VERTICAL HYDRAULIC GRADIENTS

Well Cluster	Date	Vertical Distance* (ft)	Head Difference** (ft)	Hydraulic Gradient (ft/ft)
MW01-10 D/R	07/28/00	NA	NA	NA
	11/14/01	77.22	0.95	1.23E-02
	12/13/02	78.48	-0.08	-1.02E-03
	01/21/03	81.06	-0.15	-1.85E-03
MW01-15D/R	07/28/00	NA	NA	NA
	11/14/01	52.39	0.24	4.58E-03
	12/13/02	52.80	0.33	6.25E-03
	01/21/03	54.72	0.28	5.12E-03
MW02-03D/R	07/28/00	NA	NA	NA
	11/14/01	35.28	0.63	1.79E-02
	12/13/02	35.46	0.66	1.86E-02
	01/21/03	36.74	0.62	1.69E-02
MW03-03D/R	07/28/00	NA	NA	NA
	11/14/01	66.03	0.12	1.82E-03
	12/13/02	65.36	0.13	1.99E-03
	01/21/03	68.23	0.12	1.76E-03
MW03-08D/R	06/02/95	44.09	-0.05	-1.13E-03
	10/03/95	40.68	0.10	2.46E-03
	12/1997	41.64	0.10	2.40E-03
	2/1998	45.58	0.10	2.19E-03
	07/28/00	43.76	-0.40	-9.14E-03
	11/14/01	42.74	-0.86	-2.01E-02
	12/13/02	42.39	0.09	2.12E-03
	01/21/03	44.65	0.10	2.24E-03
EA-110D/R	02/01/98	79.92	-0.02	-2.50E-04
	07/28/00	78.44	0.53	6.76E-03
	11/14/01	78.54	-0.03	-3.82E-04
	12/13/02	78.81	0.01	1.27E-04
	01/21/03	79.39	-0.02	-2.52E-04
EA-111D/R	02/01/98	61.59	0.18	2.92E-03
	07/28/00	60.84	-0.55	-9.04E-03
	11/14/01	59.66	0.12	2.01E-03
	12/13/02	62.55	0.02	3.20E-04
	01/21/03	63.71	-0.05	-7.85E-04

NOTE: NA = Not applicable. The well had recently been installed and developed and the water level had not fully recovered prior to the water level measurement event.
* = Vertical Distance is the difference in elevation between the water table in the shallow well and the middle of the screened interval in the deep well.
** = Head Difference is the elevation of the deep well piezometric level minus the water table elevation. Thus, negative signs represent downward gradients.
Hydraulic Gradient is the Head Difference divided by the Vertical Distance.

TABLE 6 VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUND-WATER SAMPLES FROM MONITORING WELLS SITES 02/03 STUDY AREAS 01/04, 1995, 1996, 1998, 2000, 2001, 2003

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	EA-110D 3/12/98 Site 03	EA-110D 9/26/00 Site 03	EA-110D 11/16/01 Site 03	EA-110D 1/27/2003 Site 03	EA-110R 3/17/98 Site 03	EA-110R 9/26/00 Site 03	EA-110R 11/16/01 Site 03	EA-110R 1/27/2003 Site 03	EA-111D 3/12/98 Site 03	EA-111D Dup 3/12/98 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
1,1,2,2-Tetrachloroethane	µg/L			<1U	<1U	<1UJ	0.112J	<1U	<1U	<1UJ	<1UJ	<1U	<1U
1,1,2-Trichloroethane	µg/L	5		<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
1,1-Dichloroethane	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	0.60J	0.60J
1,1-Dichloroethene	µg/L	7	7	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
1,2-Dichloroethane	µg/L	5	110	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
1,2-Dichloropropane	µg/L	5	3,000	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
2-Butanone	µg/L				<5R	<1R	<5R		<5R	<1R	<5R		
2-Hexanone	µg/L				<5U	<1UJ	<5R		<5U	<1UJ	<5R		
4-Methyl-2-Pentanone	µg/L				<5U	<1UJ	<5UJ		<5U	<1UJ	<5UJ		
Acetone	µg/L				<5R	<1R	<5R		<5R	4.23J	<5R		
Benzene	µg/L	5	140	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Bromodichloromethane	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Bromoform	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Bromomethane	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Carbon Disulfide	µg/L				<1U	<1UJ	<1UJ		1.15	2.1J	0.434J		
Carbon Tetrachloride	µg/L	5	70	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Chlorobenzene	µg/L	100	3,200	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Chloroethane	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Chloroform	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Chloromethane	µg/L			<1U	<1U	<1UJ	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<1U	<1U
cis-1,2-Dichloroethene	µg/L	70	2,400	<1U	<1U	0.165J	0.21J	<1U	<1U	<1UJ	<1UJ	<1U	<1U
cis-1,3-Dichloropropene	µg/L				<1U	<1UJ	<1UJ		<1U	<1UJ	<1UJ		
Dibromochloromethane	µg/L			<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Ethylbenzene	µg/L	700	1,600	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
M,P-Xylenes	µg/L			<2U	<2U	<1UJ		<2U	<2U	<1UJ		<2U	<2U
Methylene Chloride	µg/L	5		<1U	<1U	0.23J	<1UJ	<1U	<1U	0.161J	<1UJ	<1U	<1U
O-Xylene	µg/L			<1U	<1U	<1UJ		<1U	<1U	<1UJ		<1U	<1U
Styrene	µg/L	100	2,200	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Tetrachloroethene	µg/L	5	150	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Toluene	µg/L	1,000	1,700	<1U	<1U	<1UJ	<1UJ	2	<1U	0.16J	0.297J	<1U	<1U
trans-1,2-Dichloroethene	µg/L	100	2,800	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
trans-1,3-Dichloropropene	µg/L				<1U	<1UJ	<1UJ		<1U	<1UJ	<1UJ		
Trichloroethene	µg/L	5	540	<1U	<1U	<1UJ	<1UJ	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Vinyl Chloride	µg/L	2		<1U	<1U	<1UJ	0.17J	<1U	<1U	<1UJ	<1UJ	<1U	<1U
Xylenes (Total)	µg/L	10,000			<3U	<1UJ	<3UJ		<3U	<1UJ	<3UJ		
Total Chlorinated VOC	µg/L			ND	ND	0.2	0.492	ND	ND	ND	ND	0.6	0.6
Total BTEX	µg/L			ND	ND	ND	ND	2	ND	0.16	0.297	ND	ND

NOTE: MCL = Maximum contaminant level. RIDEM = Rhode Island Department of Environmental Management. CVOC = Chlorinated volatile organic compound.
BTEX = Benzene, toluene, ethylbenzene, and total xylene. U = Not detected. J = Estimated. ND = Not detected. * = Concentration exceeds MCL/RIDEM GA.

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	EA-111D 9/27/00 Site 03	EA-111D 11/15/01 Site 03	EA-111D 1/21/03 Site 03	EA-111R 3/13/98 Site 03	EA-111R 9/27/00 Site 03	EA-111R Dup 9/27/00 Site 03	EA-111R 11/15/01 Site 03	EA-111R 1/21/03 Site 03	MW01-10D 11/7/95 Study Area 01	MW01-10D 12/13/96 Study Area 01
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
1,1,2,2-Tetrachloroethane	µg/L			<1U	<5U	0.977J	<1U	<1U	<1U	<5U	<1U	<10U	<1U
1,1,2-Trichloroethane	µg/L	5		<1U	<5U	0.446J	<1U	<1U	<1U	<5U	<1U	<10U	<1U
1,1-Dichloroethane	µg/L			1.35	2	2.55J	<1U	<1U	<1U	1	0.548J	<10U	<1U
1,1-Dichloroethene	µg/L	7	7	<1U	<5UJ	<1UJ	<1U	<1U	<1U	<5UJ	<1U	<10U	<1U
1,2-Dichloroethane	µg/L	5	110	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
1,2-Dichloropropane	µg/L	5	3,000	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
2-Butanone	µg/L			<5R	<5U	<5R		<5R	<5R	<5U	1.48J	<10U	
2-Hexanone	µg/L			<5U	<5U	<5R		<5U	<5U	<5U	<5R	<10U	
4-Methyl-2-Pentanone	µg/L			<5U	<5U	<5UJ		<5U	<5U	<5U	<5U	<10U	
Acetone	µg/L			<5R	<5R	13J		<5R	<5R	<5R	<5R	<26U	
Benzene	µg/L	5	140	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
Bromodichloromethane	µg/L			<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
Bromoform	µg/L			<1U	<5UJ	<1UJ	<1U	<1U	<1U	<5UJ	<1U	<10U	<1U
Bromomethane	µg/L			<1U	<5UJ	<1UJ	<1U	<1U	<1U	<5UJ	<1U	<10U	<1U
Carbon Disulfide	µg/L			<1U	<5UJ	<1UJ		<1U	<1U	<5UJ	0.563J	<10U	
Carbon Tetrachloride	µg/L	5	70	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
Chlorobenzene	µg/L	100	3,200	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
Chloroethane	µg/L			<1U	<5UJ	<1UJ	<1U	<1U	<1U	<5UJ	<1U	<10U	<1U
Chloroform	µg/L			<1U	<5U	<1UJ	1	<1U	<1U	<5U	<1U	<10U	<1U
Chloromethane	µg/L			<1U	<5UJ	<1UJ	<1UJ	<1U	<1U	<5UJ	<1U	<10U	<1U
cis-1,2-Dichloroethene	µg/L	70	2,400	<1U	<5U	0.481J	<1U	<1U	<1U	<5U	0.365J		<1U
cis-1,3-Dichloropropene	µg/L			<1U	<5U	<1UJ		<1U	<1U	<5U	<1U	<10U	
Dibromochloromethane	µg/L			<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
Ethylbenzene	µg/L	700	1,600	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
M,P-Xylenes	µg/L			<2U	<5U		<2U	<2U	<2U	<5U			<2U
Methylene Chloride	µg/L	5		<1U	<5UJ	<1UJ	<1U	<1U	<1U	<5UJ	<1UJ	<10U	<2U
O-Xylene	µg/L			<1U	<5U		<1U	<1U	<1U	<5U			<1U
Styrene	µg/L	100	2,200	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U	<10U	<1U
Tetrachloroethene	µg/L	5	150	<1U	<5U	<1UJ	1	<1U	<1U	<5U	<1U	<10U	<1U
Toluene	µg/L	1,000	1,700	<1U	<5U	<1UJ	1	<1U	<1U	<5U	<1U	<10U	<1U
trans-1,2-Dichloroethene	µg/L	100	2,800	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1U		<1U
trans-1,3-Dichloropropene	µg/L			<1U	<5U	<1UJ		<1U	<1U	<5U	<1U	<10U	
Trichloroethene	µg/L	5	540	<1U	<5U	<1UJ	<1U	<1U	<1U	<5U	<1UJ	<10U	<1U
Vinyl Chloride	µg/L	2		<1U	<5UJ	<1UJ	<1U	<1U	<1U	<5UJ	<1U	<10U	<1U
Xylenes (Total)	µg/L	10,000		<3U	<5U	<3UJ		<3U	<3U	<5U	<3U	<10U	
Total Chlorinated VOC	µg/L			1.35	2.0	4.454	2	ND	ND	1.0	0.913	ND	ND
Total BTEX	µg/L			ND	ND	ND	1	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW01-10D 10/3/00 Study Area 01	MW01-10D 11/15/01 Study Area 01	MW01-10D 1/22/03 Site 03	MW01-10R 10/3/00 Study Area 01	MW01-10R 11/15/01 Study Area 01	MW01-10R 1/22/03 Site 03	MW01-13D 11/9/95 Study Area 01	MW01-13D DUP 11/9/95 Study Area 01	MW01-13D 12/13/96 Study Area 01
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
1,1,2,2-Tetrachloroethane	µg/L			<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
1,1,2-Trichloroethane	µg/L	5		<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
1,1-Dichloroethane	µg/L			<1U	<5U	0.283J	<1U	<5U	<1UJ	<10U	<10U	<1U
1,1-Dichloroethene	µg/L	7	7	<1U	<5UJ	<1UJ	<1U	<5UJ	<1UJ	<10U	<10U	<1U
1,2-Dichloroethane	µg/L	5	110	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
1,2-Dichloropropane	µg/L	5	3,000	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
2-Butanone	µg/L			<5R	<5U	<5R	<5R	<5U	<5R	<10U	<10U	
2-Hexanone	µg/L			<5U	<5U	<5R	<5U	<5U	<5R	<10U	<10U	
4-Methyl-2-Pentanone	µg/L			<5U	<5U	<5UJ	<5U	<5U	<5UJ	<10U	<10U	
Acetone	µg/L			<5R	<5R	<5R	<5R	<5R	<5R	<45U	<13U	
Benzene	µg/L	5	140	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Bromodichloromethane	µg/L			<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Bromoform	µg/L			<1U	<5UJ	<1UJ	<1U	<5UJ	0.125J	<10U	<10U	<1U
Bromomethane	µg/L			<1U	<5UJ	<1UJ	<1U	<5UJ	<1UJ	<10U	<10U	<1U
Carbon Disulfide	µg/L			<1U	<5UJ	<1UJ	<1U	<5UJ	0.39J	<10U	<10U	
Carbon Tetrachloride	µg/L	5	70	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Chlorobenzene	µg/L	100	3,200	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Chloroethane	µg/L			<1U	<5UJ	<1UJ	<1U	<5UJ	<1UJ	<10U	<10U	<1U
Chloroform	µg/L			<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Chloromethane	µg/L			<1U	<5UJ	<1UJ	<1U	<5UJ	<1UJ	1	<10U	<1U
cis-1,2-Dichloroethene	µg/L	70	2,400	<1U	<5U	<1UJ	<1U	<5U	<1UJ			<1U
cis-1,3-Dichloropropene	µg/L			<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	
Dibromochloromethane	µg/L			<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Ethylbenzene	µg/L	700	1,600	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
M,P-Xylenes	µg/L			<2U	<5U		<2U	<5U				<2U
Methylene Chloride	µg/L	5		<1U	<5UJ	<1UJ	<1U	<5UJ	<1UJ	<10U	<10U	<2U
O-Xylene	µg/L			<1U	<5U		<1U	<5U				<1U
Styrene	µg/L	100	2,200	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Tetrachloroethene	µg/L	5	150	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Toluene	µg/L	1,000	1,700	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
trans-1,2-Dichloroethene	µg/L	100	2,800	<1U	<5U	<1UJ	<1U	<5U	<1UJ			<1U
trans-1,3-Dichloropropene	µg/L			<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	
Trichloroethene	µg/L	5	540	<1U	<5U	<1UJ	<1U	<5U	<1UJ	<10U	<10U	<1U
Vinyl Chloride	µg/L	2		<1U	<5UJ	0.114J	<1U	<5UJ	<1UJ	<10U	<10U	<1U
Xylenes (Total)	µg/L	10,000		<3U	<5U	<3UJ	<3U	<5U	<3UJ	<10U	<10U	
Total Chlorinated VOC	µg/L			ND	ND	0.397	ND	ND	ND	ND	ND	ND
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW01-13D Dup 12/13/96 Study Area 01	MW01-13D 9/27/00 Study Area 01	MW01-13D 11/14/01 Study Area 01	MW01-13D 1/22/03 Site 03	MW01-14D 11/8/95 Study Area 01	MW01-14D 12/15/96 Study Area 01	MW01-14D 3/10/98 Study Area 01	MW01-14D 9/27/00 Study Area 01	MW01-14D 11/14/01 Study Area 01
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
1,1,2,2-Tetrachloroethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
1,1,2-Trichloroethane	µg/L	5		<1U	<1U	<5U	<1UJ	<10U	<1U	0.60J	<1U	<5U
1,1-Dichloroethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
1,1-Dichloroethene	µg/L	7	7	<1U	<1U	<5UJ	<1UJ	<10U	<1U	<1UJ	<1U	<5UJ
1,2-Dichloroethane	µg/L	5	110	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
1,2-Dichloropropane	µg/L	5	3,000	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
2-Butanone	µg/L				<5R	<10U	<5R	<10U			<5R	<10U
2-Hexanone	µg/L				<5U	<10U	<5R	<10U			<5U	<10U
4-Methyl-2-Pentanone	µg/L				<5U	<10U	<5UJ	<10U			<5U	<10U
Acetone	µg/L				<5R	<10R	<5R	<47U			<5R	<10R
Benzene	µg/L	5	140	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Bromodichloromethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Bromoform	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Bromomethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Carbon Disulfide	µg/L				<1U	<5U	<1UJ	<10U			<1U	<5U
Carbon Tetrachloride	µg/L	5	70	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Chlorobenzene	µg/L	100	3,200	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Chloroethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Chloroform	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Chloromethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
cis-1,2-Dichloroethene	µg/L	70	2,400	<1U	<1U	<5U	0.251J		2	3J	4.09	4
cis-1,3-Dichloropropene	µg/L				<1U	<5U	<1UJ	<10U			<1U	<5U
Dibromochloromethane	µg/L			<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Ethylbenzene	µg/L	700	1,600	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
M,P-Xylenes	µg/L			<2U	<2U	<10U			<2U	<2UJ	<2U	<10U
Methylene Chloride	µg/L	5		<3U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
O-Xylene	µg/L			<1U	<1U	<5U			<1U	<1UJ	<1U	<5U
Styrene	µg/L	100	2,200	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Tetrachloroethene	µg/L	5	150	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Toluene	µg/L	1,000	1,700	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
trans-1,2-Dichloroethene	µg/L	100	2,800	<1U	<1U	<5U	<1UJ		<1U	<1UJ	<1U	<5U
trans-1,3-Dichloropropene	µg/L				<1U	<5U	<1UJ	<10U			<1U	<5U
Trichloroethene	µg/L	5	540	<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Vinyl Chloride	µg/L	2		<1U	<1U	<5U	<1UJ	<10U	<1U	<1UJ	<1U	<5U
Xylenes (Total)	µg/L	10,000			<3U	<15U	<3UJ	<10U			<3U	<15U
Total Chlorinated VOC	µg/L			ND	ND	ND	0.251	ND	2	3.6	4.13	4.0
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW01-14D 1/22/03 Site 03	MW01-15D 11/7/95 Study Area 01	MW01-15D 12/10/96 Study Area 01	MW01-15D 9/30/00 Study Area 01	MW01-15D 11/19/01 Study Area 01	MW01-15D 1/23/03 Site 03	MW01-15R 9/30/00 Study Area 01	MW01-15R 11/19/01 Study Area 01	MW01-15R 1/23/03 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			<1U	5	2	<1U	<1U	0.341J	<1U	<1U	0.19J
1,1,2-Trichloroethane	µg/L	5		0.416J	<10U	<1U	<1U	0.213	<1UJ	<1U	<1U	<1UJ
1,1-Dichloroethane	µg/L			0.319J	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
1,1-Dichloroethene	µg/L	7	7	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
1,2-Dichloroethane	µg/L	5	110	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
2-Butanone	µg/L			<5R	<10U		<5R	<5R	<5R	<5R	<5R	<5R
2-Hexanone	µg/L			<5R	<10U		<5U	<5U	<5R	<5U	<5U	<5R
4-Methyl-2-Pentanone	µg/L			<5U	<10U		<5U	<5U	<5UJ	<5U	<5U	<5UJ
Acetone	µg/L			<5R	<16U		<5R	<5R	<5R	<5R	<5R	<5R
Benzene	µg/L	5	140	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Bromodichloromethane	µg/L			<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Bromoform	µg/L			<1U	<10U	<1U	<1U	<1UJ	0.179J	<1U	<1UJ	<1UJ
Bromomethane	µg/L			<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Carbon Disulfide	µg/L			<1U	<10U		<1U	<1U	<1UJ	<1U	<1U	<1UJ
Carbon Tetrachloride	µg/L	5	70	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Chlorobenzene	µg/L	100	3,200	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Chloroethane	µg/L			<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Chloroform	µg/L			<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Chloromethane	µg/L			<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	4.67		5	3.06	2.62	0.951J	0.934	1.14	0.588J
cis-1,3-Dichloropropene	µg/L			<1U	<10U		<1U	<1U	<1UJ	<1U	<1U	<1UJ
Dibromochloromethane	µg/L			<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Ethylbenzene	µg/L	700	1,600	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
M,P-Xylenes	µg/L					<2U	<2U	<2U		<2U	<2U	
Methylene Chloride	µg/L	5		<1UJ	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
O-Xylene	µg/L					<1U	<1U	<1U		<1U	<1U	
Styrene	µg/L	100	2,200	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Tetrachloroethene	µg/L	5	150	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Toluene	µg/L	1,000	1,700	<1U	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	<1U		<1U	<1U	0.569	0.232J	<1U	0.188	<1UJ
trans-1,3-Dichloropropene	µg/L			<1U	<10U		<1U	<1U	<1UJ	<1U	<1U	<1UJ
Trichloroethene	µg/L	5	540	<1UJ	15*	9*	5.82*	4.39	<1UJ	0.923	<1U	<1UJ
Vinyl Chloride	µg/L	2		0.917J	<10U	<1U	<1U	<1U	<1UJ	<1U	<1U	<1UJ
Xylenes (Total)	µg/L	10,000		<3U	<10U		<3U	<3U	<3UJ	<3U	<3U	<3UJ
Total Chlorinated VOC	µg/L			6.322	29	16	8.91	7.8	1.524	1.866	1.3	0.778
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW02-03D 5/24/95 Site 02	MW02-03D 12/10/96 Site 02	MW02-03D 3/10/98 Site 02	MW02-03D 9/29/00 Site 02	MW02-03D 11/16/01 Site 02	MW02-03D 1/23/03 Site 03	MW02-03R 9/29/00 Site 02	MW02-03R 11/16/01 Site 02	MW02-03R 1/23/03 Site 03	MW02-08D 5/19/95 Site 02
1,1,1-Trichloroethane	µg/L	200	3,100	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
1,1,2,2-Tetrachloroethane	µg/L			3	2	1J	1.87	1.57J	1.18J	<1U	0.832J	0.545J	6
1,1,2-Trichloroethane	µg/L	5		2	3	3J	2.51	2.3J	2.28J	<1U	2.55J	2.23J	<10U
1,1-Dichloroethane	µg/L			<10U	<1U	0.60J	<1U	0.629J	0.593J	<1U	0.715J	0.649J	<10U
1,1-Dichloroethene	µg/L	7	7	<10U	<1U	<1UJ	<1U	0.214J	<1UJ	<1U	0.168J	0.257J	<10U
1,2-Dichloroethane	µg/L	5	110	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	0.143J	<10U
1,2-Dichloropropane	µg/L	5	3,000	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
2-Butanone	µg/L			<10U			<5R	<5UJ	<5R	<5R	<1R	<5R	<10U
2-Hexanone	µg/L			<10U			<5U	<5UJ	<5R	<5U	<1UJ	<5R	<10U
4-Methyl-2-Pentanone	µg/L			<10U			<5U	<5UJ	<5UJ	<5U	<1UJ	<5UJ	<10U
Acetone	µg/L			<10UJ			<5R	<5R	<5R	<5R	4.7J	<5R	<14UJ
Benzene	µg/L	5	140	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Bromodichloromethane	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Bromoform	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	0.319J	<1U	<1UJ	<1UJ	<10U
Bromomethane	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Carbon Disulfide	µg/L			<10U			<1U	<1UJ	<1UJ	<1U	<1UJ	0.112J	<10U
Carbon Tetrachloride	µg/L	5	70	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Chlorobenzene	µg/L	100	3,200	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Chloroethane	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Chloroform	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Chloromethane	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	2
cis-1,2-Dichloroethene	µg/L	70	2,400		25	22J	29	27J	31J	<1U	30J	34J	
cis-1,3-Dichloropropene	µg/L			<10U			<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Dibromochloromethane	µg/L			<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Ethylbenzene	µg/L	700	1,600	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
M,P-Xylenes	µg/L				<2U	<2UJ	<2U	<2UJ		<2U	<1UJ		
Methylene Chloride	µg/L	5		<10U	<1U	<1UJ	<1U	0.205J	<1UJ	<1U	0.166J	<1UJ	<10U
O-Xylene	µg/L				<1U	<1UJ	<1U	<1UJ		<1U	<1UJ		
Styrene	µg/L	100	2,200	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Tetrachloroethene	µg/L	5	150	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Toluene	µg/L	1,000	1,700	<10U	<1U	<1UJ	<1U	<1UJ	<1UJ	<1U	0.158J	<1UJ	<10U
trans-1,2-Dichloroethene	µg/L	100	2,800		2	2J	3.58	3.02J	2.62J	<1U	2.64J	2.68J	
trans-1,3-Dichloropropene	µg/L			<10U			<1U	<1UJ	<1UJ	<1U	<1UJ	<1UJ	<10U
Trichloroethene	µg/L	5	540	6*	8*	8J*	17*	14J*	13J*	<1U	8.87J*	11J*	10*
Vinyl Chloride	µg/L	2		<10U	<1U	0.70J	<1U	0.81J	1.44J	<1U	1.05J	1.76J	<10U
Xylenes (Total)	µg/L	10,000		<10U			<3U	<3UJ	<3UJ	<3U	<1UJ	<3UJ	<10U
Total Chlorinated VOC	µg/L			31	40	37.3	54.0	49.5	52.113	ND	46.8	53.264	23
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	0.158	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW02-08D 12/11/96 Site 02	MW02-08D Dup 10/3/00 Site 02	MW02-08D 11/19/01 Site 02	MW02-08D 1/22/03 Site 03	MW02-08D Dup 1/22/03 Site 03	MW02-11D 5/17/95 Site 02	MW02-11D 12/11/96 Site 02	MW02-11D 9/29/00 Site 02	MW02-11D 11/15/01 Site 02	MW02-11D 1/23/03 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			3	3	1.96	2.56J	2.26J	<10U	1	<1U	<5U	0.699J
1,1,2-Trichloroethane	µg/L	5		<1U	<1U	0.66	1.13J	1.01J	2	2	1.81	2J	1.75J
1,1-Dichloroethane	µg/L			<1U	<1U	0.137	0.264J	0.235J	<10U	<1U	<1U	<5U	0.781J
1,1-Dichloroethene	µg/L	7	7	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5UJ	<1UJ
1,2-Dichloroethane	µg/L	5	110	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
2-Butanone	µg/L				<5R	<5R	<5R	<5R	<10U		<5R	<5U	<5R
2-Hexanone	µg/L				<5U	<5U	<5R	<5R	<10U		<5U	<5U	<5R
4-Methyl-2-Pentanone	µg/L				<5U	<5U	<5UJ	<5UJ	<10U		<5U	<5U	<5UJ
Acetone	µg/L				<5R	<5R	<5R	<5R	<12UJ		<5R	<5R	<5R
Benzene	µg/L	5	140	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
Bromodichloromethane	µg/L			<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
Bromoform	µg/L			<1U	<1U	<1UJ	0.754J	0.917J	<10U	<1U	<1U	<5UJ	0.357J
Bromomethane	µg/L			<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5UJ	<1UJ
Carbon Disulfide	µg/L				<1U	<1U	<1UJ	<1UJ	<10U		<1U	<5UJ	<1UJ
Carbon Tetrachloride	µg/L	5	70	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
Chlorobenzene	µg/L	100	3,200	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	0.186J
Chloroethane	µg/L			<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5UJ	<1UJ
Chloroform	µg/L			<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
Chloromethane	µg/L			<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5UJ	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	4	4	7.83	15J	14J		17	19	18	24J
cis-1,3-Dichloropropene	µg/L				<1U	<1U	<1UJ	<1UJ	<10U		<1U	<5U	<1UJ
Dibromochloromethane	µg/L			<1U	<1U	<1U	0.229J	0.269J	<10U	<1U	<1U	<5U	<1UJ
Ethylbenzene	µg/L	700	1,600	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
M,P-Xylenes	µg/L			<2U	<2U	<2U				<2U	<2U	<5U	
Methylene Chloride	µg/L	5		<1U	<1UJ	<1U	<1UJ	<1UJ	<10U	<3U	<1U	<5UJ	<1UJ
O-Xylene	µg/L			<1U	<1U	<1U				<1U	<1U	<5U	
Styrene	µg/L	100	2,200	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
Tetrachloroethene	µg/L	5	150	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
Toluene	µg/L	1,000	1,700	<1U	<1U	<1U	<1UJ	<1UJ	<10U	<1U	<1U	<5U	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	<1U	<1U	1.12	1.7J	1.47J		<1U	1.09	1	1.14J
trans-1,3-Dichloropropene	µg/L				<1U	<1U	<1UJ	<1UJ	<10U		<1U	<5U	<1UJ
Trichloroethene	µg/L	5	540	7*	8*	10*	14J*	12J*	<10U	<1U	1.76	<5U	<1UJ
Vinyl Chloride	µg/L	2		<1U	<1U	0.193	0.505J	0.466J	1	<1U	0.914	<5UJ	2.01J*
Xylenes (Total)	µg/L	10,000			<3U	<3U	<3UJ	<3UJ	<10U		<3U	<5U	<3UJ
Total Chlorinated VOC	µg/L			14	15	21.9	35.159	31.441	18	20	24.484	21.0	30.566
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW03-03D 5/23/95 Site 03	MW03-03D 12/10/96 Site 03	MW03-03D 3/11/98 Site 03	MW03-03D 9/30/00 Site 03	MW03-03D 11/15/01 Site 03	MW03-03D 1/27/03 Site 03	MW03-03R 9/30/00 Site 03	MW03-03R Dup 9/30/00 Site 03	MW03-03R 11/15/01 Site 03	MW03-03R Dup 11/15/01 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
1,1,2,2-Tetrachloroethane	µg/L			110	75	67J	45	19	19J	34	36	14	14
1,1,2-Trichloroethane	µg/L	5		12*	<25U	<25UJ	7.29*	4	3.68J	3.97	4.03	2	2
1,1-Dichloroethane	µg/L			3	<25U	<25UJ	1.3	<5U	0.704J	<1U	<1U	<5U	<5U
1,1-Dichloroethene	µg/L	7	7	1	<25U	<25UJ	<1U	<5UJ	0.556J	<1U	<1U	<5UJ	<5UJ
1,2-Dichloroethane	µg/L	5	110	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
1,2-Dichloropropane	µg/L	5	3,000	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
2-Butanone	µg/L			<10U			<5R	<5U	<5R	<5R	<5R	<5U	<5U
2-Hexanone	µg/L			<10U			<5U	<5U	<5R	<5U	<5U	<5U	<5U
4-Methyl-2-Pentanone	µg/L			<10U			<5U	<5U	<5UJ	<5U	<5U	<5U	<5U
Acetone	µg/L			<10UJ			<5R	<5R	<5R	<5R	<5R	<5R	<5R
Benzene	µg/L	5	140	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Bromodichloromethane	µg/L			<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Bromoform	µg/L			<10U	<25U	<25UJ	<1U	<5UJ	<1UJ	<1U	<1U	<5UJ	<5UJ
Bromomethane	µg/L			<10U	<25U	<25UJ	<1U	<5UJ	<1UJ	<1U	<1U	<5UJ	<5UJ
Carbon Disulfide	µg/L			<10U			<1U	<5UJ	<1UJ	<1U	<1U	<5UJ	<5UJ
Carbon Tetrachloride	µg/L	5	70	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Chlorobenzene	µg/L	100	3,200	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Chloroethane	µg/L			<10U	<25U	<25UJ	<1U	<5UJ	<1UJ	<1U	<1U	<5UJ	<5UJ
Chloroform	µg/L			<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Chloromethane	µg/L			<10U	<25U	<25UJ	<1U	<5UJ	<1UJ	<1U	<1U	<5UJ	<5UJ
cis-1,2-Dichloroethene	µg/L	70	2,400		130*	130J*	89*	76*	82J*	52	57	33	34
cis-1,3-Dichloropropene	µg/L			<10U			<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Dibromochloromethane	µg/L			<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Ethylbenzene	µg/L	700	1,600	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
M,P-Xylenes	µg/L				<50U	<50UJ	<2U	<5U		<2U	<2U	<5U	<5U
Methylene Chloride	µg/L	5		<10U	<25U	<25UJ	2.09	<5UJ	<1UJ	<1U	<1U	<5UJ	<5UJ
O-Xylene	µg/L				<25U	<25UJ	<1U	<5U		<1U	<1U	<5U	<5U
Styrene	µg/L	100	2,200	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Tetrachloroethene	µg/L	5	150	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Toluene	µg/L	1,000	1,700	<10U	<25U	<25UJ	<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
trans-1,2-Dichloroethene	µg/L	100	2,800		34	45J	32	25	28J	17	19	10	11
trans-1,3-Dichloropropene	µg/L			<10U			<1U	<5U	<1UJ	<1U	<1U	<5U	<5U
Trichloroethene	µg/L	5	540	450*	390*	400J*	220*	220J*	220J*	160*	170*	94*	95*
Vinyl Chloride	µg/L	2		2	<25U	<25UJ	1.38	1J	2.33J*	<1U	0.905	<5UJ	<5UJ
Xylenes (Total)	µg/L	10,000		<10U			<3U	<5U	<3UJ	<3U	<3U	<5U	<5U
Total Chlorinated VOC	µg/L			778	629	642	384.97	345.0	356.27	267.97	290.935	153.0	156.0
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW03-03R 1/27/03 Site 03	MW03-03R Dup 1/27/03 Site 03	MW03-05D 5/22/95 Site 03	MW03-05D 12/13/96 Site 03	MW03-05D 10/2/00 Site 03	MW03-05D 11/19/01 Site 03	MW03-05D 1/28/03 Site 03	MW03-08D 5/23/95 Site 03	MW03-08D 12/12/96 Site 03	MW03-08D 3/11/98 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
1,1,2,2-Tetrachloroethane	µg/L			18J	19J	2	<1UJ	<1U	<1U	0.159J	3300	700	1200J
1,1,2-Trichloroethane	µg/L	5		2.16J	2.08J	<10U	<1UJ	<1U	<1U	<1UJ	79*	<50U	49J*
1,1-Dichloroethane	µg/L			0.436J	0.419J	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
1,1-Dichloroethene	µg/L	7	7	0.315J	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
1,2-Dichloroethane	µg/L	5	110	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
1,2-Dichloropropane	µg/L	5	3,000	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
2-Butanone	µg/L			<5R	<5R	4J		<5R	<5R	<5R	<400U		
2-Hexanone	µg/L			<5R	<5R	<10U		<5U	<5U	<5R	<400U		
4-Methyl-2-Pentanone	µg/L			<5UJ	<5UJ	<10U		<5U	<5U	<5UJ	<400U		
Acetone	µg/L			<5R	<5R	<26UJ		<5R	<5R	<5R	<400UJ		
Benzene	µg/L	5	140	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Bromodichloromethane	µg/L			<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Bromoform	µg/L			<1UJ	<1UJ	<10U	<1UJ	<1U	<1UJ	<1UJ	<400U	<50U	<50UJ
Bromomethane	µg/L			<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Carbon Disulfide	µg/L			0.423J	0.416J	<10U		<1U	<1U	<1UJ	<400U		
Carbon Tetrachloride	µg/L	5	70	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Chlorobenzene	µg/L	100	3,200	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Chloroethane	µg/L			<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Chloroform	µg/L			<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Chloromethane	µg/L			<1UJ	<1UJ	2	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	40J	38J		<1UJ	<1U	<1U	0.301J		210*	440J*
cis-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<10U		<1U	<1U	<1UJ	<400U		
Dibromochloromethane	µg/L			<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Ethylbenzene	µg/L	700	1,600	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
M,P-Xylenes	µg/L						<2UJ	<2U	<2U			<100U	<100UJ
Methylene Chloride	µg/L	5		<1UJ	<1UJ	<10U	<2UJ	<1U	<1U	<1UJ	<400U	<50U	<84UJ
O-Xylene	µg/L						<1UJ	<1U	<1U			<50U	<50UJ
Styrene	µg/L	100	2,200	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Tetrachloroethene	µg/L	5	150	0.127J	0.154J	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Toluene	µg/L	1,000	1,700	<1UJ	<1UJ	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	11J	11J		<1UJ	<1U	<1U	<1UJ		90	230J*
trans-1,3-Dichloropropene	µg/L			<1UJ	<1UJ	<10U		<1U	<1U	<1UJ	<400U		
Trichloroethene	µg/L	5	540	91J*	95J*	2	<1UJ	<1U	<1U	<1UJ	4000*	1200*	2200J*
Vinyl Chloride	µg/L	2		1.1J	1.11J	<10U	<1UJ	<1U	<1U	<1UJ	<400U	<50U	<50UJ
Xylenes (Total)	µg/L	10,000		<3UJ	<3UJ	<10U		<3U	<3U	<3UJ	<400U		
Total Chlorinated VOC	µg/L			164.138	166.763	6	ND	ND	ND	0.46	8379	2200	4119
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW03-08D Dup	MW03-08D	MW03-08D	MW03-08D Dup	MW03-08D	MW03-08D Dup	MW03-08R	MW03-08R	MW03-08R	MW03-08R
				3/11/98	10/2/00	11/15/01	11/15/01	1/27/03	1/27/03	5/31/95	10/2/00	11/15/01	1/27/03
				Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03	Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			1300J	410	150	140	620J	590J	1500	390	310J	620J
1,1,2-Trichloroethane	µg/L	5		49J*	12*	7*	7*	18J*	22J*	<10U	25*	20*	36J*
1,1-Dichloroethane	µg/L			<50UJ	<1U	<5U	<5U	0.423J	0.503J	<10U	1.52	1	1.42J
1,1-Dichloroethene	µg/L	7	7	<50UJ	<1U	<5UJ	<5UJ	1.36J	1.44J	<10U	3.8	4J	6.89J
1,2-Dichloroethane	µg/L	5	110	<50UJ	<1U	<5U	<5U	<1UJ	0.205J	<10U	<1U	<5U	0.377J
1,2-Dichloropropane	µg/L	5	3,000	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
2-Butanone	µg/L				<5R	<5U	<5U	<5R	<5R	<10U	<5R	<5U	<5R
2-Hexanone	µg/L				<5U	<5U	<5U	<5R	<5R	<10UJ	<5U	<5U	<5R
4-Methyl-2-Pentanone	µg/L				<5U	<5U	<5U	<5UJ	<5UJ	<10U	<5U	<5U	<5UJ
Acetone	µg/L				<5R	<5R	<5R	<5R	<5R	<10U	5800J	440J	<5R
Benzene	µg/L	5	140	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Bromodichloromethane	µg/L			<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Bromoform	µg/L			<50UJ	<1U	<5UJ	<5UJ	<1UJ	<1UJ	<10U	<1U	<5UJ	<1UJ
Bromomethane	µg/L			<50UJ	<1U	<5UJ	<5UJ	<1UJ	<1UJ	<10U	<1U	<5UJ	<1UJ
Carbon Disulfide	µg/L				<1U	<5UJ	<5UJ	<1UJ	<1UJ	<10U	<1U	<5UJ	1.09J
Carbon Tetrachloride	µg/L	5	70	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Chlorobenzene	µg/L	100	3,200	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Chloroethane	µg/L			<50UJ	<1U	<5UJ	<5UJ	<1UJ	<1UJ	<10U	<1U	<5UJ	<1UJ
Chloroform	µg/L			<50UJ	<1U	<5U	<5U	0.243J	0.285J	<10U	<1U	<5U	0.326J
Chloromethane	µg/L			<50UJ	<1U	<5UJ	<5UJ	<1UJ	<1UJ	<10U	<1U	<5UJ	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	460J*	190*	90*	91*	200J*	190J*		280*	290*	390J*
cis-1,3-Dichloropropene	µg/L				<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Dibromochloromethane	µg/L			<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Ethylbenzene	µg/L	700	1,600	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
M,P-Xylenes	µg/L			<100UJ	<2U	<5U	<5U				<2U	<5U	
Methylene Chloride	µg/L	5		<50UJ	<1U	<5UJ	<5UJ	<1UJ	<1UJ	<10U	<1U	<5UJ	<1UJ
O-Xylene	µg/L			<50UJ	<1U	<5U	<5U				<1U	<5U	
Styrene	µg/L	100	2,200	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Tetrachloroethene	µg/L	5	150	<50UJ	3.61	5	5	8.4J*	9.86J*	<10U	1.94	3	3.65J
Toluene	µg/L	1,000	1,700	<50UJ	<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	240J*	45	40	42	91J	90J		100	120*	140J*
trans-1,3-Dichloropropene	µg/L				<1U	<5U	<5U	<1UJ	<1UJ	<10U	<1U	<5U	<1UJ
Trichloroethene	µg/L	5	540	2300J*	840*	320*	320*	1100J*	1000J*	2900*	1000*	1300J*	1900J*
Vinyl Chloride	µg/L	2		<50UJ	<1U	<5UJ	<5UJ	3.57J*	4.54J*	<10U	3.53*	4J*	11J*
Xylenes (Total)	µg/L	10,000			<3U	<5U	<5U	<3UJ	<3UJ	<10U	<3U	<5U	<3UJ
Total Chlorinated VOC	µg/L			4349	1545.61	612.0	605.0	2042.996	1908.833	5360.00	1805.79	2052.0	3109.663
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW03-09D 5/24/95 Site 03	MW03-09D 12/12/96 Site 03	MW03-09D 10/3/00 Site 03	MW03-09 Dup 10/3/00 Site 03	MW03-09D 11/19/01 Site 03	MW03-09D 1/24/03 Site 03	MW03-10D 5/21/95 Site 03	MW03-10D 12/11/96 Site 03	MW03-10D Dup 12/11/96 Site 03	MW03-10D 10/2/00 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
1,1,2,2-Tetrachloroethane	µg/L			2	<10U	3	3.26	2.07	3.64J	110	41	44	33
1,1,2-Trichloroethane	µg/L	5		6*	<10U	8J*	11J*	6.66*	6.74J*	7*	<5U	<5U	2.45
1,1-Dichloroethane	µg/L			3	<10U	2	2.25	1.38	1.28J	3	<5U	<5U	<1U
1,1-Dichloroethene	µg/L	7	7	<10U	<10U	<1U	0.914	0.703	<10UJ	<10U	<5U	<5U	<1U
1,2-Dichloroethane	µg/L	5	110	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
1,2-Dichloropropane	µg/L	5	3,000	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
2-Butanone	µg/L			<10U		<5R	<5R	<5R	<50R	<10U			<5R
2-Hexanone	µg/L			<10U		<5U	<5U	<5U	<50R	<10U			<5U
4-Methyl-2-Pentanone	µg/L			<10U		<5U	<5U	<5U	<50UJ	<10U			<5U
Acetone	µg/L			<10U		<5R	<5R	<5R	<50R	<19U			<5R
Benzene	µg/L	5	140	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Bromodichloromethane	µg/L			<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Bromoform	µg/L			<10U	<10U	<1U	<1U	<1UJ	<10UJ	<10U	<5U	<5U	<1U
Bromomethane	µg/L			<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Carbon Disulfide	µg/L			<10U		<1U	<1U	<1U	<10UJ	<10U			<1U
Carbon Tetrachloride	µg/L	5	70	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Chlorobenzene	µg/L	100	3,200	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Chloroethane	µg/L			<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Chloroform	µg/L			8	<10U	<1U	<1U	<1U	<10UJ	4	<5U	<5U	<1U
Chloromethane	µg/L			<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
cis-1,2-Dichloroethene	µg/L	70	2,400		190*	190*	240*	150*	200J*		36	38	31
cis-1,3-Dichloropropene	µg/L			<10U		<1U	<1U	<1U	<10UJ	<10U			<1U
Dibromochloromethane	µg/L			<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Ethylbenzene	µg/L	700	1,600	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
M,P-Xylenes	µg/L				<20U	<2U	<2U	<2U			<10U	<10U	<2U
Methylene Chloride	µg/L	5		<10U	<10U	<1UJ	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
O-Xylene	µg/L				<10U	<1U	<1U	<1U			<5U	<5U	<1U
Styrene	µg/L	100	2,200	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Tetrachloroethene	µg/L	5	150	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
Toluene	µg/L	1,000	1,700	<10U	<10U	<1U	<1U	<1U	<10UJ	<10U	<5U	<5U	<1U
trans-1,2-Dichloroethene	µg/L	100	2,800		21	33	44	33	33J		12	11	9.87
trans-1,3-Dichloropropene	µg/L			<10U		<1U	<1U	<1U	<10UJ	<10U			<1U
Trichloroethene	µg/L	5	540	2	39*	130*	140*	75J*	150J*	200*	100*	110*	98*
Vinyl Chloride	µg/L	2		3*	<10U	4*	5.13*	7.04*	6.54J*	<10U	<5U	<5U	<1U
Xylenes (Total)	µg/L	10,000		<10U		<3U	<3U	<3U	<30UJ	<10U			<3U
Total Chlorinated VOC	µg/L			91	250	377	442.554	275.9	401.2	409	189	203	174.45
Total BTEX	µg/L			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW03-10D 11/19/01 Site 03	MW03-10D 1/28/03 Site 03	MWZ3-01 12/17/96 Site 03	MWZ3-01 3/12/98 Site 03	MWZ3-01 10/3/00 Site 03	MWZ3-01 11/19/01 Site 03	MW-Z3-01 1/24/03 Site 03	MWZ3-02 12/9/96 Site 03	MWZ3-02 9/29/00 Site 03	MWZ3-02 11/16/01 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			19	27J	9J	170J	56	43	87J	<1U	1.83	0.294J
1,1,2-Trichloroethane	µg/L	5		1.64	2.28J	1J	21J	7	6.75*	11J*	<1U	2.45	0.11J
1,1-Dichloroethane	µg/L			0.264	0.305J	<1U	<25UJ	<1U	0.509	<20UJ	<1U	<1U	<1UJ
1,1-Dichloroethene	µg/L	7	7	0.123	0.188J	<1U	<25UJ	<1U	0.5	<20UJ	<1U	<1U	<1UJ
1,2-Dichloroethane	µg/L	5	110	<1U	<1UJ	<1U	<25UJ	<1U	0.718	<20UJ	<1U	<1U	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
2-Butanone	µg/L			<5R	<5R	<1U	<25UJ	<5R	<5R	<100R	<1U	<5R	<1R
2-Hexanone	µg/L			<5U	<5R	<1U	<25UJ	<5U	<5U	<100R	<1U	<5U	<1UJ
4-Methyl-2-Pentanone	µg/L			<5U	<5UJ	<1U	<25UJ	<5U	<5U	<100UJ	<1U	<5U	<1UJ
Acetone	µg/L			<5R	<5R	<1U	<25UJ	<5R	<5R	<100R	<1U	<5R	<1R
Benzene	µg/L	5	140	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Bromodichloromethane	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Bromoform	µg/L			<1UJ	<1UJ	<1U	<25UJ	<1U	<1UJ	<20UJ	<1U	<1U	<1UJ
Bromomethane	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Carbon Disulfide	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Carbon Tetrachloride	µg/L	5	70	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Chlorobenzene	µg/L	100	3,200	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Chloroethane	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Chloroform	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Chloromethane	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	0.304	<20UJ	<1U	<1U	<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	22	36J	14J	270J	130	120*	210J*	<1U	30	1.11J
cis-1,3-Dichloropropene	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Dibromochloromethane	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Ethylbenzene	µg/L	700	1,600	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
M,P-Xylenes	µg/L			<2U		<2U	<50UJ	<1U	<2U		<2U	<1U	<1UJ
Methylene Chloride	µg/L	5		<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<2U	<1.63U	0.154J
O-Xylene	µg/L			<1U		<1U	<25UJ	<1U	<1U		<1U	<1U	<1UJ
Styrene	µg/L	100	2,200	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Tetrachloroethene	µg/L	5	150	0.137	<1UJ	<1U	<25UJ	<1U	0.264	<20UJ	<1U	<1U	<1UJ
Toluene	µg/L	1,000	1,700	<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	7.63	11J	5J	100J	51	49	80J	<1U	34	0.14J
trans-1,3-Dichloropropene	µg/L			<1U	<1UJ	<1U	<25UJ	<1U	<1U	<20UJ	<1U	<1U	<1UJ
Trichloroethene	µg/L	5	540	99J*	100J*	32J	620J	220	290J*	590J*	<1U	16	1.12J
Vinyl Chloride	µg/L	2		0.286	0.53J	<1U	<25UJ	3	4.14*	7.81J*	<1U	<1U	<1UJ
Xylenes (Total)	µg/L	10,000		<3U	<3UJ	<1U	<25UJ	<3U	<3U	<60UJ	<1U	<3U	<1UJ
Total Chlorinated VOC	µg/L			150.1	177.303	61.0	1181.0	476.0	514.9	985.81	ND	54.0	2.8
Total BTEX	µg/L			ND	ND				ND	ND			ND

Chemical Name	Unit	Action Level MCL/ RIDEM GA	Action Level RIDEM GB	MW-Z3-02 1/23/03 Site 03
1,1,1-Trichloroethane	µg/L	200	3,100	<1UJ
1,1,2,2-Tetrachloroethane	µg/L			0.296J
1,1,2-Trichloroethane	µg/L	5		<1UJ
1,1-Dichloroethane	µg/L			<1UJ
1,1-Dichloroethene	µg/L	7	7	<1UJ
1,2-Dichloroethane	µg/L	5	110	<1UJ
1,2-Dichloropropane	µg/L	5	3,000	<1UJ
2-Butanone	µg/L			<5R
2-Hexanone	µg/L			<5R
4-Methyl-2-Pentanone	µg/L			<5UJ
Acetone	µg/L			<5R
Benzene	µg/L	5	140	<1UJ
Bromodichloromethane	µg/L			<1UJ
Bromoform	µg/L			0.234J
Bromomethane	µg/L			<1UJ
Carbon Disulfide	µg/L			<1UJ
Carbon Tetrachloride	µg/L	5	70	<1UJ
Chlorobenzene	µg/L	100	3,200	<1UJ
Chloroethane	µg/L			<1UJ
Chloroform	µg/L			<1UJ
Chloromethane	µg/L			<1UJ
cis-1,2-Dichloroethene	µg/L	70	2,400	1.15J
cis-1,3-Dichloropropene	µg/L			<1UJ
Dibromochloromethane	µg/L			<1UJ
Ethylbenzene	µg/L	700	1,600	<1UJ
M,P-Xylenes	µg/L			
Methylene Chloride	µg/L	5		<1UJ
O-Xylene	µg/L			
Styrene	µg/L	100	2,200	<1UJ
Tetrachloroethene	µg/L	5	150	<1UJ
Toluene	µg/L	1,000	1,700	<1UJ
trans-1,2-Dichloroethene	µg/L	100	2,800	0.181J
trans-1,3-Dichloropropene	µg/L			<1UJ
Trichloroethene	µg/L	5	540	<1UJ
Vinyl Chloride	µg/L	2		<1UJ
Xylenes (Total)	µg/L	10,000		<3UJ
Total Chlorinated VOC	µg/L			1.627
Total BTEX	µg/L			ND

TABLE 7 SUMMARY OF 1995, 1996, 1998, 2000, 2001, AND 2003 TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUND WATER

Monitoring Well Location	1995 Total CVOC (µg/L)	1996 Total CVOC (µg/L)	1998 Total CVOC (µg/L)	2000 Total CVOC (µg/L)	2001 Total CVOC (µg/L)	2003 Total CVOC (µg/L)
EA-111D	NI	NI	0.6 (0.6)	1.4	2	4.454
EA-110D	NI	NI	<1U	<1U	0.2	0.492
EA-110R	NI	NI	<1U	<1U	<1U	<1UJ
EA-111R	NI	NI	2	<1U (<1U)	1	0.913
MW01-10D	<10U	<1U	NM	<1U	<5U	0.397
MW01-10R	NI	NI	NI	<1U	<5U	<1UJ
MW01-13D	<10U (<10U)	<1U (<1U)	NM	<1U	<5U	0.251
MW01-14D	<10U	2	3.6	4.1	4	6.322
MW01-15D	29	16	NM	8.9	7.8	1.524
MW01-15R	NI	NI	NI	1.9	1.3	0.778
MW02-03D	31	40	37.3	54.0	49.5	52.113
MW02-03R	NI	NI	NI	<1U	46.8	53.264
MW02-08D	23	14	NM	15	17.0 (21.9)	35.159
MW02-11D	18	20	NM	24.5	21	30.566
MW03-03D	778	629	642	385	345	356.27
MW03-03R	NI	NI	NI	268 (291)	156 (153)	164.138
MW03-05D	6	<1U	NM	<1U	<1U	0.46
MW03-08D	8,379	2,200	4,119 (4,349)	1,546	605 (612)	2,042.996
MW03-08R	5,360	NM	NM	1,806	2,052	3,109.663
MW03-09D	91	250	NM	377 (442)	275.9	401.2
MW03-10D	409	189 (203)	NM	174.4	150.1	177.303
MW-Z3-01	---	61	1,181	476	514.9	985.81
MW-Z3-02	---	<1U	NM	54	2.8	1.627

NOTE: CVOC = Chlorinated volatile organic compounds.
NI = Well not installed.
NM = Not measured.
Dashes (---) indicate data not available.
<1U, <5U, and <10U reflect the detection limit of most of the CVOC analyzed. For details, see Table 6.
Total CVOC concentration in µg/L (duplicate sample).

Appendix A

Field Sampling Forms

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-10D Personnel: SS Start Time: 1300 Finish Time: 1440

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Yellow calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 80.6 (ft) Depth to Water: 19.97 (ft)

Depth of screened interval or open borehole interval: 72.3–82.3 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW01-10D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See yellow calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.5	1.0	1.5	2.0	2.5	3.0
Time		1340	1345	1350	1355	1400	1405	1410
Temperature	(°C)	8.45	8.01	7.27	6.97	8.66	9.05	7.84
pH		6.98	6.78	6.68	6.57	6.59	6.60	6.61
Conductivity	(ms/cm)	0.096	0.096	0.097	0.089	0.086	0.090	0.094
DO	(mg/L)	6.45	6.07	5.83	5.32	4.26	3.55	3.27
Turbidity	(NTUs)	24.4	6.81	3.28	9.67	16.9	13.7	11.17
Salinity	(ppth)	0.07	0.07	0.06	0.06	0.06	0.07	0.07
Eh	(mV)	220.4	220.8	218.6	115.7	46.9	24.6	2.2
Water Level	(ft from TOR)	19.98	19.96	19.96	19.96	19.97	19.97	19.97
Flow Rate	(mL/min.)	100	100	100	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-10D Personnel: SS Start Time: 1300 Finish Time: 1440

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	3.5	4.0	4.5	5.0			
Time	1415	1420	1425	1430			
Temperature (°C)	7.49	7.51	7.58	7.60			
pH	6.66	6.66	6.66	6.65			
Conductivity (ms/cm)	0.097	0.098	0.099	0.099			
DO (mg/L)	3.09	2.87	2.75	2.70			
Turbidity (NTUs)	10.0	7.03	6.78	7.04			
Salinity (ppth)	0.07	0.07	0.07	0.07			
Eh (mV)	-2.5	-4.4	-4.5	-4.4			
Water Level (ft from TOR)	19.97	19.97	19.97	19.97			
Flow Rate (mL/min.)	100	100	100	100			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collected sample at 1435.

Flow cell in sun. Very windy and dusty.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-10R Personnel: BA/SS Start Time: 1300 Finish Time: 1500

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See red calibration log

Ambient Air Reading: 0 ppm Well Headspace Reading: 0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 100.3 (ft) Depth to Water: 22.21 (ft)

Depth of screened interval or open borehole interval: 85–115 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW01-10R	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See red calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		3.0	4.0	5.0	6.0	7.0	8.0	9.0
Time		1335	1340	1345	1350	1355	1400	1405
Temperature	(°C)	9.93	9.80	9.54	9.27	8.82	9.14	9.19
pH		6.91	6.95	7.00	7.04	7.09	7.12	7.13
Conductivity	(ms/cm)	0.207	0.206	0.205	0.204	0.203	0.202	0.202
DO	(mg/L)	3.28	1.93	1.21	1.01	0.91	0.96	0.76
Turbidity	(NTUs)	62.8	26.3	15.2	10.22	7.43	6.85	6.58
Salinity	(ppth)	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Eh	(mV)	-49.2	-65.9	-74.0	-79.1	-85.3	-84.7	-86.9
Water Level	(ft from TOR)	21.85	21.60	21.58	21.57	21.55	21.55	21.55
Flow Rate	(mL/min.)	200	200	200	200	200	200	200

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-10R Personnel: BA/SS Start Time: 1300 Finish Time: 1500

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	10.0	11.0	12.0				
Time	1410	1415	1420				
Temperature (°C)	9.08	9.10	9.09				
pH	7.16	7.15	7.17				
Conductivity (ms/cm)	0.202	0.201	0.202				
DO (mg/L)	0.67	0.63	0.65				
Turbidity (NTUs)	6.67	8.35	8.50				
Salinity (ppth)	0.10	0.10	0.10				
Eh (mV)	-89.9	-86.1	-87.2				
Water Level (ft from TOR)	21.54	21.54	21.54				
Flow Rate (mL/min.)	200	200	200				

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Sample at 1425.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-13D Personnel: SS/BA Start Time: 0815 Finish Time: 1010

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Red calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 74.2 (ft) Depth to Water: 12.90 (ft)

Depth of screened interval or open borehole interval: 65.6–75.6 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW01-13D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.5	1.0	1.5	2.0	2.5	3.0
Time		0845	0850	0855	0900	0905	0910	0915
Temperature	(°C)	5.38	3.18	1.90	1.23	6.06	5.19	2.47
pH		7.14	6.91	6.82	6.77	6.61	6.79	6.71
Conductivity	(ms/cm)	0.200	0.192	0.188	0.187	0.186	0.199	0.205
DO	(mg/L)	7.33	6.09	5.38	4.99	4.30	2.70	2.88
Turbidity	(NTUs)	109.3	98.0	152	177	144	98.8	82.4
Salinity	(ppth)	0.09	0.09	0.09	0.09	0.09	0.09	0.10
Eh	(mV)	232.3	241.2	234.5	126.6	-1.4	-20.6	-22.2
Water Level	(ft from TOR)	13.20	13.05	13.05	13.05	13.05	13.05	13.05
Flow Rate	(mL/min.)	100	100	100	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-13D Personnel: SS/BA Start Time: 0815 Finish Time: 1010

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	3.5	4.0	4.5	5.0	5.5		
Time	0920	0925	0930	0935	0940		
Temperature (°C)	1.22	1.02	0.94	0.64	0.59		
pH	6.63	6.61	6.62	6.63	6.63		
Conductivity (ms/cm)	0.207	0.206	0.207	0.206	0.207		
DO (mg/L)	2.89	2.91	2.95	2.88	2.76		
Turbidity (NTUs)	59.9	58.2	37.4	36.8	37.5		
Salinity (ppth)	0.10	0.10	0.10	0.10	0.10		
Eh (mV)	-20.3	-20.6	-21.2	-21.6	-23.1		
Water Level (ft from TOR)	13.05	13.05	13.05	13.05	13.05		
Flow Rate (mL/min.)	100	100	100	100	100		

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Sampled at 0945

Ground Water Fi ld Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-14D Personnel: VLD/ SW Start Time: 0815 Finish Time: 1055

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Blue calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 88.8 (ft) Depth to Water: 23.10 (ft)

Depth of screened interval or open borehole interval: 82.4–90.4 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW01-14D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Blue calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.5	1.0	1.5 (A)	2.0 (B)	2.5	3.0
Time		0835	0840	0845	0850	0905	0915	0920
Temperature	(°C)	9.43	9.17	9.55	8.85	8.16	6.16	4.22
pH		7.55	7.00	6.66	6.47	6.47	6.40	6.42
Conductivity	(ms/cm)	0.097	0.109	0.116	0.114	0.112	0.105	0.099
DO	(mg/L)	5.38	3.24	2.10	1.70	1.40	1.33	1.59
Turbidity	(NTUs)	17.10	15	14	12	--	9	10
Salinity	(ppth)	0.07	0.07	0.07	0.08	0.08	0.08	0.08
Eh	(mV)	123	-5	-37	-40	-42	-36	-35
Water Level	(ft from TOR)	23.49	23.60	23.68	23.70	--	22.80	--
Flow Rate	(mL/min.)	100	100	100	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW01-14D Personnel: VLD/ SW Start Time: 0815 Finish Time: 1055

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	3.5	4.0	4.5	5.0	5.5	6.0	6.5
Time	0925	0930	0935	0940	0945	0950	0955
Temperature (°C)	3.91	6.68	7.44	7.69	7.82	7.99	7.78
pH	6.40	6.42	6.39	6.46	6.45	6.43	6.43
Conductivity (ms/cm)	0.098	0.102	0.109	0.110	0.110	0.111	0.110
DO (mg/L)	1.90	1.68	1.74	1.51	1.36	1.20	1.11
Turbidity (NTUs)	5.07	4.80	5.21	7.15	9.10	8.52	7.51
Salinity (ppth)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Eh (mV)	-30.9	-33.0	-34.9	-35.0	-34.7	-34.5	-34.6
Water Level (ft from TOR)	22.80	22.80	22.80	22.80	22.80	22.81	22.81
Flow Rate (mL/min.)	100	100	100	100	100	100	100

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	7.0	7.5 (C)	8.0	8.5	9.0	9.5	10.0 (D)
Time	1000	1010	1015	1020	1025	1030	1040
Temperature (°C)	6.86	6.43	6.62	5.68	7.68	8.70	5.60
pH	6.43	6.43	6.48	6.43	6.42	6.46	6.47
Conductivity (ms/cm)	0.108	0.106	0.107	0.104	0.111	0.113	0.104
DO (mg/L)	0.96	1.12	0.70	0.70	0.77	0.70	0.77
Turbidity (NTUs)	8.43	7.82	7.60	5.93	5.81	5.25	5.11
Salinity (ppth)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Eh (mV)	-34.1	-33.0	-33.6	-30.8	-31.8	-35.5	-32.2
Water Level (ft from TOR)	22.80	22.80	22.80	22.80	22.80	22.81	22.81
Flow Rate (mL/min.)	100	100	100	100	100	100	100

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	10.5	11.0	11.5				
Time	1045	1050	1055				
Temperature (°C)	7.79	8.51	8.76				
pH	6.46	6.46	6.47				
Conductivity (ms/cm)	0.110	0.113	0.114				
DO (mg/L)	0.82	0.92	1.01				
Turbidity (NTUs)	5.02	4.50	4.51				
Salinity (ppth)	0.08	0.08	0.08				
Eh (mV)	-33.6	-34.6	-33.3				
Water Level (ft from TOR)	22.80	22.80	22.80				
Flow Rate (mL/min.)	100	100	100				

Notes: (A) – Control box ran out of batteries. Startup at 0900, read at 0905. (B) -Control box not working properly.
(C) and (D) - Nitrogen tank changed out.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW01-15D Personnel: SW Start Time: 1400 Finish Time: 1540

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Yellow calibration log

Ambient Air Reading: 0 ppm Well Headspace Reading: 0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 47.7 (ft) Depth to Water: 13.28 (ft)

Depth of screened interval or open borehole interval: 45.6–50.6 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW01-15D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Yellow calibration log for equipment serial numbers and daily calibration information

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	0	1.0	2.0	3.0	4.0	5.0	6.0
Time	1410	1415	1420	1425	1430	1435	1440
Temperature (°C)	9.53	8.83	8.17	7.07	6.35	4.55	3.95
pH	6.30	6.28	6.24	6.21	6.22	6.22	6.23
Conductivity (ms/cm)	0.084	0.083	0.080	0.075	0.076	0.071	0.068
DO (mg/L)	3.98	2.60	2.47	2.28	2.27	2.51	2.92
Turbidity (NTUs)	42	28	22	18	-	-	-
Salinity (ppth)	0.05	0.06	0.06	0.06	0.06	0.06	0.05
Eh (mV)	181	116	98	93	92	92	91
Water Level (ft from TOR)	13.39	13.38	13.38	13.38	13.38	13.38	13.38
Flow Rate (mL/min.)	200	200	200	200	200	200	200

Ground Water Fi ld Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW01-15D Personnel: SW Start Time: 1400 Finish Time: 1540

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	7.0	8.0	9.0	10.0	11.0	12.0	13.0
Time	1445	1450	1455	1500	1505	1510	1515
Temperature (°C)	5.63	5.50	4.56	4.44	4.57	6.28	7.50
pH	6.24	6.24	6.23	6.24	6.24	6.23	6.25
Conductivity (ms/cm)	0.072	0.073	0.071	0.070	0.071	0.074	0.078
DO (mg/L)	2.78	2.70	2.71	2.70	2.81	2.17	2.03
Turbidity (NTUs)	20	16	14	13	12	10	11
Salinity (ppth)	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Eh (mV)	91	89	88	88	87	84	82
Water Level (ft from TOR)	13.38	13.38	13.38	13.38	13.38	13.38	13.38
Flow Rate (mL/min.)	200	200	200	200	200	200	200

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	14.0	15.0					
Time	1520	1525					
Temperature (°C)	7.46	7.54					
pH	6.24	6.24					
Conductivity (ms/cm)	0.077	0.077					
DO (mg/L)	200	2.02					
Turbidity (NTUs)	12	11					
Salinity (ppth)	0.05	0.05					
Eh (mV)	80	79					
Water Level (ft from TOR)	13.38	13.38					
Flow Rate (mL/min.)	200	200					

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collected sample at 1535

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW01-15R Personnel: VLD Start Time: 1400 Finish Time: 1500

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Blue calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: ___ 2-in. / √ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 69.7 (ft) Depth to Water: 13.40 (ft)

Depth of screened interval or open borehole interval: 56–81 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW01-15R	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Blue calibration log for equipment serial numbers and daily calibration information			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	0	0.75	1.5	3.0	3.75	4.5	5.25
Time	1410	1415	1420 (A)	1430	1435	1440	1445
Temperature (°C)	9.13	9.77	9.77	9.63	9.75	9.93	9.77
pH	7.62	7.32	7.30	7.25	7.22	7.24	7.22
Conductivity (ms/cm)	0.117	0.123	0.123	0.123	0.123	0.124	0.122
DO (mg/L)	35.67	6.18	5.05	2.32	1.98	1.59	1.55
Turbidity (NTUs)	20.5	18.3	18.4	18.0	18.4	18.5	17.9
Salinity (ppth)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Eh (mV)	-72.7	-109.6	-111.0	-113.2	-113.0	-113.0	-113.2
Water Level (ft from TOR)	13.46	13.43	13.42	13.41	13.40	13.41	13.40
Flow Rate (mL/min.)	150	150	150	150	150	150	150

Ground Water Fi ld Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW01-15R Personnel: VLD Start Time: 1400 Finish Time: 1500

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	6.0	6.75	7.25				
Time	1450	1455	1500				
Temperature (°C)	9.67	9.80	9.92				
pH	7.24	7.23	7.23				
Conductivity (ms/cm)	0.122	0.122	0.122				
DO (mg/L)	1.47	1.36	1.42				
Turbidity (NTUs)	18.0	18.2	18.1				
Salinity (ppth)	0.08	0.08	0.08				
Eh (mV)	-112.7	-112.3	-111.1				
Water Level (ft from TOR)	13.40	13.40	13.40				
Flow Rate (mL/min.)	150	150	150				

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: (A) - No reading at 1425.

Ground Water Fi ld Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW02-03D Personnel: VLD Start Time: 0830 Finish Time: 1030

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Blue calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 41.9 (ft) Depth to Water: 23.60 (ft)

Depth of screened interval or open borehole interval: 33.2–43.2 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW02-03D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Blue calibration log for equipment serial numbers and daily calibration information

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	0	0.750	1.75	2.75	3.75	4.75	5.75
Time	0900	0905	0910	0915	0920	0925	0930
Temperature (°C)	8.37	10.30	8.59	9.18	6.13	7.18	5.46
pH	6.69	6.62	6.62	6.53	6.55	6.56	6.57
Conductivity (ms/cm)	0.101	0.115	0.114	0.163	0.169	0.107	0.103
DO (mg/L)	68.18	42.63	30.62	21.00	15.86	10.92	8.33
Turbidity (NTUs)	--	--	33.4	36.5	40.5	44.60	41.30
Salinity (ppth)	0.07	0.08	0.08	0.08	0.08	0.08	0.08
Eh (mV)	30.1	4.9	-0.8	-2.0	-1.7	-2.5	-1.1
Water Level (ft from TOR)	23.62	23.80	23.70	23.73	23.70	23.64	23.61
Flow Rate (mL/min.)	150	200	200	200	200	200	200

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW02-03D Personnel: VLD Start Time: 0830 Finish Time: 1030

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	6.75	7.75	8.75	9.75	10.75	11.75	12.75
Time	0935	0940	0945	0950	0955	1000	1005
Temperature (°C)	6.03	5.71	5.91	6.53	7.57	7.40	6.86
pH	6.60	6.60	6.58	6.61	6.64	6.61	6.61
Conductivity (ms/cm)	0.106	0.105	0.103	0.105	0.110	0.108	0.107
DO (mg/L)	5.96	5.54	4.63	3.88	3.46	3.20	3.05
Turbidity (NTUs)	38.5	27.3	21.1	20.6	20.5	20.1	19.2
Salinity (ppth)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Eh (mV)	-3.4	-2.9	-2.3	-3.0	-6.0	-6.6	-4.0
Water Level (ft from TOR)	23.63	23.62	23.61	23.61	23.61	23.61	23.61
Flow Rate (mL/min.)	200	200	200	200	200	200	200

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	13.75						
Time	1010						
Temperature (°C)	6.92						
pH	6.60						
Conductivity (ms/cm)	0.107						
DO (mg/L)	2.92						
Turbidity (NTUs)	20.0						
Salinity (ppth)	0.08						
Eh (mV)	-3.7						
Water Level (ft from TOR)	23.61						
Flow Rate (mL/min.)	200						

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes:

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/24/03

Well ID: MW02-03R Personnel: SW Start Time: 0855 Finish Time: 1015

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Yellow calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: ___ 2-in. / √ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 52.1 (ft) Depth to Water: 22.91 (ft)

Depth of screened interval or open borehole interval: 48.1-73.1 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW02-03R	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Yellow calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.5	1.0	1.5	2.0	2.5	3.0
Time		0900	0905	0910	0915	0920	0925	0930
Temperature	(°C)	7.41	6.90	5.83	10.14	10.71	10.82	10.58
pH		6.81	7.42	7.67	7.58	7.53	7.50	7.53
Conductivity	(ms/cm)	0.127	0.136	0.142	0.158	0.168	0.171	0.169
DO	(mg/L)	8.39	5.58	4.74	3.57	3.17	2.90	2.77
Turbidity	(NTUs)	588	303	68	60	54	41	38
Salinity	(ppth)	0.09	0.10	0.11	0.11	0.11	0.11	0.11
Eh	(mV)	-47	-122	-146	-153	-189	-195	-196
Water Level	(ft from TOR)	22.91	22.91	22.91	22.91	22.91	22.92	22.92
Flow Rate	(mL/min.)	100	100	100	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/24/03

Well ID: MW02-03R Personnel: SW Start Time: 0855 Finish Time: 1015

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	3.5	4.0	4.5	5.0	5.5	6.0	
Time	0935	0940	0945	0950	0955	1000	
Temperature (°C)	10.60	10.74	10.67	10.69	10.38	10.66	
pH	7.54	7.54	7.53	7.53	7.52	7.51	
Conductivity (ms/cm)	0.169	0.170	0.169	0.169	0.167	0.168	
DO (mg/L)	2.67	2.61	2.54	2.36	2.38	2.34	
Turbidity (NTUs)	36	40	45	43	48	41	
Salinity (ppth)	0.11	0.11	0.11	0.11	0.11	0.11	
Eh (mV)	-200	-197	-198	-197	-198	-195	
Water Level (ft from TOR)	22.91	22.91	22.91	22.91	22.91	22.91	
Flow Rate (mL/min.)	100	100	100	100	100	100	

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collected sample at 1010.

Ground Water Fi ld Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW02-08D Personnel: RC/VLD Start Time: 1245 Finish Time: 1440

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See blue calibration log

Ambient Air Reading: 0 ppm Well Headspace Reading: 0 ppm

Well Data/Integrity

Well Locked: ___ Yes √ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 42.1 (ft) Depth to Water: 18.46 (ft)

Depth of screened interval or open borehole interval: 35.5-45.5 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW02-08D	HCL, <4°C
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-Dup1	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See blue calibration log for equipment serial numbers and daily calibration information			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	0.5	1.5	2.5	3.25	4.0	4.75	7
Time	1301	1306	1311	1316	1335	1340	1355
Temperature (°C)	9.90	9.95	8.58	7.43	10.57	11.45	7.66
pH	6.79	6.07	5.81	5.64	5.61	5.57	5.56
Conductivity (ms/cm)	0.081	0.070	0.060	0.063	0.068	0.069	0.064
DO (mg/L)	11.66	6.71	4.53	3.33	1.76	1.21	0.90
Turbidity (NTUs)	9.30	8.33	8.34	5.44	8.38	-	9.60
Salinity (ppth)	0.05	0.05	0.04	0.04	0.04	0.04	0.04
Eh (mV)	205.8	197.6	187.1	181.8	169.0	169.9	173.6
Water Level (ft from TOR)	18.71	18.75	18.57	18.53	18.65	18.97	18.51
Flow Rate (mL/min.)	200	200	150	150	150	150	150

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/22/03

Well ID: MW02-08D Personnel: RC/VLD Start Time: 1245 Finish Time: 1440

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	7.25	8.0	8.75	9.50	10.25	11.0	11.75
Time	1400	1405	1412	1418	1425	1430	1435
Temperature (°C)	4.67	4.42	2.82	8.57	10.46	10.68	10.14
pH	5.50	5.50	5.49	5.52	5.58	5.55	5.55
Conductivity (ms/cm)	0.058	0.058	0.053	0.062	0.068	0.068	0.068
DO (mg/L)	0.91	0.93	1.23	1.49	0.75	0.68	0.64
Turbidity (NTUs)	9.12	8.79	-	-	11	12	10
Salinity (ppth)	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Eh (mV)	177.1	176.8	162.4	166.5	169.3	171.4	172.0
Water Level (ft from TOR)	18.53	18.52	-	18.82	18.74	18.75	18.75
Flow Rate (mL/min.)	150	150	150	150	150	150	150

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: 1321 – Gas canister empty, also switched out tubing due to ice

1330 – Resume pumping. Collect sample at 1445 plus Dup01.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW02-11D Personnel: SS/BA Start Time: 0840 Finish Time: 1050

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Red calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 63.3 (ft) Depth to Water: 20.70 (ft)

Depth of screened interval or open borehole interval: 54.3–64.3 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW02-11D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Red calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		2.0	2.5	3.0	3.5	4.0	4.5	5.0
Time		0858	0903	0908	0913 (a)	0933	0938	0943
Temperature	(°C)	7.68	4.48	5.90	5.30	6.13	8.24	8.54
pH		6.93	6.70	6.50	6.36	6.30	6.27	6.28
Conductivity	(ms/cm)	0.038	0.164	0.174	0.117	0.191	0.192	0.192
DO	(mg/L)	23.20	16.68	11.74	9.26	6.61	4.72	4.20
Turbidity	(NTUs)	18.4	26	35.6	36.0	37.7	30.7	21.6
Salinity	(ppth)	0.04	0.08	0.08	0.09	0.09	0.09	0.09
Eh	(mV)	220.6	120.5	80.6	46.7	10.2	7.9	6.1
Water Level	(ft from TOR)	20.60	20.60	20.60	20.60	20.62	20.62	20.62
Flow Rate	(mL/min.)	100	100	100	100	100	100	100

Ground Wat r Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW02-11D Personnel: SS/BA Start Time: 0840 Finish Time: 1050

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	5.5	6.0	6.5	7.0	7.5	8.0	
Time	0948 (b)	0958	1003	1010 (c)	1015	1020	
Temperature (°C)	8.75	6.48	6.53	6.33	6.37	6.38	
pH	6.28	6.27	6.25	6.31	6.27	6.27	
Conductivity (ms/cm)	0.193	0.195	0.194	0.197	0.194	0.194	
DO (mg/L)	3.65	3.90	3.90	3.99	4.06	3.90	
Turbidity (NTUs)	16.7	13.7	10.19	7.21	5.31	4.59	
Salinity (ppth)	0.09	0.09	0.09	0.09	0.09	0.09	
Eh (mV)	5.5	7.8	9.8	6.7	10.8	10.7	
Water Level (ft from TOR)	20.30	20.60	20.60	20.61	20.62	20.62	
Flow Rate (mL/min.)	100	100	100	100	100	100	

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: (a) - Equipment shut down, replace control box

(b) - change out gas canister; (c) - Replace batteries in control box, control box keeps stopping. Collected sample at 1030.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-03D Personnel: VLD Start Time: 1315 Finish Time: 1420

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Blue calibration log

Ambient Air Reading: 0 ppm Well Headspace Reading: 0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 57 (ft) Depth to Water: 16.72 (ft)

Depth of screened interval or open borehole interval: 48–58 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-03D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Blue calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.750	1.5	2.25	3.0	3.75	4.5
Time		1330	1335	1340	1345	1350	1355	1400
Temperature	(°C)	9.58	12.08	11.86	11.83	11.65	11.64	11.61
pH		8.08	6.79	6.69	6.62	6.57	6.58	6.54
Conductivity	(ms/cm)	0.111	0.130	0.133	0.134	0.134	0.134	0.134
DO	(mg/L)	10.92	3.17	1.46	1.20	0.98	0.80	0.70
Turbidity	(NTUs)	33.1	25.5	26.5	23.9	24.5	21.12	18.71
Salinity	(ppth)	0.07	0.08	0.08	0.09	0.09	0.09	0.09
Eh	(mV)	174.1	6.4	-9.8	-12.2	-13.5	-13.8	-14.2
Water Level	(ft from TOR)	16.73	16.75	16.75	16.75	16.75	16.75	16.75
Flow Rate	(mL/min.)	150	150	150	150	150	150	150

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-03D Personnel: VLD Start Time: 1315 Finish Time: 1420

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	5.25	6.0	6.75				
Time	1405	1410	1415				
Temperature (°C)	11.60	11.66	11.51				
pH	6.52	6.52	6.52				
Conductivity (ms/cm)	0.134	0.134	0.133				
DO (mg/L)	0.61	0.58	0.53				
Turbidity (NTUs)	12.10	10.75	9.85				
Salinity (ppth)	0.09	0.09	0.09				
Eh (mV)	-14.9	-15.1	-15.3				
Water Level (ft from TOR)	16.75	16.75	16.75				
Flow Rate (mL/min.)	150	150	150				

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes:

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-03R Personnel: RC Start Time: 1300 Finish Time: 1405

Air Monitoring

Equipment Used (Make/Model/Serial No.): No readings taken

Calibration Information: _____

Ambient Air Reading: _____ ppm Well Headspace Reading: _____ ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other _____

Protective Casing Secure: √ Yes ___ No Well Diameter: ___ 2-in. / √ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 76.6 (ft) Depth to Water: 16.34 (ft)

Depth of screened interval or open borehole interval: 70–95 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-03R	HCL, <4°C
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-Dup2	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0.5	1.25	2.0	2.75	3.5	4.25	5.0
Time		1326	1331	1336	1341	1346	1351	1356
Temperature	(°C)	11.50	11.23	11.33	11.40	11.47	11.17	11.10
pH		6.62	6.43	6.33	6.31	6.30	6.24	6.27
Conductivity	(ms/cm)	0.166	0.162	0.161	0.162	0.160	0.155	0.157
DO	(mg/L)	31.35	16.23	14.49	14.27	14.43	14.18	14.82
Turbidity	(NTUs)	1.8	3.4	3.7	2.5	1.5	1.2	0.5
Salinity	(ppth)	0.11	0.10	0.10	0.10	0.10	0.10	0.10
[illegible]	(mV)	-34.0	-22.5	-20.0	-23.3	-23.2	-16.9	-20.5
Water Level	(ft from TOR)	16.34	16.34	16.34	16.34	16.34	16.35	16.35
Flow Rate	(mL/min.)	150	150	150	150	150	150	150

Notes: Collected sample and Dup2 at 1400.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/28/03

Well ID: MW03-05D Personnel: VLD/RC Start Time: 0930 Finish Time: 1050

Air Monitoring

Equipment Used (Make/Model/Serial No.): No Readings

Calibration Information: _____

Ambient Air Reading: _____ ppm Well Headspace Reading: _____ ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other _____

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 41.7 (ft) Depth to Water: 16.71 (ft)

Depth of screened interval or open borehole interval: 35.1–45.1 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-05D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		1	1.75	2.5	3.25	4.0	4.75	5.5
Time		0947	0952	0957	1002	1015	1020	1025
Temperature	(°C)	1015	7.93	7.65	9.68	5.73	5.40	6.07
pH		6.75	6.27	6.11	6.01	5.88	5.88	5.85
Conductivity	(ms/cm)	0.062	0.059	0.057	0.058	0.053	0.052	0.052
DO	(mg/L)	19.52	16.33	15.23	13.42	9.70	9.63	9.00
Turbidity	(NTUs)	-	68.7	106.6	75.4	-	66.6	50.4
Salinity	(ppth)	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Eh	(mV)	211.2	219.3	223.5	226.7	233.3	233.3	231.9
Water Level	(ft from TOR)	17.11	17.05	17.06	17.21	16.97	17.02	17.02
Flow Rate	(mL/min.)	150	150	150	150	150	150	150

Ground Water Fi ld Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/28/03

Well ID: MW03-05D Personnel: VLD/RC Start Time: 0930 Finish Time: 1050

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	6.25	7.0	7.75	8.5			
Time	1030	1035	1040	1045			
Temperature (°C)	6.85	8.68	9.83	10.31			
pH	5.82	5.87	5.88	5.87			
Conductivity (ms/cm)	0.053	0.056	0.058	0.059			
DO (mg/L)	8.71	8.11	7.66	7.55			
Turbidity (NTUs)	40.6	28.1	24.1	33.2			
Salinity (ppth)	0.04	0.04	0.04	0.04			
Eh (mV)	230.5	224.7	226.1	221.2			
Water Level (ft from TOR)	17.07	17.09	17.19	17.08			
Flow Rate (mL/min.)	150	150	150	150			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collected sample at 1050.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-08D Personnel: VLD/RC Start Time: 0830 Finish Time: 1005

Air Monitoring

Equipment Used (Make/Model/Serial No.): No Readings

Calibration Information: _____

Ambient Air Reading: _____ ppm Well Headspace Reading: _____ ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other _____

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 39.5 (ft) Depth to Water: 9.56 (ft)

Depth of screened interval or open borehole interval: 30.4–40.4 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-08D	HCL, <4°C
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-Dup3	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See green calibration log for equipment serial numbers and daily calibration information			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	2	2.75	3.5	4.25	5.0	5.75	6.5
Time	0912	0917	0922	0927	0932	0937	0942
Temperature (°C)	9.71	7.69	7.00	7.21	7.36	7.55	7.63
pH	5.85	5.55	5.46	5.43	5.45	5.96	5.35
Conductivity (ms/cm)	0.099	0.093	0.089	0.089	0.089	0.089	0.090
DO (mg/L)	12.98	9.35	8.15	7.33	6.53	5.99	5.27
Turbidity (NTUs)	3.74	7.85	4.51	7.98	7.00	4.31	2.74
Salinity (ppth)	0.07	0.07	0.06	0.06	0.06	0.06	0.06
Eh (mV)	224.1	237.2	243.4	246.1	247.8	248.8	250.8
Water Level (ft from TOR)	9.52	9.53	9.53	9.53	9.54	9.54	9.54
Flow Rate (mL/min.)	150	150	150	150	150	150	150

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-08D Personnel: VLD/RC Start Time: 0830 Finish Time: 1005

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	7.25	8.0					
Time	0947	0952					
Temperature (°C)	7.65	7.29					
pH	5.46	5.46					
Conductivity (ms/cm)	0.090	0.089					
DO (mg/L)	4.99	4.69					
Turbidity (NTUs)	2.07	1.45					
Salinity (ppth)	0.06	0.06					
Eh (mV)	250.9	252.8					
Water Level (ft from TOR)	9.54	9.54					
Flow Rate (mL/min.)	150	150					

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collect sample and MW03-Dup3 at 1000.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-08R Personnel: VLD Start Time: 0845 Finish Time: 0945

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Blue calibration log

Ambient Air Reading: 0 ppm Well Headspace Reading: 0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 51.5 (ft) Depth to Water: 8.56 (ft)

Depth of screened interval or open borehole interval: 46.5–56.5 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-08R	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Blue calibration log for equipment serial numbers and daily calibration information			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	0	0.75	1.50	2.0	2.5	3.0	3.5
Time	0900	0905	0910	0915	0920	0925	0930
Temperature (°C)	7.54	7.32	7.32	7.03	6.14	4.67	4.62
pH	7.74	7.63	7.51	7.28	7.10	6.95	6.90
Conductivity (ms/cm)	0.164	0.162	0.162	0.158	0.141	0.125	0.124
DO (mg/L)	1.25	1.09	0.91	0.88	0.84	0.86	0.85
Turbidity (NTUs)	27.4	21.1	12.6	7.90	5.80	3.26	-
Salinity (ppth)	0.12	0.12	0.12	0.11	0.10	0.10	0.10
[illegible] (mV)	36.0	1.0	-4.7	-1.3	6.7	12.0	13.2
Water Level (ft from TOR)	9.76	9.55	9.49	9.36	9.19	9.11	9.05
Flow Rate (mL/min.)	150	150	150	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: MW03-08R Personnel: VLD Start Time: 0845 Finish Time: 0945

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	4.0	4.5					
Time	0935	0940					
Temperature (°C)	4.48	4.29					
pH	6.87	6.84					
Conductivity (ms/cm)	0.124	0.122					
DO (mg/L)	0.85	0.83					
Turbidity (NTUs)	-	3.34					
Salinity (ppth)	0.10	0.10					
Eh (mV)	13.4	13.5					
Water Level (ft from TOR)	9.03	9.02					
Flow Rate (mL/min.)	100	100					

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes:

Ground Wat r Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/24/03

Well ID: MW03-09D Personnel: SS/BA Start Time: 0820 Finish Time: 0940

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Red calibration log

Ambient Air Reading: 0 ppm Well Headspace Reading: 0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 62.4 (ft) Depth to Water: 20.00 (ft)

Depth of screened interval or open borehole interval: 53.2–63.2 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-09D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0.5	1.5	2.5	3.5	4.5	5.5	6.0
Time		0844	0849	0854	0859	0904	0909	0914
Temperature	(°C)	5.98	7.38	8.29	8.99	9.58	7.74	6.02
pH		6.99	6.92	6.53	6.53	6.54	6.58	6.58
Conductivity	(ms/cm)	0.141	0.140	0.515	0.160	0.163	0.166	0.168
DO	(mg/L)	19.49	12.13	6.54	3.58	2.31	0.80	0.81
Turbidity	(NTUs)	33.0	25.0	14.0	8.0	5.0	6.3	6.2
Salinity	(ppth)	0.07	0.07	0.07	0.08	0.08	0.08	0.08
[illegible]	(mV)	216.5	78.1	-11.9	-31.9	-39.2	-42.1	-41.4
Water Level	(ft from TOR)	20.02	20.02	20.02	20.03	20.06	20.01	20.01
Flow Rate	(mL/min.)	200	200	200	200	200	200	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/24/03

Well ID: MW03-09D Personnel: SS/BA Start Time: 0820 Finish Time: 0940

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	6.5						
Time	0918						
Temperature (°C)	5.19						
pH	6.56						
Conductivity (ms/cm)	0.169						
DO (mg/L)	0.78						
Turbidity (NTUs)	5.3						
Salinity (ppth)	0.08						
Eh (mV)	-40.3						
Water Level (ft from TOR)	20.01						
Flow Rate (mL/min.)	100						

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Temperature fluctuated because of weather and flow adjustment.
Sample at 0930.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/28/03

Well ID: MW03-10D Personnel: SW/SS Start Time: 0930 Finish Time: 1045

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Yellow calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 49.8 (ft) Depth to Water: 13.70 (ft)

Depth of screened interval or open borehole interval: 41–51 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW03-10D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Yellow calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	1	2	3	4	5	6
Time		0953	0958	1003	1008	1013	1018	1023
Temperature	(°C)	9.39	8.34	9.55	10.18	10.28	10.35	10.22
pH		5.32	5.31	5.35	5.40	5.40	5.40	5.38
Conductivity	(ms/cm)	0.072	0.068	0.069	0.071	0.071	0.071	0.071
DO	(mg/L)	15.22	10.39	8.49	7.27	6.47	5.76	5.12
Turbidity	(NTUs)	20	32	38	21	11	6	3
Salinity	(ppth)	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Eh	(mV)	-344.5	-349.3	-350.3	-357.3	-356.6	-352.6	-356.4
Water Level	(ft from TOR)	13.78	13.78	13.78	13.78	13.78	13.78	13.78
Flow Rate	(mL/min.)	200	200	200	200	200	200	200

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/28/03

Well ID: MW03-10D Personnel: SW/SS Start Time: 0930 Finish Time: 1045

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	7						
Time	1028						
Temperature (°C)	9.64						
pH	5.39						
Conductivity (ms/cm)	0.070						
DO (mg/L)	4.71						
Turbidity (NTUs)	2						
Salinity (ppth)	0.05						
Eh (mV)	-355.6						
Water Level (ft from TOR)	13.78						
Flow Rate (mL/min.)	200						

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Flow cell in direct sunlight, temp rising. Collected sample at 1030.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/24/03

Well ID: MW-Z3-01 Personnel: RC/ VLD Start Time: 0830 Finish Time: 0930

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Red calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 95.5 (ft) Depth to Water: 18.73 (ft)

Depth of screened interval or open borehole interval: 86.3–96.3 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW-Z3-01	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	2	4	5	6.5	8	9
Time		0840	0845	0853	0858	0903	0908	0913
Temperature	(°C)	6.78	9.83	8.44	8.26	8.21	7.92	7.84
pH		7.03	6.45	6.36	6.30	6.29	6.29	6.29
Conductivity	(ms/cm)	0.117	0.152	0.145	0.143	0.142	0.141	0.140
DO	(mg/L)	8.65	2.35	1.94	1.69	1.58	1.40	1.31
Turbidity	(NTUs)	33	295	125	62.9	33	23	15
Salinity	(ppth)	0.08	0.10	0.10	0.10	0.10	0.10	0.10
Eh	(mV)	191.4	27.6	8.1	6.3	4.3	2.9	2.2
Water Level	(ft from TOR)	18.76	18.75	18.75	18.76	18.75	18.75	18.75
Flow Rate	(mL/min.)	200	200	200	200	200	200	200

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/24/03

Well ID: MW-Z3-01 Personnel: RC/ VLD Start Time: 0830 Finish Time: 0930

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	10	11	12				
Time	0918	0923	0928				
Temperature (°C)	7.88	7.91	7.84				
pH	6.29	6.30	6.31				
Conductivity (ms/cm)	0.139	0.139	0.139				
DO (mg/L)	1.25	1.20	1.15				
Turbidity (NTUs)	14	10	10.1				
Salinity (ppth)	0.10	0.10	0.10				
Eh (mV)	1.8	1.4	0.4				
Water Level (ft from TOR)	18.75	18.75	18.75				
Flow Rate (mL/min.)	200	200	200				

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collected sample at 0930.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW-Z3-02 Personnel: SS/BA Start Time: 1230 Finish Time: 1500

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Red calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 56.6 (ft) Depth to Water: 20.45 (ft)

Depth of screened interval or open borehole interval: 50–60 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	MW-Z3-02	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.25	0.50	0.75	1.0	1.25	1.50
Time		13.16	1321	1326	1331	1336	1341	1346
Temperature	(°C)	3.71	5.29	7.34	8.28	8.69	8.63	8.63
pH		6.16	6.09	6.19	6.25	6.28	6.26	6.25
Conductivity	(ms/cm)	0.130	0.135	0.152	0.160	0.163	0.136	0.163
DO	(mg/L)	3.20	3.26	2.13	1.39	1.03	0.88	0.78
Turbidity	(NTUs)	35.8	36.1	36.5	16.5	9.94	8.11	7.04
Salinity	(ppth)	0.10	0.10	0.11	0.11	0.11	0.11	0.11
Eh	(mV)	120.4	102.2	57.4	29.0	16.8	11.8	9.4
Water Level	(ft from TOR)	20.62	20.63	20.64	20.64	20.64	20.64	20.64
Flow Rate	(mL/min.)	50 (a)	50	50	50	50	50	50

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/23/03

Well ID: MW-Z3-02 Personnel: SS/BA Start Time: 1230 Finish Time: 1500

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	1.75	2.0	2.25	2.50			
Time	1351	1356	1401	1406			
Temperature (°C)	8.80	8.78	8.76	8.47			
pH	6.24	6.25	6.25	6.25			
Conductivity (ms/cm)	0.163	0.163	0.163	0.161			
DO (mg/L)	0.72	0.68	0.65	0.67			
Turbidity (NTUs)	7.42	6.36	6.64	6.92			
Salinity (ppth)	0.11	0.11	0.11	0.11			
Eh (mV)	7.6	6.1	5.5	4.8			
Water Level (ft from TOR)	20.64	20.64	20.64	20.64			
Flow Rate (mL/min.)	50	50	50	50			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: (a) - pump on full throttle and will only pump 50mL/ min.

Collected sample at 1410.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: EA-110D Personnel: SW Start Time: 1340 Finish Time: 1500

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See White calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 86 (ft) Depth to Water: 22.81 (ft)

Depth of screened interval or open borehole interval: 77–87 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	EA-110D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See white calibration log for equipment serial numbers and daily calibration information			

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.5	1.0	2.0	3.0	4.0	5.0
Time		1350	1355	1400	1405	1410	1415	1420
Temperature	(°C)	8.00	7.60	7.91	9.85	10.35	10.14	10.18
pH		7.14	7.03	6.94	6.92	6.96	6.98	6.96
Conductivity	(ms/cm)	0.166	0.160	0.149	0.161	0.165	0.165	0.160
DO	(mg/L)	7.49	4.59	3.76	3.00	2.60	2.30	2.09
Turbidity	(NTUs)	50	41	172	145	82	71	56
Salinity	(ppth)	0.12	0.11	0.10	0.10	0.10	0.11	0.11
Eh	(mV)	-351	-355	-356	-358	-362	-365	-367
Water Level	(ft from TOR)	22.81	22.81	22.81	22.81	22.81	22.81	22.81
Flow Rate	(mL/min.)	100	100	200	200	200	200	200

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: EA-110D Personnel: SW Start Time: 1340 Finish Time: 1500

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	6.0	7.0	8.0	9.0			
Time	1425	1430	1435	1440			
Temperature (°C)	10.24	9.98	9.92	9.80			
pH	6.96	6.97	6.95	6.97			
Conductivity (ms/cm)	0.162	0.163	0.164	0.165			
DO (mg/L)	1.96	1.87	1.79	1.78			
Turbidity (NTUs)	42	40	37	42			
Salinity (ppth)	0.11	0.11	0.11	0.11			
Eh (mV)	-369	-370	-372	-373			
Water Level (ft from TOR)	22.81	22.81	22.81	22.81			
Flow Rate (mL/min.)	200	200	200	200			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes:

Ground Wat r Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/21/03

Well ID: EA-111D Personnel: SS Start Time: 1330 Finish Time: 1535

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Blue calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 65.9 (ft) Depth to Water: 13.04 (ft)

Depth of screened interval or open borehole interval: 51.9–66.9 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	EA-111D	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Blue calibration log for equipment serial numbers and daily calibration information

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	2	2.5	3.0	3.5	4.0	4.5	5.0
Time	1435	1440	1445	1450	1455	1500	1505
Temperature (°C)	4.90	5.64	5.72	5.86	6.07	6.05	6.33
pH	6.09	6.10	6.09	6.09	6.09	6.07	6.07
Conductivity (ms/cm)	0.111	0.115	0.115	0.116	0.116	0.116	0.117
DO (mg/L)	41.25	33.17	30.80	28.31	26.31	25.02	24.53
Turbidity (NTUs)	42.7	49.4	46.3	34.1	35.4	34.6	33.9
Salinity (ppth)	0.08	0.09	0.09	0.09	0.09	0.09	0.09
Eh (mV)	-21.8	-25.2	-25.6	-25.8	-26.8	-27.2	27.6
Water Level (ft from TOR)	13.14	13.14	13.14	13.14	13.14	13.14	13.14
Flow Rate (mL/min.)	100	100	100	100	100	100	100

Notes: Collected sample at 1510; weather conditions: 10-20 Degrees, windy, dusty.

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/27/03

Well ID: EA-110R Personnel: SS Start Time: 1300 Finish Time: 1445

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Yellow calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 114 (ft) Depth to Water: 22.38 (ft)

Depth of screened interval or open borehole interval: 90.5–115.5 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	EA-110R	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA

See Yellow calibration log for equipment serial numbers and daily calibration information

Parameter (units)		Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters		0	0.5	1.0	1.5	2.0	2.5	3.0
Time		1355	1400	1405	1410	1415	1420	1425
Temperature	(°C)	8.74	9.20	10.33	10.37	9.83	9.43	9.47
pH		8.13	8.52	9.00	9.02	8.99	8.96	8.93
Conductivity	(ms/cm)	0.161	0.154	0.150	0.149	0.146	0.146	0.145
DO	(mg/L)	25.79	17.29	12.68	10.80	10.20	9.97	9.75
Turbidity	(NTUs)	4.63	4.14	0.59	4.07	4.75	4.88	3.68
Salinity	(ppth)	0.11	0.10	0.10	0.10	0.10	0.10	0.10
Eh	(mV)	48.7	-41.3	-102.6	-112.9	-116.7	-118.0	-117.9
Water Level	(ft from TOR)	22.66	22.66	22.68	22.66	22.66	22.66	22.66
Flow Rate	(mL/min.)	100	100	100	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/21/03

Well ID: EA-111R Personnel: BDH Start Time: 1330 Finish Time: 1540

Air Monitoring

Equipment Used (Make/Model/Serial No.): Photovac 2020 w/10.6eV

Calibration Information: See Red calibration log

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/Integrity

Well Locked: √ Yes ___ No Well Material: √ PVC/ ___ SS/Other ___

Protective Casing Secure: √ Yes ___ No Well Diameter: √ 2-in. / ___ 4-in. / ___ 6-in. / Other

Concrete Collar Intact: √ Yes ___ No Water Level Equip. Used: √ Elect. Cond. Probe

Water Level Data

Water Sampling Pump Used: √ Dedicated Bladder/ ___ Peristaltic

Pump Intake Depth (ft below TOR): 90.3 (ft) Depth to Water: 13.25 (ft)

Depth of screened interval or open borehole interval: 66.8–91.8 (ft)

Sample Information

Analytical Parameter	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 µg/L) (5030B / 8260B)	3 @ 40 mL vial	EA-111R	HCL, <4°C

Equipment Decon

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, and DI
P	S	YSI 600XL Water Quality Meter with flow-through cell	Alconox, isopropyl, and DI
P	S	Geolog dedicated bladder pump and tubing, MP 10 control box, nitrogen tank	NA
P	S	Lamotte 2020 Turbidimeter or similar	NA
See Red calibration log for equipment serial numbers and daily calibration information			

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	2.0	3.0	3.5	4.0	4.5	5.0	5.5
Time	1420	1425	1430	1435	1440	1445	1450
Temperature (°C)	6.99	6.85	6.11	5.86	5.60	5.57	4.95
pH	12.02	12.19	12.20	12.08	11.98	11.92	11.91
Conductivity (ms/cm)	2.426	2.131	1.188	1.052	0.906	0.794	0.735
DO (mg/L)	2.90	2.15	2.25	1.87	1.88	1.96	2.02
Turbidity (NTUs)	1.62	6.55	9.75	5.86	4.69	0.43	5.02
Salinity (ppth)	1.24	1.09	0.58	0.52	0.45	0.38	0.36
Eh (mV)	71.8	49.1	26.5	26.7	24.3	20.0	17.2
Water Level (ft from TOR)	13.25	15.80	16.10	16.20	16.18	16.05	15.85
Flow Rate (mL/min.)	200	100	100	100	100	100	100

Ground Water Field Sampling Form

Project Name: NCBC Davisville Site 03 IGSP Project No.: 29600.99 Task: 3203 Date: 1/21/03

Well ID: EA-111R Personnel: BDH Start Time: 1330 Finish Time: 1540

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	6.0	6.5	7.0				
Time	1455	1500	1505				
Temperature (°C)	4.29	4.29	4.25				
pH	11.88	11.93	11.90				
Conductivity (ms/cm)	0.702	0.690	0.685				
DO (mg/L)	2.03	2.08	2.09				
Turbidity (NTUs)	4.84	4.52	3.22				
Salinity (ppth)	0.34	0.33	0.32				
Eh (mV)	17.1	13.4	14.5				
Water Level (ft from TOR)	15.45	15.45	15.45				
Flow Rate (mL/min.)	100	100	100				

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
pH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Salinity (ppth)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Collected sample at 1510. Cold, temp below zero, windy and dusty.

ENVIRONMENTAL
Data Services, Inc.

EA ENGINEERING,
SCIENCE & TECHNOLOGY

MAR 17 2003

RECEIVED

March 14, 2003

Mr. Jim Shultz
EA Engineering, Science & Technology, Inc.
Southborough Technology Park
333 Turnpike Road
Southborough, Massachusetts 01772

Re: Transmittal of Completed Data Validation Reports for NCBC Davisville, Site 03, SDGs TB0304 (030055) and EA110R (030069)

Dear Mr. Shultz:

Environmental Data Services, Inc. (EDS) is pleased to submit an original and one (1) copy of the data validation reports for the above referenced SDGs.

Please contact me at (603) 226-0118 or via email at nweaver@env-data.com if you have any questions.

Sincerely,
Environmental Data Services, Inc.

Nancy Weaver
Senior Chemist

Enclosed

6B Hills Avenue · Concord, NH 03301 · Telephone: 603-226-0118 · Fax: 603-226-0128 · www.env-data.com

ENVIRONMENTAL
Data Services, Inc.

ORGANIC DATA VALIDATION REPORT
USEPA REGION I - TIER II

SDG No.: TB0304/030055
Laboratory: Ceimic Corporation, Narragansett, RI
Site: NCBC Davisville, Site 03
Date: March 3, 2003
Samples:
VOCs: 18/Aqueous/TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW03-DUP1, MW02-08D, MW01-10D, EA-111D, MW02-03D, MW02-11D, MW02-03R, MWZ3-02, MW01-15R, MW01-15D, MWZ3-01, MW03-09D, TB03-05
2/Aqueous Reanalysis/MW02-11D RE, MW01-15D RE

A Tier II validation was performed on the organic analytical data for sixteen aqueous samples, two aqueous reanalysis samples, and two aqueous blank samples collected by EA Engineering, Science, & Technology, Inc. at Site 03, NCBC Davisville. The samples were analyzed under USEPA SW-846 Method 8260B for volatile organic compounds (VOCs). The data were evaluated as a Tier II level in accordance with the "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses" dated December 1996 and were based on the following parameters:

	• Overall Evaluation of Data and Potential Usability Issues.
*	• Data Completeness.
*	• Preservation and Technical Holding Times.
*	• Gas Chromatograph/Mass Spectrometry (GC/MS) and GC/Electron Capture Detector (GC/ECD) Instrument Performance Checks.
	• Initial and Continuing Calibration.
	• Blanks.
	• Surrogate Compounds.
*	• Internal Standards.
*	• Matrix Spike (MS)/Matrix Spike Duplicates (MSD).
*	• Field Duplicates.
NA	• Sensitivity Check (Method Detection Limit Study or Laboratory Fortified Blank).
*	• Laboratory Control Sample.
NA	• Target Compound Identification.
NA	• Sample Quantitation and Reported Quantitation Limits.
NA	• Tentatively Identified Compounds (TICs).
NA	• SVOC and P/PCB Cleanup.
*	• System Performance.

* = All criteria were met for this parameter.
NA = Not Applicable.

Table I summarizes the validation recommendations, which were based on the following information.

Overall Evaluation of Data and Potential Usability Issues

VOCs:

VOC sample results were qualified for the following:

- Acetone and 2-butanone have been qualified (J/R) in all samples due to low initial calibration mean RRF values.
- Methylene chloride has been qualified (UJ) in all samples due to a high initial calibration %RSD value.
- 2-Hexanone has been rejected (R) in all samples due to a low initial calibration mean RRF value.
- Trichloroethene has been qualified (UJ) in samples MW01-14D and EA-111R due to a high continuing calibration %D value.
- Acetone has been qualified as undetected (U) in all samples except EA-111D due to blank contamination.
- Methylene chloride has been qualified as undetected (U) in all samples due to blank contamination.
- Trichloroethene has been qualified as undetected (U) in samples TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW01-10D, EA-111D, MWZ3-02, MW01-15R, MW02-11D, MW01-15D, TB03-05, MW01-11D RE, and MW01-15D RE due to blank contamination.
- All results have been qualified (J/UJ) in samples EA-111D, MW01-10R, MW01-13D, MW03-DUP1, MW02-08D, MW01-10D, TB03-04, MW02-03D, MW02-03R, MWZ3-02, MW01-15R, TB03-05, MW02-11D, MW01-15D, MWZ3-01, MW02-11D RE, MW01-15D RE, and MW03-09D due to low and high surrogate recoveries.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the calibrations are summarized in the following tables:

VOCs:

Compound	ICAL 02/03/03	Action	Affected Samples
Acetone	RRF=0.023	J/R	All samples
Methylene Chloride	%RSD=63.8	J/UJ	
2-Butanone	RRF=0.029	J/R	
2-Hexanone	RRF=0.047	J/R	

- Acetone and 2-butanone have been qualified (J/R) in all samples.
- Methylene chloride has been qualified (UJ) in all samples.
- 2-Hexanone has been rejected (R) in all samples.

Compound	CCAL 02/04/03	Action	Affected Samples
Trichloroethene	%D=54.6	J/UJ	MW01-14D, EA-111R

- Trichloroethene has been qualified (UJ) in samples MW01-14D and EA-111R.

Blanks

The contamination detected in the blanks which resulted in qualifications are summarized in the following section(s):

VOCs:

Blank	Compound	Concentration ug/L	Action Level ug/L	Affected Samples
VBLKLU	Acetone	1.15	11.5	TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW03-DUP1, MW02-08D, MW01-10D, MW02-03D, MW02-03R, MWZ3-02, MW01-15R
VBLKLU	Methylene Chloride	0.741	7.41	TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW03-DUP1, MW02-08D, MW01-10D, EA-111D, MW02-03D, MW02-03R, MWZ3-02, MW01-15R
VBLKLU	Trichloroethene	0.623	3.115	TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW01-10D, EA-111D, MWZ3-02, MW01-15R
VBLKLV	Acetone	1.52	15.2	MW02-11D, MW01-15D, MWZ3-01, TB03-05
VBLKLV	Methylene Chloride	0.563	5.63	MW02-11D, MW01-15D, MWZ3-01, TB03-05
VBLKLV	Trichloroethene	0.670	3.35	MW02-11D, MW01-15D, TB03-05
VBLKLW	Acetone	1.74	17.4	MW02-11D RE, MW01-15D RE, MW03-09D
VBLKLW	Methylene Chloride	0.417	4.17	MW02-11D RE, MW01-15D RE, MW03-09D
VBLKLW	Trichloroethene	0.574	2.87	MW01-11D RE, MW01-15D RE

- Acetone has been qualified as undetected (U) in all samples except EA-111D.
- Methylene chloride has been qualified as undetected (U) in all samples.
- Trichloroethene has been qualified as undetected (U) in samples TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW01-10D, EA-111D, MWZ3-02, MW01-15R, MW02-11D, MW01-15D, TB03-05, MW01-11D RE, and MW01-15D RE.

Surrogate Compounds

The following surrogate spike recoveries did not meet acceptance criteria:

VOC:

Sample	Toluene-d_8 %R	BFB %R	DCE-d_4	DBFM %R	Action
EA-111D	Ok	85%	Ok	Ok	J/UJ
MW01-10R	Ok	83%	Ok	Ok	J/UJ
MW01-13D	Ok	83%	Ok	Ok	J/UJ
MW03-DUP1	Ok	83%	Ok	Ok	J/UJ
MW02-08D	Ok	81%	Ok	Ok	J/UJ
MW01-10D	Ok	81%	Ok	Ok	J/UJ
TB03-04	Ok	81%	114%	Ok	J/UJ
MW02-03D	Ok	81%	Ok	Ok	J/UJ
MW02-03R	85%	Ok	115%	Ok	J/UJ
MWZ3-02	Ok	79%	117%	Ok	J/UJ
MW01-15R	Ok	76%	119%	Ok	J/UJ
TB03-05	Ok	77%	Ok	Ok	J/UJ
MW02-11D	Ok	75%	Ok	Ok	J/UJ
MW01-15D	Ok	73%	118%	Ok	J/UJ
MWZ3-01	Ok	75%	117%	Ok	J/UJ
MW02-11D RE	Ok	78%	115%	Ok	J/UJ
MW01-15D RE	Ok	75%	121%	Ok	J/UJ
MW03-09D	Ok	76%	124%	Ok	J/UJ

- All results have been qualified (J/UJ) in samples EA-111D, MW01-10R, MW01-13D, MW03-DUP1, MW02-08D, MW01-10D, TB03-04, MW02-03D, MW02-03R, MWZ3-02, MW01-15R, TB03-05, MW02-11D, MW01-15D, MWZ3-01, MW02-11D RE, MW01-15D RE, and MW03-09D.

Additional Comments

VOC:

- Samples MWZ3-01 and MW03-09D were analyzed at a 20X and 10X dilution, respectively, due to a high concentration of target analytes in the samples. No action was taken on this basis.
- Samples MW02-11D and MW01-15D were re-extracted within the holding time due to poor surrogate recoveries. The reanalysis yielded similar results and should be used for reporting purposes.

Attachments: Data Validation Worksheets
Annotated Form Is

DATA SUMMARY KEY
ORGANIC DATA VALIDATION

J = The associated numerical value is an estimated quantity.

R = The data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification. The R replaces the numerical value or sample quantitation limit.

U = The compound was analyzed for, but not detected. The associated numerical value is the sample quantitation limit or the adjusted sample quantitation limit.

UJ = The compound was analyzed for, but not detected. The associated numerical value is the estimated sample quantitation limit.

REGION I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

CASE # —

LAB NAME Chemic Corp Narragansett RI

SDG # JB0304 | 030055

SOW #/CONTRACT # SW846

EPA-NE DV TIER LEVEL: II

TPO/PO **ACTION ____ FYI ____

SITE NAME NCBC Davisville Site 03

OF SAMPLES/MATRIX 18 | waters

VALIDATION CONTRACTOR Env Data Services Inc

VALIDATOR'S NAME: Christine Gorney

DATE DP REC'D BY EPA-NE —

DV COMPLETION DATE: 03/03/03

ANALYTICAL DATA QUALITY SUMMARY

		8260B VOA	SV	Pest/PCB
1	Preservation and Contractual Holding Times	O		
2	GC/MS / GC/ECD Instrument Performance Check	O		
3	Initial Calibration	Z1		
4	Continuing Calibration	O1		
5	Blanks	O2		
6	Surrogate Compounds	O3		
7	Internal Standards	O		
8	Matrix Spike/Matrix Spike Duplicate	O		
9	Sensitivity Check	NA		
10	PE Samples-Accuracy Check	O		
11	Target Compound Identification	O		
12	Compound Quantitation and Reported QLs	NA		
13	Tentatively Identified Compounds	NA		
14	Semivolatile Cleanup/Pesticide/PCB Cleanup	NA		
15	Data Completeness	O		
16	Overall Evaluation of Data	O		

o = Data had no problems or were qualified due to minor contractual problems.
m = Data were qualified due to major contractual problems
z = Data were rejected as unusable due major contractual problems.

ACTION ITEMS: (z items) Z1 3 VOA analytes qualified (JLR) and one qualified (JLUJ) in all samples due to ical

AREAS OF CONCERN: (m items)

COMMENTS: O1 - one VOA analyte qualified (JLUJ) in 2 samples due to cal results
O2 - 3 VOA analytes qualified (LL) in associated samples due to blank contam.
O3 - 18 VOA samples qualified (JLUJ) due to surrogate results

*This form assesses the analytical data quality in terms of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality

**Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations

Validator Christine Gorney Date 03/03/03

INSTRUCTIONS ON REVERSE SIDE

12/96

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name NCBC Davisville SITE 03
Reference No. —

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Ceimic Corp Narragansett H RI
Case/Project No. —
SDG No. TB03041030055
No. of Samples/Matrix —

SOW/Method No. SW846 8260B
Sampling Date(s) 01/21, 01/22, 01/23, 01/24/03
Shipping Date(s) 01/23, 01/24/03
Date Rec'd by lab 01/23, 01/24/03

Traffic Report Sample Nos. TB03-04, MW01-14D, EA-111R, MW01-10R, MW01-13D, MW03-DUP1, MW02-08D, MW01-10D, EA-111D, MW02-03D, MW02-11D, MW02-03R, MW03-02, MW01-15R, MW01-15D, MW03-01, MW03-09D, TB03-05
Trip Blank No. TB03-04, TB03-05
Equipment Blank No. —
Bottle Blank No. —
Field Duplicate Nos. MW02-08D / MW01-DUP1
PES Nos. —

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision 12/96 was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Christine Garvey Company Name Env Data Serv. Phone Number 603-226-0118

Date Validation Started 03/03/03 Date Validation Completed 03/03/03

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	✓
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	
VOA/SV-II	GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)	
VOA/SV-III	INITIAL CALIBRATION	
VOA/SV-IV	CONTINUING CALIBRATION	
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	
VOA-VI	VOA SURROGATE SPIKE RECOVERIES	
SV-VI	SV SURROGATE SPIKE RECOVERIES	NA
VOA/SV-VII	INTERNAL STANDARD PERFORMANCE	
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	NA
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	NA
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	
VOA/SV-Pest/PCB-XII	TARGET COMPOUND IDENTIFICATION	
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	
VOA/SV-XIV	TENTATIVELY IDENTIFIED COMPOUNDS	NA
VOA/SV-XV	SEMIVOLATILE CLEANUP	NA
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	

Pest/PCB worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	
Pest/PCB-IIA	GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION	
Pest/PCB-IIB	GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES	
Pest/PCB-IIC	GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION	
Pest/PCB-IID	GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION	
Pest/PCB-III	INITIAL CALIBRATION	
Pest/PCB-IV	CONTINUING CALIBRATION	
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	
Pest/PCB-VI	SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT	
Pest/PCB-VII	PESTICIDE CLEANUP	
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	
Pest/PCB-XII	COMPOUND IDENTIFICATION	
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	

I certify that all criteria were met for the worksheets checked above.

Signature: Christine Gray

Name: Christine Gray

Date: 03/03/03

PA-NE - Data Validation
OA/SV - Pest/PCB-I

Sampler: V Delcone + CO Company: EA Engineering Contacted: Yes (No) Date: _____

PRESERVATION AND HOLDING TIMES - Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

Sample No. (TR No.)	Matrix	Pres. Code	Date Sampled	VOA			BNA					PEST/PCB				
				Date Analyzed	# of Days from Samp. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action
TB03-04	water	1/2	01/23/03	02/04/03	12	none										
MW01-14D			01/22/03	02/04/03	13	none										
PA-111R			01/21/03	02/04/03	14	none										
MW01-10R			01/22/03	02/04/03	13	none										
MW01-13D			01/22/03	02/04/03	13	none										
MW03-DUP1			01/22/03	02/04/03	13	none										
MW02-08D			01/22/03	02/04/03	13	none										
MW01-10D			01/22/03	02/04/03	13	none										
PA-111D			01/21/03	02/04/03	14	none										
EMW02-03D			01/23/03	02/04/03	12	none										
MW02-11D			01/23/03	02/05/03	13	none										
MW02-11DRE			01/23/03	02/06/03	14	none										
MW02-03R			01/23/03	02/04/03	12	none										
MW23-02			01/23/03	02/04/03	12	none										
MW01-15R			01/23/03	02/04/03	12	none										
MW01-15D			01/23/03	02/05/03	13	none										
MW01-15DRE			01/23/03	02/06/03	14	none										
MW23-01			01/24/03	02/05/03	12	none										
MW03-09D			01/24/03	02/06/03	13	none										
TB03-05			01/24/03	02/05/03	12	none										

Preservation Code:
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

(*Extraction Code:)
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

Action Code:
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: Christine Garvey Date: 03/03/03

EPA-NE - Data Validation Worksheet
VOA/SV-II

II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

Volatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action

Comments: MW E3-02 analyzed 9 minutes outside tune time - no action taken
MW01-15R analyzed 46 minutes outside tune time - no action taken

Semivolatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action

Comments:

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Date: 03/03/03

Validator: Christine Garvey

EPA-NE - Data Validation Worksheet
VOA/SV-III

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Instrument	Parameter	Matrix	Compound	% RSD	RRF	Samples Affected	Action
02/05/03	MS12	VOA	water	Acetone	ok	0.023	all VOAs	JR
				Methylene chloride	63.8	ok		JUJ
				2-Butanone	ok	0.029		JR
				2-Hexanone	ok	0.047		JR

Comments:

Validator: Christine Garvey

Date: 03/03/03

EPA-NE - Data Validation Worksheet
VOA/SV-IV

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action
021031L03	021044L03	MS12	VOA	Water	Trichloroethene	54.6	OK	MW01-14D, EA111R (Not Qual due to Surr)	J/UJ
	↓	↓	↓	↓	4 VOAS	1 out high	3 out low	None	Qualify to cal
		021051L03	MS12	VOA	Trichloroethene	54%	OK	None - qualify due to surr	J/UJ
		↓	↓	↓	4 VOAS	1 out high	3 out low	None	Qualify to cal
		021061L03	MS12	VOA	4 VOAS	1 out high	3 out low	None	Qualify to cal

Comments:

Date: 03/03/03

Validator: Christine Gomez

12/96

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

Concentration Level: low

List the blank contamination below.

Contacted: Yes (No) Date:

Sampler: V Delene + Co Company: EA Engineering

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
—	021041 03	VOA/water	VBLKLU/MB	MS12/RTX624	Acetone	1.15 ug/l
—	↓	↓	↓	↓	methylene chloride	0.741 ug/l
—	↓	↓	↓	↓	Trichloroethene	0.623 ug/l
—	021051 03	VOA/water	VBLKLV/MB	MS12/RTX-624	Acetone	1.52 ug/l
—	↓	↓	↓	↓	methylene chloride	0.563 ug/l
—	↓	↓	↓	↓	Trichloroethene	0.620 ug/l
—	021061 03	VOA/water	VBLKLW/MB	MS12/RTX 624	Acetone	1.74 ug/l

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
—	021041 03	VOA/water	TB03-04 / Trip Blank	MS12/RTX624	None	ND
—	021051 03	VOA/water	TB03-05 / Trip Blank	MS12/RTX624	Bromoform	0.282 ug/l

associated samples ND no action

Date: 03/03/03

Validator: Christine Jones

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

Concentration Level: low

List the blank contamination below

Contacted: Yes (No) Date: _____

Sampler: V Delaine + co Company: QA Engineering

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
—	021061B3	VOA/water	VBLKLW1MB	MS12 | RTX624	methylene chloride	0.417 ug/l
+	↓	↓	↓	↓	Trichloroethene	0.574 ug/l

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

Date: 03/03/03

Validator: Christine Garvey

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-B

3. **Blank Actions** - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units)	Sample QL	Samples Affected	Action
Acetone	VBLKLU	021004L03	1.85ug/l	11.5ug/l	5.00	TB03-04, MW01-14D	U
						EA111R, MW01-10R	
						MW01-13D, MW03-DUP1	
						MW02-08D, MW01-10D	
						MW02-03D, MW02-03R	
						MW23-02, MW01-15R	
methylene chloride			0.741ug/l	7.41ug/l	1.00	TB03-04, MW01-14D	U
						EA111R, MW01-10R	
						MW01-13D, MW03-DUP1	
						MW02-08D, MW01-10D	
						EA111D, MW02-03D	
						MW02-03R, MW23-02	
						MW01-15R	
Trichloroethene			0.623ug/l	3.115ug/l	1.00	TB03-04, MW01-14D	U
						EA111R, MW01-10R	
						MW01-13D, MW01-10D	
						EA-111D, MW23-02	
						MW01-15R	
Acetone	VBLKLV	021005L03	1.52ug/l	15.2ug/l	5.00	MW02-11D, MW01-15D	U
						MW23-01, TB03-05	
Methylene Chloride			0.563ug/l	5.63ug/l	1.00	MW02-11D, MW01-15D	U
						MW23-01, TB03-05	
Trichloroethene			0.670ug/l	3.35ug/l	1.00	MW02-11D, MW01-15D	U
						TB03-05	
Acetone	VBLKLW	021006L03	1.74ug/l	17.4ug/l	5.00	MW02-11DRE, MW01-15DRE	U
						MW03-09D	
methylene chloride			0.417ug/l	4.17ug/l	1.00	MW02-11DRE, MW01-15DRE	U
						MW03-09D	
Trichloroethene			0.574ug/l	2.87ug/l	1.00	MW02-11DRE, MW01-15DRE	U

Comments: _____

Date: 03/03/03

Validator: Christine Garvey

EPA-NE - Data Validation Worksheet
VOA-VI

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Volatile Method QC Acceptance Criteria				
	Toluene-d_8	BFB	DCE-d_4	Other:	
OLM03.2	Water 88-110 / Soil 84-138	Water 86-115 / Soil 59-113	Water 76-114 / Soil 70-121	Dibromofluoromethane	
OLC02.1	NA	80-120	NA	86-118	
Other:					
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	Action
EA-11D	ok	85%	ok	ok	J / UJ
MW01-10R	ok	83%	ok	ok	J / UJ
MW01-13D	ok	83%	ok	ok	J / UJ
MW03-DUP1	ok	83%	ok	ok	J / UJ
MW02-08D	ok	81%	ok	ok	J / UJ
MW01-10D	ok	81%	ok	ok	J / UJ
TB03-04	ok	81%	114%	ok	J / UJ
MW02-03D	ok	81%	ok	ok	J / UJ
MW02-03R	85%	ok	115%	ok	J / UJ
MW03-02	ok	79%	117%	ok	J / UJ
MW01-15R	ok	76%	119%	ok	J / UJ
TB03-05	ok	77%	ok	ok	J / UJ
MW02-11D	ok	75%	ok	ok	J / UJ
MW01-15D	ok	73%	118%	ok	J / UJ
MW03-01	ok	75%	117%	ok	J / UJ

Date: 03/13/13

Validator: Christine Garvey

EPA-NE - Data Validation Worksheet
VOA-VI

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Volatile Method QC Acceptance Criteria				
	Toluene-d_8	BFB	DCE-d_4	Other:	
OLM03.2	Water 88-110 Soil 84-138	Water 86-115 Soil 59-113	Water 76-114 Soil 70-121	Dibromofluoromethane	
OLC02.1	NA	80-120	NA	86-118	
Other:					
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	Action
MW02-11DRE	ok	78%	115%	ok	J UJ
MW01-15DRE	ok	75%	121%	ok	J UJ
MW03-09D	ok	76%	124%	ok	J UJ

Date: 03/03/03

Validator: Christine Garvey

all acceptance criteria were met

EPA-NE - Data Validation Worksheet
VOA/SV-VII

VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria: -50% | +100%
IS Retention Time method QC acceptance criteria: ± 0.50 RT UNITS

Sample Number (TR#)	Date and Time Analyzed	Instrument	Parameter	IS Outside Area Count and/or RT Criteria	IS Area	RT Shift	Acceptable Range (IS area or RT shift)	Action

Validator: Christine Gomez

Date: 03/03/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-IX

IX. FIELD DUPLICATE PRECISION - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number MW 02-08D' Duplicate Sample Number MW03-DUP1 Matrix water

Parameter	Compound	Sample Conc.	Sample QL		Duplicate Conc.	Duplicate QL		RPD	QC Acceptance Criteria RPD or NA*	Action
			SQL	2xSQL		SQL	2xSQL			
VOA	Vinyl chloride	0.505 ug/l	1.00	2.00	0.466 ug/l	1.00	2.00	8%	NA	None
	trans-1,2-Dichloroethene	1.70 ug/l			1.47 ug/l			15%	30%	None
	cis-1,2-Dichloroethene	15 ug/l			14 ug/l			7%	30%	None
	Trichloroethene	14 ug/l			12 ug/l			15%	30%	None
	1,1,2-Trichloroethane	1.13 ug/l			1.01 ug/l			11%	30%	None
	Dibromochloromethane	0.229 ug/l			0.269 ug/l			16%	NA	None
	Bromoform	0.754 ug/l			0.917 ug/l			20%	NA	None
	1,1,2,2-Tetrachloroethane	2.56 ug/l			2.26 ug/l			12%	30%	None
	1,1-Dichloroethane	0.264 ug/l			0.235 ug/l			12%	NA	None

* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N NA-None

Comments:

Sampler Name: V Deleone + CO Contractor Name: Et Engineering Date Contacted: —

Reason for Contact and resolution obtained:

Validator: Christine Gomez Date: 03/13/13

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-XI

XI. ACCURACY CHECK (Performance Evaluation Results) - List all analytes that are outside criteria.

SDG No: TB0304/030055 CASE: —

Are more than one-half of the PES analytes within criteria for each parameter. (Y) N

PE Sample Number	Ampule Number	Parameter	Type of PES	Matrix	Analyte	Conc. O/U R	Region I EPA PES Scores*	Non-EPA PES Scores**	Samples Affected	Action
VLCSU	—	VOA	LCS	water	VOA	acceptable	—	various	none	none
VLCSV	—	VOA	LCS	water	VOA	acceptable	—	various	none	none
VLCSLW	—	VOA	LCS	water	Trichloroethene	121%	—	79-118	none	acceptable to SVOC

* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Date: 03/03/03

Validator: Christine Garvey

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-XII

XII. TARGET COMPOUND IDENTIFICATION - List the analytes that are outside the acceptance criteria.

Sample Number	Compound	MS Ions	RRT	Action
MW23-01	VOA	—	—	Sample analyzed at 20x dilution
		—	—	due to high conc of target analytes
		—	—	no action taken
MW03-09D	VOA	—	—	Sample analyzed at 10x dilution
		—	—	due to high conc of target analytes
		—	—	no action taken
MW02-11D	VOA	—	—	sample lost within hold time due to poor surr rec - reanalysis had similar results - reanalysis results used for reporting purposes
MW01-15D		—	—	

Date: 03/03/03

Validator: Christine Garey

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-04

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-01

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM908

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.61~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.10	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.448~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/03
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-04

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-01

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM908

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U UJ

FORM I VOA

03103113
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-14D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-02

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM902

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U
75-01-4	Vinyl Chloride	0.917	J
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~1.28~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	1.00	U
75-09-2	Methylene Chloride	1.99	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	0.319	J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	4.67	
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.15	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	0.416	J
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-14D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-02

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM902

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U

FORM I VOA

03103103a

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA111R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-03

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM900

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	6.88	~~B~~ R
75-35-4	1,1-Dichloroethene	1.00	U
75-09-2	Methylene Chloride	1.55	~~B~~ UJ
75-15-0	Carbon Disulfide	0.563	J
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	0.548	J
78-93-3	2-Butanone	1.48	~~J~~ J
156-59-2	cis-1,2-Dichloroethene	0.365	J
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.82	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03163034

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA111R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-03

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM900

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U

FORM I VOA

03103183

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-10R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-04

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM903

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~1.68~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	2.54	~~B~~ UJ
75-15-0	Carbon Disulfide	0.390	~~J~~ J
156-60-5	trans-1,2-Dichloroethene	1.00	U UJ
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.653~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.125	~~J~~ J

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-10R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-04

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM903

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U UJ

03103103 4

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-13D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-05

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM904

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~1.83~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.90	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	0.251	~~J~~ J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.609~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-13D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-05

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM904

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U UJ

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP1

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-06

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM905

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	0.466	~~U~~ J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~1.82~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.73	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.47	J
75-34-3	1,1-Dichloroethane	0.235	~~U~~ J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	14	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	12	~~B~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.01	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	0.269	~~U~~ J
108-90-7	Chlorobenzene	1.00	U UJ
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.917	~~U~~ J

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP1

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-06

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM905

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	2.26	J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-08D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-07

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM906

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	0.505	J J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~1.47~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.24	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.70	J
75-34-3	1,1-Dichloroethane	0.264	~~J~~ J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	15	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	14	~~B~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.13	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	0.229	J J
108-90-7	Chlorobenzene	1.00	U UJ
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.754	J J

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-08D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-07

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM906

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	2.56	J

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-10D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-08

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM907

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	0.114	J J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~3.04~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.00 ~~0.736~~	~~JB~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	0.283	J J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.550~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	~~U~~
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-10D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-08

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM907

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U UJ

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA111D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-09

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM901

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	13	~~B~~ J
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.46	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	2.55	J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	0.481	~~J~~ J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.720~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	0.446	~~J~~ J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA111D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-09

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM901

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.977	J J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-03D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-10

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM909

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.44	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U J
67-64-1	Acetone	5.00 ~~2.49~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.00 ~~0.755~~	~~JB~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	2.62	J
75-34-3	1,1-Dichloroethane	0.593	J J
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	31	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U J
79-01-6	Trichloroethene	13	~~B~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U J
79-00-5	1,1,2-Trichloroethane	2.28	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U J
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U J
75-25-2	Bromoform	0.319	J J

FORM I VOA

03103103a

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-03D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-10

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM909

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.18	J

FORM I VOA

03103403

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-11D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-11

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM930

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Soil reanalysis

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	~~U~~ UJ
75-01-4	Vinyl Chloride	1.94	J
74-83-9	Bromomethane	1.00	~~U~~ UJ
75-00-3	Chloroethane	1.00	~~U~~ UJ
67-64-1	Acetone	5.00 ~~1.48~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	~~U~~ UJ
75-09-2	Methylene Chloride	1.00 ~~0.851~~	~~JB~~ UJ
75-15-0	Carbon Disulfide	1.00	~~U~~ UJ
156-60-5	trans-1,2-Dichloroethene	1.10	J
75-34-3	1,1-Dichloroethane	0.771	J J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	24	J
67-66-3	Chloroform	1.00	~~U~~ UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	2.87	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.69	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U UJ
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-11D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-11

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM930

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.635	~~J~~ J

See Manual 15.5

03/03/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-11DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-11RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM962

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	2.01	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.52~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.05	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.14	J
75-34-3	1,1-Dichloroethane	0.781	J J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	24	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	2.49	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.75	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	0.186	J J
100-41-4	Ethylbenzene	1.00	U UJ
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.357	J J

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-11DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-11RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM962

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.699	J J

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-03R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-12

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM911

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.76	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.28~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	0.257	J J
75-09-2	Methylene Chloride	1.00 ~~0.720~~	~~JB~~ UJ
75-15-0	Carbon Disulfide	0.112	J J
156-60-5	trans-1,2-Dichloroethene	2.68	J
75-34-3	1,1-Dichloroethane	0.649	J J
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	34	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	0.143	J J
71-43-2	Benzene	1.00	U UJ
79-01-6	Trichloroethene	11	B J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	2.23	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW02-03R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-12

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM911

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.545	J J

FORM I VOA 031B1B1C

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MWZ3-02

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-13

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM912

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.27~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.00 ~~0.951~~ ~~JB~~	UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	0.181	J J
75-34-3	1,1-Dichloroethane	1.00	U UJ
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	1.15	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.61	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.234	J J

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MWZ3-02

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-13

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM912

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.296	J J

FORM I VOA 031031034

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-15D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-15

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM931

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.44~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.01	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	0.252	J J
75-34-3	1,1-Dichloroethane	1.00	U UJ
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	0.981	J J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	2.15	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-15D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-15

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM931

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.346	J

See narrative

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-15DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-15RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM963

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~3.74~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.18	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	0.232	J J
75-34-3	1,1-Dichloroethane	1.00	U UJ
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	0.951	J J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.77	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.179	J J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-15DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-15RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM963

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.341	JJ

03/03/04

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-15R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-14

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM913

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.72~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.00 ~~0.938~~	~~JB~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	0.588	J J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.09	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/03/13

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW01-15R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-14

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM913

Level: (low/med) LOW Date Received: 01/23/03

% Moisture: not dec. _____ Date Analyzed: 02/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.190	J J

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-09D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-17

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM964

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U UJ
75-01-4	Vinyl Chloride	6.54	J J
74-83-9	Bromomethane	10	U UJ
75-00-3	Chloroethane	10	U
67-64-1	Acetone	50 ~~47~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	10	U UJ
75-09-2	Methylene Chloride	28	~~B~~ UJ
75-15-0	Carbon Disulfide	10	U UJ
156-60-5	trans-1,2-Dichloroethene	33	J
75-34-3	1,1-Dichloroethane	1.28	J J
78-93-3	2-Butanone	50	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	200	J
67-66-3	Chloroform	10	U UJ
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
107-06-2	1,2-Dichloroethane	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	150	~~B~~ J
78-87-5	1,2-Dichloropropane	10	U UJ
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	6.74	J J
127-18-4	Tetrachloroethene	10	U UJ
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	~~U~~ R
124-48-1	Dibromochloromethane	10	U UJ
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylenes (total)	30	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-09D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-17

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM964

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	3.64	J

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW-Z3-01

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-16

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM932

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	20	U UJ
75-01-4	Vinyl Chloride	7.81	J J
74-83-9	Bromomethane	20	U UJ
75-00-3	Chloroethane	20	U
67-64-1	Acetone	(100) ~~35~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	20	U UJ
75-09-2	Methylene Chloride	25	~~B~~ UJ
75-15-0	Carbon Disulfide	20	U UJ
156-60-5	trans-1,2-Dichloroethene	80	J
75-34-3	1,1-Dichloroethane	20	U UJ
78-93-3	2-Butanone	100	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	210	J
67-66-3	Chloroform	20	U UJ
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon Tetrachloride	20	U
107-06-2	1,2-Dichloroethane	20	U
71-43-2	Benzene	20	U
79-01-6	Trichloroethene	590	~~B~~ J
78-87-5	1,2-Dichloropropane	20	U UJ
75-27-4	Bromodichloromethane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
108-88-3	Toluene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
79-00-5	1,1,2-Trichloroethane	11	J J
127-18-4	Tetrachloroethene	20	U UJ
108-10-1	4-Methyl-2-Pentanone	100	U
591-78-6	2-Hexanone	100	~~U~~ R
124-48-1	Dibromochloromethane	20	U UJ
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
1330-20-7	Xylenes (total)	60	U
100-42-5	Styrene	20	U
75-25-2	Bromoform	20	U

FORM I VOA

03/03/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW-Z3-01

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-16

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM932

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	87	J

0310316

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-05

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-18

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM929

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~1.46~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.33	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.48	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.282	J J

FORM I VOA

03163437

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-05

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: TB0304

Matrix: (soil/water) WATER Lab Sample ID: 030055-18

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM929

Level: (low/med) LOW Date Received: 01/24/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	~~U~~ UJ

03/03/03

FORM I VOA

ENVIRONMENTAL
Data Services, Inc.

ORGANIC DATA VALIDATION REPORT
USEPA REGION I - TIER II

SDG No.: EA110R/030069
Laboratory: Ceimic Corporation, Narragansett, RI
Site: NCBC Davisville, Site 03
Date: March 4, 2003
Samples:
VOCs: 11/Aqueous/EA-110R, EA-110D, MW03-10D, MW03-03R, TB03-05, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-05D, MW03-08D, MW03-08R
4/Aqueous Reanalysis/EA-110R RE, EA-110D RE, TB03-05 RE, MW03-05D RE
7/Aqueous Dilutions/MW03-10D DL, MW03-03R DL, MW03-03D DL, MW03-DUP3 DL, MW03-DUP2 DL, MW03-08D DL, MW03-08R DL

A Tier II validation was performed on the organic analytical data for ten aqueous samples, four aqueous reanalysis samples, seven aqueous dilution samples, and one aqueous blank sample collected by EA Engineering, Science, & Technology, Inc. at Site 03, NCBC Davisville. The samples were analyzed under USEPA SW-846 Method 8260B for volatile organic compounds (VOCs). The data were evaluated as a Tier II level in accordance with the "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses" dated December 1996 and were based on the following parameters:

	• Overall Evaluation of Data and Potential Usability Issues.
*	• Data Completeness.
*	• Preservation and Technical Holding Times.
*	• Gas Chromatograph/Mass Spectrometry (GC/MS) and GC/Electron Capture Detector (GC/ECD) Instrument Performance Checks.
	• Initial and Continuing Calibration.
	• Blanks.
	• Surrogate Compounds.
*	• Internal Standards.
*	• Matrix Spike (MS)/Matrix Spike Duplicates (MSD).
*	• Field Duplicates.
NA	• Sensitivity Check (Method Detection Limit Study or Laboratory Fortified Blank).
*	• Laboratory Control Sample.
NA	• Target Compound Identification.
NA	• Sample Quantitation and Reported Quantitation Limits.
NA	• Tentatively Identified Compounds (TICs).
NA	• SVOC and P/PCB Cleanup.
*	• System Performance.

* = All criteria were met for this parameter.
NA = Not Applicable.

Overall Evaluation of Data and Potential Usability Issues

VOCs:

VOC sample results were qualified for the following:

- Acetone, 2-butanone, and 2-hexanone have been rejected (R) in all samples due to low initial calibration mean RRF values.
- Acetone and methylene chloride have been qualified as undetected (U) in all samples due to method blank contamination.
- Trichloroethene has been qualified as undetected (U) in samples EA-110R, EA-110D, TB03-05, MW03-05D, EA-110R RE, EA-110D RE, TB03-05 RE, and MW03-05D RE due to method blank contamination.
- Dibromochloromethane has been qualified as undetected (U) in samples MW03-10D and MW03-08D due to trip blank contamination.
- Bromoform has been qualified as undetected (U) in samples MW03-10D, MW03-10D DL, MW03-03D, MW03-05D, MW03-05D RE, and MW03-08D due to trip blank contamination.
- All results have been qualified (J/UJ) in samples EA-110R, EA-110D, MW03-10D, MW03-03R, TB03-05, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-05D, MW03-, 08D, MW03-08R, EA-110R RE, EA-110D RE, MW03-10D DL, MW03-03R DL, TB03-05 RE, MW03-03D DL, MW03-DUP3 DL, MW03-DUP2 DL, MW03-05D RE, MW03-, 08D DL, and MW03-08R DL due to low and high surrogate recoveries.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the calibrations are summarized in the following tables:

VOCs:

Compound	ICAL 02/03/03	Action	Affected Samples
Acetone	RRF=0 023	J/R	All samples
2-Butanone	RRF=0 029	J/R	
2-Hexanone	RRF=0.047	J/R	

- Acetone, 2-butanone, and 2-hexanone have been rejected (R) in all samples.

Blanks

The contamination detected in the blanks which resulted in qualifications are summarized in the following section(s):

VOCs:

Blank	Compound	Concentration	Action Level	Affected Samples
VBLKLV	Acetone	1.52 ug/L	15.2 ug/L	EA-110R, EA-110D, MW03-10D, MW03-03R, TB03-05, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-05D, MW03-08D
VBLKLV	Methylene Chloride	0.563 ug/L	5.63 ug/L	EA-110R, EA-110D, MW03-10D, MW03-03R, TB03-05, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-05D, MW03-08D
VBLKLV	Trichloroethene	0.67 ug/L	3.35 ug/L	EA-110R, EA-110D, TB03-05, MW03-05D
VBLKLW	Acetone	1.74 ug/L	17.4 ug/L	EA-110R RE, EA-110D RE, MW03-10D DL, MW03-03R DL, TB03-05 RE
VBLKLW	Methylene Chloride	0.417 ug/L	4.17 ug/L	EA-110R RE, EA-110D RE, MW03-10D DL, MW03-03R DL, TB03-05 RE
VBLKLW	Trichloroethene	0.574 ug/L	2.87 ug/L	EA-110R RE, EA-110D RE, TB03-05 RE
VBLKLA	Acetone	2.55 ug/L	25.5 ug/L	MW03-03D DL, MW03-DUP3 DL, MW03-DUP2 DL, MW03-05D RE, MW03-08D DL, MW03-08R, MW03-08R DL
VBLKLA	Methylene Chloride	0.902 ug/L	9.02 ug/L	MW03-03D DL, MW03-DUP3 DL, MW03-DUP2 DL, MW03-05D RE, MW03-08D DL, MW03-08R, MW03-08R DL
VBLKLA	Trichloroethene	0.586 ug/L	2.93 ug/L	MW03-05D RE
TB03-05	Dibromochloromethane	0.469 ug/L	2.345 ug/L	MW03-10D, MW03-08D
TB03-05	Bromoform	1.25 ug/L	6.25 ug/L	MW03-10D, MW03-10D DL, MW03-03D, MW03-05D, MW03-05D RE, MW03-08D

- Acetone and methylene chloride have been qualified as undetected (U) in all samples.
- Trichloroethene has been qualified as undetected (U) in samples EA-110R, EA-110D, TB03-05, MW03-05D, EA-110R RE, EA-110D RE, TB03-05 RE, and MW03-05D RE.
- Dibromochloromethane has been qualified as undetected (U) in samples MW03-10D and MW03-08D.
- Bromoform has been qualified as undetected (U) in samples MW03-10D, MW03-10D DL, MW03-03D, MW03-05D, MW03-05D RE, and MW03-08D.

Surrogate Compounds

The following surrogate spike recoveries did not meet acceptance criteria:

VOC:

Sample	Toluene-d_8 %R	BFB %R	DCE-d_4	DBFM %R	Action
EA-110R	Ok	74%	121%	Ok	J/UJ
EA-110D	Ok	74%	122%	Ok	J/UJ
MW03-10D	Ok	75%	120%	Ok	J/UJ
MW03-03R	Ok	75%	122%	118%	J/UJ
TB03-05	Ok	75%	122%	Ok	J/UJ
MW03-03D	Ok	77%	116%	Ok	J/UJ
MW03-DUP3	Ok	76%	115%	Ok	J/UJ
MW03-DUP2	Ok	74%	117%	Ok	J/UJ
MW03-05D	Ok	73%	122%	121%	J/UJ
MW03-08D	Ok	77%	114%	Ok	J/UJ
MW03-08R	Ok	78%	127%	123%	J/UJ
EA-110R RE	Ok	73%	127%	121%	J/UJ
EA-110D RE	Ok	74%	126%	121%	J/UJ
MW03-10D DL	Ok	73%	130%	125%	J/UJ
MW03-03R DL	Ok	74%	128%	123%	J/UJ
TB03-05 RE	Ok	70%	135%	129%	J/UJ
MW03-03D DL	Ok	79%	114%	Ok	J/UJ
MW03-DUP3 DL	Ok	79%	123%	119%	J/UJ
MW03-DUP2 DL	Ok	80%	127%	122%	J/UJ
MW03-05D RE	Ok	81%	131%	125%	J/UJ
MW03-08D DL	Ok	79%	131%	126%	J/UJ
MW03-08R DL	Ok	78%	134%	128%	J/UJ

- All results have been qualified (J/UJ) in samples EA-110R, EA-110D, MW03-10D, MW03-03R, TB03-05, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-05D, MW03-, 08D, MW03-08R, EA-110R RE, EA-110D RE, MW03-10D DL, MW03-03R DL, TB03-05 RE, MW03-03D DL, MW03-DUP3 DL, MW03-DUP2 DL, MW03-05D RE, MW03-, 08D DL, and MW03-08R DL.

Additional Comments

VOC:

- Samples EA-110R, EA-110D, TB03-05, and MW03-05D were reanalyzed due to unacceptable surrogate recovery results. The reanalysis yielded similar results. The original results should be used for reporting purposes.
- Samples MW03-10D, MW03-03R, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-08D, and MW03-08R were reanalyzed at a dilution due to one to four analytes exceeding the linear range of the curve and qualified (E) by the laboratory. The diluted results have been transferred to the original Form Is.

Attachments: Data Validation Worksheets
Annotated Form Is

DATA SUMMARY KEY
ORGANIC DATA VALIDATION

J = The associated numerical value is an estimated quantity.

R = The data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification. The R replaces the numerical value or sample quantitation limit.

U = The compound was analyzed for, but not detected. The associated numerical value is the sample quantitation limit or the adjusted sample quantitation limit.

UJ = The compound was analyzed for, but not detected. The associated numerical value is the estimated sample quantitation limit.

REGION 1, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

CASE # —

SITE NAME: NCBC Davisville Site 03

LAB NAME Ceimic Corp, Narragansett RI

OF SAMPLES/MATRIX 11 / waters

SDG # E4110R1630069

VALIDATION CONTRACTOR Env. Data Services Inc

SOW #/CONTRACT # SW846

VALIDATOR'S NAME: Christine Garvey

EPA-NE DV TIER LEVEL: II

DATE DP REC'D BY EPA-NE —

TPO/PO **ACTION ____ FYI ____

DV COMPLETION DATE: 03/04/03

ANALYTICAL DATA QUALITY SUMMARY

		8260B VOA	SV	Pest/PCB
1	Preservation and Contractual Holding Times	0		
2	GC/MS / GC/ECD Instrument Performance Check	0		
3	Initial Calibration	z1		
4	Continuing Calibration	0		
5	Blanks	01		
6	Surrogate Compounds	02		
7	Internal Standards	0		
8	Matrix Spike/Matrix Spike Duplicate	0		
9	Sensitivity Check	NA		
10	PE Samples-Accuracy Check	0		
11	Target Compound Identification	0		
12	Compound Quantitation and Reported QLs	NA		
13	Tentatively Identified Compounds	NA		
14	Semivolatile Cleanup/Pesticide/PCB Cleanup	NA		
15	Data Completeness	0		
16	Overall Evaluation of Data	0		

o = Data had no problems or were qualified due to minor contractual problems.
m = Data were qualified due to major contractual problems.
z = Data were rejected as unusable due major contractual problems.

ACTION ITEMS: (z items) z1 3 VOA analytes qualified (JIR) in all samples due to ical

AREAS OF CONCERN: (m items)

COMMENTS: 01 5 VOA analytes qualified (LL) in associated samples due to method and trip Blank contamination. 02 - all VOA samples qualified (JLUJ) due to surrogate results

*This form assesses the analytical data quality in terms of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality.

**Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations

Validator Christine Garvey

Date 03/03/03

INSTRUCTIONS ON REVERSE SIDE

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name NCBC Davisville SHE03
Reference No —

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Celmic Corp, Narragansett RI
Case/Project No. —
SDG No. EA110R1 030069
No. of Samples/Matrix 11 / waters

SOW/Method No. SW846 8260B
Sampling Date(s) 01/27, 01/28/03
Shipping Date(s) 01/28/03
Date Rec'd by lab 01/28/03

Traffic Report Sample Nos. EA110R, EA110D, MW03-10D, MW03-03R, TB03-05, MW03-03D, MW03-DUP3, MW03-DUP2, MW03-05D, MW03-08D, MW03-08R

Trip Blank No. TB03-05
Equipment Blank No. —
Bottle Blank No. —
Field Duplicate Nos. MW03-08D/MW03-DUP3, MW03-03R/MW03-DUP2
PES Nos. —

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision 12/96 was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Christine Garvey Company Name Env. Data Serv Phone Number 603-226-0118

Date Validation Started 03/03/03 Date Validation Completed 03/04/03

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	✓
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	
VOA/SV-II	GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)	
VOA/SV-III	INITIAL CALIBRATION	
VOA/SV-IV	CONTINUING CALIBRATION	
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	
VOA-VI	VOA SURROGATE SPIKE RECOVERIES	
SV-VI	SV SURROGATE SPIKE RECOVERIES	NA
VOA/SV-VII	INTERNAL STANDARD PERFORMANCE	
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	NA
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	
VOA/SV-Pest/PCB-XII	TARGET COMPOUND IDENTIFICATION	
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	NA
VOA/SV-XIV	TENTATIVELY IDENTIFIED COMPOUNDS	NA
VOA/SV-XV	SEMIVOLATILE CLEANUP	NA
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	

Pest/PCB worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	
Pest/PCB-IIA	GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION	
Pest/PCB-IIB	GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES	
Pest/PCB-IIC	GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION	
Pest/PCB-IID	GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION	
Pest/PCB-III	INITIAL CALIBRATION	
Pest/PCB-IV	CONTINUING CALIBRATION	
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	
Pest/PCB-VI	SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT	
Pest/PCB-VII	PESTICIDE CLEANUP	
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	
Pest/PCB-XII	COMPOUND IDENTIFICATION	
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	

I certify that all criteria were met for the worksheets checked above.

Signature: [signature]

Name: Christine Gomez

Date: 03/03/13

EPA-NE - Data Validation
VOA/SV - Pest/PCB-I

Sampler: RClark + Co Company: EA Engineering Contacted: Yes (No) Date: _____

I. PRESERVATION AND HOLDING TIMES - Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

Sample No. (TR No.)	Matrix	Pres. Code	Date Sampled	VOA			BNA					PEST/PCB				
				Date Analyzed	# of Days from Samp. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action
EA-110R	water	1/2	01/27/03	02/05/03	9	none										
EA-110RRE			01/27/03	02/06/03	10	none										
EA-110D			01/27/03	02/05/03	9	none										
EA-110DRE			01/27/03	02/06/03	10	none										
MW03-10D			01/28/03	02/05/03	8	none										
MW03-10DDL			01/28/03	02/06/03	9	none										
MW03-03R			01/27/03	02/05/03	9	none										
MW03-03RDL			01/27/03	02/06/03	10	none										
TB03-05			01/27/03	02/05/03	9	none										
TB03-05RE			01/27/03	02/06/03	10	none										
MW03-03D			01/27/03	02/05/03	9	none										
MW03-03DDL			01/27/03	02/10/03	14	none										
MW03-DUP3			01/27/03	02/05/03	9	none										
MW03-DUP3DL			01/27/03	02/10/03	14	none										
MW03-DUP2			01/27/03	02/05/03	9	none										
MW03-DUP2DL			01/27/03	02/10/03	14	none										
MW03-05D			01/28/03	02/05/03	8	none										
MW03-05DRE			01/28/03	02/10/03	13	none										
MW03-08D			01/27/03	02/05/03	9	none										
MW03-08DDL			01/27/03	02/10/03	14	none										

Preservation Code:
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

(*Extraction Code:)
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

Action Code:
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: Christie Ganey Date: 03/03/03

EPA-NE - Data Validation
~~OP Pest/Herbicides~~

Sampler: R Clark + CO Company: EA Engineering Contacted: Yes (No) Date: _____

I. PRESERVATION AND HOLDING TIMES - Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

Sample No (TR No.)	Matrix	Pres. Code	Date Sampled	VOA			OP Pesticides					Herbicides				
				Date Analyzed	# of Days from Samp. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr to Anal	Action
MW03-08R	water	1/2	01/27/03	02/10/03	14	none	—	—	—	—	—	—	—	—	—	—
MW03-08R DL	water	1/2	↓	02/10/03	14	none	—	—	—	—	—	—	—	—	—	—

Preservation Code:
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

(*Extraction Code:)
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

Action Code:
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: Chuck Jeffery Date: 03/03/03

II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

Volatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action

Comments: all acceptance criteria were met

Semivolatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action

Comments:

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator: Christie Gorney

Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV-III

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Instrument	Parameter	Matrix	Compound	% RSD	RRF	Samples Affected	Action
02/03/03	MS12	VOA	water	Acetone	ok	0.023	all VOAs	JR
				Methylene chloride	63.8	ok		qualified to Surr
				2-Butanone	ok	0.029		JR
				2-Hexanone	ok	0.047		JR

Comments:

Validator: Christine Garvey

Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV-IV

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action
02/03/03	02/05/03	MS12	VOA	water	Trichloroethene	54%	ok	None	qual due to surr
	↓				4 VOA analytes	7 out high	3 out low	↓	qual due to ical
	02/06/03				4 VOA analytes	1 out high	3 out low	None	qual due to ical
	02/10/03				Trichloroethene	57.4	ok	None	qual due to surr
					4 VOA analytes	1 out high	3 out low	↓	qual due to ical

Comments:

Validator: Christine Gorus

Date: 03/04/03

12/96

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

Concentration Level: low

List the blank contamination below.

Contacted: Yes (No) Date: _____

Sampler: RClark + CO Company: EA Engineering

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
—	02105/03	VOA/water	VBLKLV/MB	MS12/RTX624	Acetone	1.52 ug/l
—	↓	↓	↓	↓	methylene chloride	0.563 ug/l
—					Trichloroethene	0.670 ug/l
—	02106/03	VOA/water	VBLKLW/MB	MS12/RTX624	Acetone	1.74 ug/l
—	↓	↓	↓	↓	methylene chloride	0.417 ug/l
—					Trichloroethene	0.574 ug/l
—	02/10/03	VOA/water	VBLKLA/MB	MS12/RTX624	Acetone	2.55 ug/l

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
—	02105/03	VOA/water	TB03-05/TripBlank	MS12/RTX624	Dibromochloromethane	0.469 ug/l
—	↓	↓	↓	↓	Bromoform	1.25 ug/l

Validator: Christine Garvey Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

Concentration Level: low

List the blank contamination below

Sampler: R Clark + CO Company: EA Engineering Contacted: Yes (No) Date: _____

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
—	02/10/03	VOA/water	VBCKLA1MB	MS12/RTX624	Methylene chloride	0.902 ug/l
—	↓	↓	↓	↓	Trichloroethene	0.586 ug/l

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

Validator: Christine Garvey Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-B

3. **Blank Actions** - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units)	Sample QL	Samples Affected	Action
Acetone	VBLKLV	021005\03	1.52ug/l	15.2ug/l	5.00	EA110R, EA110D, MW03-10D MW03-03R, TB03-05	U
↓	↓	↓	↓	↓	↓	MW03-03D, MW03-DUP3 MW03-DUP2, MW03-05D	↓
↓	↓	↓	↓	↓	↓	MW03-08D	↓
methylenechloride	↓	↓	0.563ug/l	5.63ug/l	1.00	EA110R, EA110D MW03-10D, MW03-03R	U
↓	↓	↓	↓	↓	↓	TB03-05, MW03-03D MW03-DUP3, MW03-DUP2	↓
↓	↓	↓	↓	↓	↓	MW03-05D, MW03-08D	↓
Trichloroethene	↓	↓	0.67ug/l	3.35ug/l	1.00	EA110R, EA110D TB03-05, MW03-05D	U
Acetone	VBLKLW	021006\03	1.74ug/l	17.4ug/l	5.00	EA110RRE, EA110DRE MW03-10DDL	U
↓	↓	↓	↓	↓	↓	MW03-03RDL TB03-05RE	↓
methylenechloride	↓	↓	0.417ug/l	4.17ug/l	1.00	EA110RRE, EA110DRE MW03-10DDL	U
↓	↓	↓	↓	↓	↓	MW03-03RDL TB03-05RE	↓
Trichloroethene	↓	↓	0.574ug/l	2.87ug/l	1.00	EA110RRE, EA110DRE TB03-05RE	U
Acetone	VBLKLA	021010\03	2.55ug/l	25.5ug/l	5.00	MW03-03DDL, MW03-DUP3DL	U
↓	↓	↓	↓	↓	↓	MW03-DUP2DL, MW03-05DRE	↓
↓	↓	↓	↓	↓	↓	MW03-08DDL, MW03-08R MW03-08RDL	↓
methylenechloride	↓	↓	0.902ug/l	9.02ug/l	1.00	MW03-03DDL, MW03-DUP3DL MW03-DUP2DL	U
↓	↓	↓	↓	↓	↓	MW03-05DRE, MW03-08DDL MW03-08R, MW03-08RDL	↓

Comments: _____

Date: 03/04/03

Validator: Christine Garvey

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-B

3. **Blank Actions** - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units)	Sample QL	Samples Affected	Action
Trichloroethene	VBLKLA	021101/03	0.586ug/l	2.93ug/l	1.00	MW03-05DRE	U
Dibromochloromethane	TB03-05	021271/03	0.469ug/l	2.345ug/l	1.00	MW03-10D, MW03-08D	U
—			—	—	—	—	—
—			—	—	—	—	—
Bromoform			1.25ug/l	6.25ug/l	1.00	MW03-10D, MW03-10DDL	U
						MW03-03D, MW03-05D	
						MW03-05DRE, MW03-08D	

Comments: _____

Validator: Christine Gorvey

Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA-VI

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Volatile Method QC Acceptance Criteria				
	Toluene-d_8	BFB	DCE-d_4	Other:	
OLM03.2	Water 88-110 Soil 84-138	Water 86-115 Soil 59-113	Water 76-114 Soil 70-121	Dibromo fluoro methane	
OLC02.1	NA	80-120	NA		
Other:				86-118	
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	Action
EA-110R	ok	74%	121%	ok	J/UJ
EA-110D	ok	74%	122%	ok	J/UJ
MW03-10D	ok	75%	120%	ok	J/UJ
MW03-03R	ok	75%	122%	118%	J/UJ
TB03-05	ok	75%	122%	ok	J/UJ
MW03-03D	ok	77%	116%	ok	J/UJ
MW03-DUP3	ok	76%	115%	ok	J/UJ
MW03-DUP2	ok	74%	117%	ok	J/UJ
MW03-05D	ok	73%	122%	121%	J/UJ
MW03-08D	ok	77%	114%	ok	J/UJ
MW03-08R	ok	78%	127%	123%	J/UJ
EA110RRE	ok	73%	127%	121%	J/UJ
EA110DRE	ok	74%	126%	121%	J/UJ
MW03-10DDL	ok	73%	130%	125%	J/UJ
MW03-03RDL	ok	74%	128%	123%	J/UJ

Validator: Christine Gorey

Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA-VI

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Volatile Method QC Acceptance Criteria				
	Toluene-d_8	BFB	DCE-d_4	Other:	
OLM03.2	Water 88-110 / Soil 84-138	Water 86-115 / Soil 59-113	Water 76-114 / Soil 70-121	Dibromofluoromethane	
OLC02.1	NA	80-120	NA	86-118	
Other:					
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	Action
TB03-05RE	ok	70%	135%	129%	J/UJ
MW03-03DDL	ok	79%	114%	ok	J/UJ
MW03-DUP3DL	ok	79%	123%	119%	J/UJ
MW03-DUP2DL	ok	80%	127%	122%	J/UJ
MW03-05DRE	ok	81%	131%	125%	J/UJ
MW03-08DDL	ok	79%	131%	126%	J/UJ
MW03-08RDL	ok	78%	134%	128%	J/UJ

Date: 03/04/03

Validator: Christine Jones

EPA-NE - Data Validation Worksheet
VOA/SV-VII

VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria: -50% | +100%
IS Retention Time method QC acceptance criteria: ±0.50 RT UNITS

Sample Number (TR#)	Date and Time Analyzed	Instrument	Parameter	IS Outside Area Count and/or RT Criteria	IS Area	RT Shift	Acceptable Range (IS area or RT shift)	Action
MW03-08RDL	02/10/03 1746	MS12	VOA	153 1,4-Dichlorobenzene-d4	210531	OK	217120-868478	JUJ

qualified to SUV - NO action required

Validator: Christine Gawley

Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-VIII

VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE - List all MS/MSD analytes that are outside method QC acceptance criteria.

Use a separate worksheet for each MS/MSD pair.

Sample # EA110R Matrix Water Concentration Level Low

Parameter	Compound	MS %Rec	MSD %Rec	RPD	Method QC Limits % Rec	Method QC Limits RPD	Concentration Unspiked Sample	Concentration MS	Concentration MSD	% RSD	Action
VOA	1,1-Dichloroethene	ok	124%	ok	75-118	27	—	—	—	—	none

available to Surr

Validator: Christine Gorney Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-IX

IX. FIELD DUPLICATE PRECISION - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number MW03-03R Duplicate Sample Number MW03-DUP2 Matrix water

Parameter	Compound	Sample Conc.	Sample QL		Duplicate Conc.	Duplicate QL		RPD	QC Acceptance Criteria RPD or NA*	Action
			SQL	2xSQL		SQL	2xSQL			
VOA	Vinylchloride	1.10 ug/l	1.00	2.00	1.11 ug/l	1.00	2.00	1%	30%	None
	1,1-Dichloroethene	0.315 ug/l			ND			NC	NA	None
	Carbondisulfide	0.423 ug/l			0.416 ug/l			2%	30%	None
	trans-1,2-Dichloroethene	11 ug/l			11 ug/l			0%	30%	None
	1,1-Dichloroethane	0.436 ug/l			0.419 ug/l			4%	NA	None
	cis-1,2-Dichloroethene	40 ug/l			38 ug/l			5%	30%	None
	Trichloroethene	91 ug/l	5.00	10.00	95 ug/l	5.00	10.00	4%	30%	None
	1,1,2-Trichloroethane	2.16 ug/l	1.00	2.00	2.08 ug/l	1.00	2.00	4%	30%	None
	Tetrachloroethene	0.127 ug/l			0.154 ug/l			19%	NA	None
	1,1,2,2-Tetrachloroethane	18 ug/l			19 ug/l			5%	30%	None

* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? (Y) N

Comments:

Sampler Name: R Clark + Co Contractor Name: EA Engineering Date Contacted: —

Reason for Contact and resolution obtained:

Validator: Christine Garvey Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-IX

IX. FIELD DUPLICATE PRECISION - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number MW03-08P Duplicate Sample Number MW03-DUP3 Matrix Water

Parameter	Compound	Sample Conc.	Sample QL		Duplicate Conc.	Duplicate QL		RPD	QC Acceptance Criteria RPD or NA*	Action
			SQL	2xSQL		SQL	2xSQL			
VOA	Vinyl chloride	3.57ug/l	1.00	2.00	4.54ug/l	1.00	2.00	24%	30%	none
	1,1-Dichloroethene	1.36ug/l	↓	↓	1.44ug/l	↓	↓	6%	30%	none
	trans-1,2-Dichloroethene	91ug/l	50	100	90ug/l	50	100	1%	30%	none
	1,1-Dichloroethane	0.423ug/l	1.00	2.00	0.503ug/l	1.00	2.00	17%	NA	none
	cis-1,2-Dichloroethene	200ug/l	50	100	190ug/l	50	100	5%	30%	none
	Chloroform	0.243ug/l	1.00	2.00	0.285ug/l	1.00	2.00	16%	NA	none
	Trichloroethene	1100ug/l	50	100	1000ug/l	50	100	10%	30%	none
	1,1,2-Trichloroethane	18ug/l	1.00	2.00	22ug/l	1.00	2.00	20%	30%	none
	Tetrachloroethene	8.40ug/l	1.00	2.00	9.86ug/l	↓	↓	16%	30%	none
	1,1,2,2-Tetrachloroethane	620ug/l	50	100	590ug/l	50	100	5%	30%	none

* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? (Y) N

Comments: —

Sampler Name: R Clark + Co Contractor Name: EA Engineering Date Contacted: —

Reason for Contact and resolution obtained:

Validator: Christine Garvey Date: 03/04/03

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-IX

IX. FIELD DUPLICATE PRECISION - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number MW03-08D Duplicate Sample Number MW03-DUP3 Matrix Water

Parameter	Compound	Sample Conc.	Sample QL		Duplicate Conc.	Duplicate QL		RPD	QC Acceptance Criteria RPD or NA*	Action
			SQL	2xSQL		SQL	2xSQL			
VOA	1,2-Dichloroethane	ND	1.00	2.00	0.205ug/l	1.00	2.00	NC	NA	None

* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? (Y) N

Comments:

Sampler Name: R Clark + Co Contractor Name: EA Engineering Date Contacted: —

Reason for Contact and resolution obtained:

Validator: Christine Garvey Date: 03/04/03

12/96

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-XI

XI. ACCURACY CHECK (Performance Evaluation Results) - List all analytes that are outside criteria.

SDG No: 030069 (Q4110R1) CASE: —

Are more than one-half of the PES analytes within criteria for each parameter. (Y) N

PE Sample Number	Ampule Number	Parameter	Type of PES	Matrix	Analyte	Conc. %R	Region I EPA PES Scores*	Non-EPA PES Scores**	Samples Affected	Action
VLCSLV	—	VOA	LCS	water	VOA	all ok	—	Various	None	None
VLCSLW	—	VOA	LCS	water	VOA	all ok	—	Various	None	None
VLCSLA	—	VOA	LCS	water	VOA	all ok	—	Various	None	None

* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Date: 03/04/03

Validator: Christine Garvey

EPA-NE : Data Validation Worksheet
VOA/SV - Pest/PCB-XII

XII. TARGET COMPOUND IDENTIFICATION - List the analytes that are outside the acceptance criteria.

Sample Number	Compound	MS Ions	RRT	Action
EA-110R	VOA	—	—	Sample/Surrogate outside acceptance limits. Samples reanalyzed with similar results. Original results used for reporting purposes
EA-110D	↓	—	—	
TB03-05	↓	—	—	↓
MW03-05D	↓	—	—	
MW03-10D	Trichloroethene	—	—	conc over curve - diluted 5x. transferred to orig. Form I
MW03-03R	Trichloroethene	—	—	↓
MW03-03D	cis-1,2-Dichloroethene Trichloroethene	—	—	conc over curve - dil 10x - transferred to orig Form I
MW03-DUP3	4 VOA analytes	—	—	conc over curve - dil 50x - transferred to orig Form I
MW03-DUP2	Trichloroethene	—	—	conc over curve - dil 5x - transferred to orig Form I
MW03-08D	4 VOA analytes	—	—	conc over curve - dil 50x - transferred to orig Form I
MW03-08R	4 VOA analytes	—	—	conc over curve - dil 100x - transfer. to orig Form I

Date: 03/04/03

Validator: Christine Garvey

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-01

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM934

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~4.47~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.09	~~B~~ UJ
75-15-0	Carbon Disulfide	0.434	J J
156-60-5	trans-1,2-Dichloroethene	1.00	U UJ
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.574~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	0.297	J J
10061-02-6	trans-1,3-Dichloropropene	1.00	U UJ
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA 03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-01

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM934

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	~~U~~ UJ

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110RRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-01RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM965

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) See original analysis Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.70	~~B~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.50	~~B~~ UJ
75-15-0	Carbon Disulfide	0.681	J J
156-60-5	trans-1,2-Dichloroethene	1.00	U UJ
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.11	~~B~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	0.321	J J
10061-02-6	trans-1,3-Dichloropropene	1.00	U UJ
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/04/03
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110RRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-01RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM965

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	~~U~~ UJ

see original analysis

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-02

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM935

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	0.170	J J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U L
67-64-1	Acetone	5.00 ~~2.44~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.44	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	0.210	J J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.410~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-02

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM935

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.112	J J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-02RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM966

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

see omissions errors

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~4.42~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.43	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	0.200	J J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.673~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

EA110DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-02RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM966

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U

See original analysis

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-10D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-03

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM936

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	0.530	J J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U UJ
67-64-1	Acetone	5.00 ~~3.02~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	0.188	J J
75-09-2	Methylene Chloride	1.34	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	11	J
75-34-3	1,1-Dichloroethane	0.305	J J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	36	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~100~~	~~EB~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	2.28	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00 ~~0.191~~	~~J~~ UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00 ~~0.629~~	~~J~~ UJ

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-10D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-03

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM936

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	27	J

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-10DDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-03DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM967

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

See original analysis

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5.00	U UJ
75-01-4	Vinyl Chloride	0.558	~~DJ~~ J
74-83-9	Bromomethane	5.00	U UJ
75-00-3	Chloroethane	5.00	U
67-64-1	Acetone	25	~~DB~~ R
75-35-4	1,1-Dichloroethene	5.00	U UJ
75-09-2	Methylene Chloride	20	~~DB~~ UJ
75-15-0	Carbon Disulfide	5.00	U UJ
156-60-5	trans-1,2-Dichloroethene	9.98	D J
75-34-3	1,1-Dichloroethane	5.00	U UJ
78-93-3	2-Butanone	25	U R
156-59-2	cis-1,2-Dichloroethene	29	D J
67-66-3	Chloroform	5.00	U UJ
71-55-6	1,1,1-Trichloroethane	5.00	U
56-23-5	Carbon Tetrachloride	5.00	U
107-06-2	1,2-Dichloroethane	5.00	U
71-43-2	Benzene	5.00	U
79-01-6	Trichloroethene	100	~~DB~~ J
78-87-5	1,2-Dichloropropane	5.00	U UJ
75-27-4	Bromodichloromethane	5.00	U
10061-01-5	cis-1,3-Dichloropropene	5.00	U
108-88-3	Toluene	5.00	U
10061-02-6	trans-1,3-Dichloropropene	5.00	U
79-00-5	1,1,2-Trichloroethane	2.39	~~DJ~~ J
127-18-4	Tetrachloroethene	5.00	U UJ
108-10-1	4-Methyl-2-Pentanone	25	U
591-78-6	2-Hexanone	25	U R
124-48-1	Dibromochloromethane	5.00	U UJ
108-90-7	Chlorobenzene	5.00	U
100-41-4	Ethylbenzene	5.00	U
1330-20-7	Xylenes (total)	15	U
100-42-5	Styrene	5.00	U
75-25-2	Bromoform	5.00	1.30 ~~DJ~~ UJ

FORM I VOA 03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-10DDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-03DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM967

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	28	~~D~~ J

See original analysis

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-04

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM937

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.10	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~3.72~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	0.315	J J
75-09-2	Methylene Chloride	1.25	~~B~~ UJ
75-15-0	Carbon Disulfide	0.423	J J
156-60-5	trans-1,2-Dichloroethene	11	J
75-34-3	1,1-Dichloroethane	0.436	J J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	40	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	91 ~~100~~ ~~EB~~	J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	2.16	J
127-18-4	Tetrachloroethene	0.127	J J
108-10-1	4-Methyl-2-Pentanone	5.00	U UJ
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

03/04/03 CO

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-04

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM937

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	18	J

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03RDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-04DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM968

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) See original analysis Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5.00	~~U~~ UJ
75-01-4	Vinyl Chloride	0.988	~~DJ~~ J
74-83-9	Bromomethane	5.00	~~U~~ UJ
75-00-3	Chloroethane	5.00	~~U~~ U
67-64-1	Acetone	25 ~~24~~	~~DJB~~ R
75-35-4	1,1-Dichloroethene	5.00	~~U~~ UJ
75-09-2	Methylene Chloride	17	~~DB~~ UJ
75-15-0	Carbon Disulfide	5.00	~~U~~ UJ
156-60-5	trans-1,2-Dichloroethene	8.33	~~D~~ UJ
75-34-3	1,1-Dichloroethane	5.00	~~U~~ UJ
78-93-3	2-Butanone	25	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	28	~~D~~ J
67-66-3	Chloroform	5.00	~~U~~ UJ
71-55-6	1,1,1-Trichloroethane	5.00	~~U~~
56-23-5	Carbon Tetrachloride	5.00	~~U~~
107-06-2	1,2-Dichloroethane	5.00	~~U~~
71-43-2	Benzene	5.00	~~U~~
79-01-6	Trichloroethene	91	~~DB~~ J
78-87-5	1,2-Dichloropropane	5.00	~~U~~ UJ
75-27-4	Bromodichloromethane	5.00	~~U~~
10061-01-5	cis-1,3-Dichloropropene	5.00	~~U~~
108-88-3	Toluene	5.00	~~U~~
10061-02-6	trans-1,3-Dichloropropene	5.00	~~U~~
79-00-5	1,1,2-Trichloroethane	1.98	~~DJ~~ J
127-18-4	Tetrachloroethene	5.00	~~U~~ UJ
108-10-1	4-Methyl-2-Pentanone	25	~~U~~
591-78-6	2-Hexanone	25	~~U~~ R
124-48-1	Dibromochloromethane	5.00	~~U~~ UJ
108-90-7	Chlorobenzene	5.00	~~U~~
100-41-4	Ethylbenzene	5.00	~~U~~
1330-20-7	Xylenes (total)	15	~~U~~
100-42-5	Styrene	5.00	~~U~~
75-25-2	Bromoform	5.00	~~U~~

FORM I VOA

03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03RDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-04DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM968

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	18	~~D~~ J

See original analysis

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-05

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-05

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM938

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.67 JB~~	R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.11	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.494 JB~~	UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	0.469	J J
108-90-7	Chlorobenzene	1.00	U UJ
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.25	J

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-05

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-05

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM938

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U UJ

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-05RE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-05RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM969

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

See original analysis

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~4.72~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	2.75	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	1.00	U UJ
67-66-3	Chloroform	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.431~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	0.475	J J

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

TB03-05RE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-05RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM969

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/06/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	1.00	~~U~~ WJ

See original analysis

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-06

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM943

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	2.33	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U L
67-64-1	Acetone	5.00 ~~3.77~~ ~~JB~~	R
75-35-4	1,1-Dichloroethene	0.556	J J
75-09-2	Methylene Chloride	1.46	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U L
156-60-5	trans-1,2-Dichloroethene	28	J
75-34-3	1,1-Dichloroethane	0.704	J J
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	82 ~~91~~ ~~E~~	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	220 ~~200~~ ~~EB~~	J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	3.68	J
127-18-4	Tetrachloroethene	1.00	U UJ
108-10-1	4-Methyl-2-Pentanone	5.00	U L
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00 ~~0.157~~	J UJ

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-06

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM943

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	19	J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03DDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-06DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN040

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

See original analysis

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U UJ
75-01-4	Vinyl Chloride	2.46	~~DJ~~ J
74-83-9	Bromomethane	10	U UJ
75-00-3	Chloroethane	10	U
67-64-1	Acetone	50 20	~~DJB~~ R
75-35-4	1,1-Dichloroethene	10	U UJ
75-09-2	Methylene Chloride	20	~~DB~~ UJ
75-15-0	Carbon Disulfide	10	U UJ
156-60-5	trans-1,2-Dichloroethene	25	~~D~~ J
75-34-3	1,1-Dichloroethane	10	U UJ
78-93-3	2-Butanone	50	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	82	~~D~~ J
67-66-3	Chloroform	10	U UJ
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
107-06-2	1,2-Dichloroethane	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	220	~~DB~~ J
78-87-5	1,2-Dichloropropane	10	U UJ
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	3.85	~~DJ~~ J
127-18-4	Tetrachloroethene	10	U UJ
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	~~U~~ R
124-48-1	Dibromochloromethane	10	U UJ
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylenes (total)	30	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-03DDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-06DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN040

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	20	~~D~~ J

See original analysis

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP3

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-07

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM941

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	4.54	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U UJ
67-64-1	Acetone	6.28	~~B~~ R
75-35-4	1,1-Dichloroethene	1.44	J
75-09-2	Methylene Chloride	1.24	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	90 ~~130~~ ~~E~~	J
75-34-3	1,1-Dichloroethane	0.503	~~J~~ J
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	190 ~~300~~ ~~E~~	J
67-66-3	Chloroform	0.285	J J
71-55-6	1,1,1-Trichloroethane	1.00	U UJ
56-23-5	Carbon Tetrachloride	1.00	U UJ
107-06-2	1,2-Dichloroethane	0.205	J J
71-43-2	Benzene	1.00	U UJ
79-01-6	Trichloroethene	1000 ~~620~~ ~~EB~~	J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U UJ
79-00-5	1,1,2-Trichloroethane	22	J
127-18-4	Tetrachloroethene	9.86	J
108-10-1	4-Methyl-2-Pentanone	5.00	U UJ
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U UJ

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP3

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-07

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM941

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	590 ~~470~~	~~E~~ J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP3DL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-07DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN047

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____ (uL) see original analysis Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U UJ
75-01-4	Vinyl Chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
67-64-1	Acetone	250 ~~210~~ ~~DJB~~	R
75-35-4	1,1-Dichloroethene	50	U UJ
75-09-2	Methylene Chloride	130	~~DB~~ UJ
75-15-0	Carbon Disulfide	50	U UJ
156-60-5	trans-1,2-Dichloroethene	90	~~D~~ J
75-34-3	1,1-Dichloroethane	50	U UJ
78-93-3	2-Butanone	250	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	190	~~D~~ J
67-66-3	Chloroform	50	U UJ
71-55-6	1,1,1-Trichloroethane	50	U
56-23-5	Carbon Tetrachloride	50	U
107-06-2	1,2-Dichloroethane	50	U
71-43-2	Benzene	50	U
79-01-6	Trichloroethene	1000	~~DB~~ J
78-87-5	1,2-Dichloropropane	50	U UJ
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-88-3	Toluene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	20	~~DJ~~ J
127-18-4	Tetrachloroethene	6.80	~~DJ~~ J
108-10-1	4-Methyl-2-Pentanone	250	~~U~~ UJ
591-78-6	2-Hexanone	250	~~U~~ R
124-48-1	Dibromochloromethane	50	U UJ
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
1330-20-7	Xylenes (total)	150	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U

FORM I VOA

03104103-2

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP3DL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-07DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN047

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	590	D-J

See original analysis

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP2

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-08

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM942

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.11	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U d
67-64-1	Acetone	5.00 ~~4.24~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.19	~~B~~ UJ
75-15-0	Carbon Disulfide	0.416	J J
156-60-5	trans-1,2-Dichloroethene	11	J
75-34-3	1,1-Dichloroethane	0.419	J J
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	38	J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	95 ~~100~~	~~EB~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U d
79-00-5	1,1,2-Trichloroethane	2.08	J
127-18-4	Tetrachloroethene	0.154	J J
108-10-1	4-Methyl-2-Pentanone	5.00	U UJ
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U d

FORM I VOA

03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO:

MW03-DUP2

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-08

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM942

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	19	J

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FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP2DL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-08DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN042

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

See Dup 0 Dup

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5.00	U UJ
75-01-4	Vinyl Chloride	0.989	~~DJ~~ J
74-83-9	Bromomethane	5.00	U UJ
75-00-3	Chloroethane	5.00	U d
67-64-1	Acetone	25 ~~12~~	~~DJB~~ R
75-35-4	1,1-Dichloroethene	5.00	U UJ
75-09-2	Methylene Chloride	14	~~DB~~ UJ
75-15-0	Carbon Disulfide	5.00	U UJ
156-60-5	trans-1,2-Dichloroethene	9.01	D J
75-34-3	1,1-Dichloroethane	5.00	U UJ
78-93-3	2-Butanone	25	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	29	D J
67-66-3	Chloroform	5.00	U UJ
71-55-6	1,1,1-Trichloroethane	5.00	U
56-23-5	Carbon Tetrachloride	5.00	U
107-06-2	1,2-Dichloroethane	5.00	U
71-43-2	Benzene	5.00	U d
79-01-6	Trichloroethene	95	~~DB~~ J
78-87-5	1,2-Dichloropropane	5.00	U UJ
75-27-4	Bromodichloromethane	5.00	U
10061-01-5	cis-1,3-Dichloropropene	5.00	U
108-88-3	Toluene	5.00	U
10061-02-6	trans-1,3-Dichloropropene	5.00	U d
79-00-5	1,1,2-Trichloroethane	2.10	~~DJ~~ J
127-18-4	Tetrachloroethene	5.00	U UJ
108-10-1	4-Methyl-2-Pentanone	25	U d
591-78-6	2-Hexanone	25	~~U~~ R
124-48-1	Dibromochloromethane	5.00	U UJ
108-90-7	Chlorobenzene	5.00	U
100-41-4	Ethylbenzene	5.00	U
1330-20-7	Xylenes (total)	15	U
100-42-5	Styrene	5.00	U
75-25-2	Bromoform	5.00	U d

FORM I VOA

03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-DUP2DL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-08DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN042

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	21	~~D~~ J

See original analysis

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-05D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-09

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM939

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
74-87-3	Chloromethane		1.00	U UJ
75-01-4	Vinyl Chloride		1.00	U
74-83-9	Bromomethane		1.00	U
75-00-3	Chloroethane		1.00	U
67-64-1	Acetone	5.00	~~4.58~~	~~JB~~ R
75-35-4	1,1-Dichloroethene		1.00	U UJ
75-09-2	Methylene Chloride		1.17	~~B~~ UJ
75-15-0	Carbon Disulfide		1.00	U UJ
156-60-5	trans-1,2-Dichloroethene		1.00	U
75-34-3	1,1-Dichloroethane		1.00	U
78-93-3	2-Butanone		5.00	U R
156-59-2	cis-1,2-Dichloroethene		0.301	~~J~~ J
67-66-3	Chloroform		1.00	U UJ
71-55-6	1,1,1-Trichloroethane		1.00	U
56-23-5	Carbon Tetrachloride		1.00	U
107-06-2	1,2-Dichloroethane		1.00	U
71-43-2	Benzene		1.00	U
79-01-6	Trichloroethene		2.09	~~B~~ UJ
78-87-5	1,2-Dichloropropane		1.00	U UJ
75-27-4	Bromodichloromethane		1.00	U
10061-01-5	cis-1,3-Dichloropropene		1.00	U
108-88-3	Toluene		1.00	U
10061-02-6	trans-1,3-Dichloropropene		1.00	U
79-00-5	1,1,2-Trichloroethane		1.00	U
127-18-4	Tetrachloroethene		1.00	U
108-10-1	4-Methyl-2-Pentanone		5.00	U
591-78-6	2-Hexanone		5.00	U R
124-48-1	Dibromochloromethane		1.00	U UJ
108-90-7	Chlorobenzene		1.00	U
100-41-4	Ethylbenzene		1.00	U
1330-20-7	Xylenes (total)		3.00	U
100-42-5	Styrene		1.00	U
75-25-2	Bromoform	1.00	~~0.397~~	~~J~~ UJ

FORM I VOA

03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-05D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-09

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM939

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.159	J-σ

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-05DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-09RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN043

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

50.0 purge volume

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	1.00	U
74-83-9	Bromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~2.41~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.00	U UJ
75-09-2	Methylene Chloride	1.87	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
78-93-3	2-Butanone	5.00	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	0.263	J J
67-66-3	Chloroform	1.00	U UJ
71-55-6	1,1,1-Trichloroethane	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1.00 ~~0.927~~	~~JB~~ UJ
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
591-78-6	2-Hexanone	5.00	~~U~~ R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00 ~~0.508~~	~~J~~ UJ

FORM I VOA 03/02/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-05DRE

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-09RE

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN043

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.179	~~J~~ J

See original analysis

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-10

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM944

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chlorometh ane	1.00	U UJ
75-01-4	Vinyl Chloride	3.57	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	5.00 ~~3.18~~	~~JB~~ R
75-35-4	1,1-Dichloroethene	1.36	J
75-09-2	Methylene Chloride	1.19	~~B~~ UJ
75-15-0	Carbon Disulfide	1.00	U UJ
156-60-5	trans-1,2-Dichloroethene	91 ~~110~~	~~E~~ J
75-34-3	1,1-Dichloroethane	0.423	J J
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	200 ~~250~~	~~E~~ J
67-66-3	Chloroform	0.243	J J
71-55-6	1,1,1-Trichloroethane	1.00	U UJ
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
71-43-2	Benzene	1.00	U
79-01-6	Trichloroethene	1100 ~~540~~	~~EB~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	18	J
127-18-4	Tetrachloroethene	8.40	J
108-10-1	4-Methyl-2-Pentanone	5.00	U UJ
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00 ~~0.246~~	~~J~~ UJ
108-90-7	Chlorobenzene	1.00	U UJ
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00 ~~0.675~~	~~J~~ UJ

FORM I VOA

03104163-7

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08D

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-10

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LM944

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/05/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	620 ~~430~~	~~E~~ J

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08DDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-10DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN048

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) See original analysis Dilution Factor: 50.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U UJ
75-01-4	Vinyl Chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
67-64-1	Acetone	250 ~~230~~ ~~DJB~~	R
75-35-4	1,1-Dichloroethene	50	U UJ
75-09-2	Methylene Chloride	110 ~~DB~~	UJ
75-15-0	Carbon Disulfide	50	U UJ
156-60-5	trans-1,2-Dichloroethene	91 ~~D~~	J
75-34-3	1,1-Dichloroethane	50	U UJ
78-93-3	2-Butanone	250 ~~U~~	R
156-59-2	cis-1,2-Dichloroethene	200 ~~D~~	J
67-66-3	Chloroform	50	U UJ
71-55-6	1,1,1-Trichloroethane	50	U
56-23-5	Carbon Tetrachloride	50	U
107-06-2	1,2-Dichloroethane	50	U
71-43-2	Benzene	50	U
79-01-6	Trichloroethene	1100 ~~DB~~	J
78-87-5	1,2-Dichloropropane	50	U UJ
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-88-3	Toluene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
127-18-4	Tetrachloroethene	50	U
108-10-1	4-Methyl-2-Pentanone	250	U
591-78-6	2-Hexanone	250	~~U~~ R
124-48-1	Dibromochloromethane	50	U UJ
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
1330-20-7	Xylenes (total)	150	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U

FORM I VOA 03/04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08DDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-10DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN048

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	620	~~D~~ J

See original analysis

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-11

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN050

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.00	U UJ
75-01-4	Vinyl Chloride	11	J
74-83-9	Bromomethane	1.00	U UJ
75-00-3	Chloroethane	1.00	U
67-64-1	Acetone	13	~~B~~ R
75-35-4	1,1-Dichloroethene	6.89	J
75-09-2	Methylene Chloride	2.05	~~B~~ UJ
75-15-0	Carbon Disulfide	1.09	J
156-60-5	trans-1,2-Dichloroethene	140 ~~170~~	~~E~~ J
75-34-3	1,1-Dichloroethane	1.42	J
78-93-3	2-Butanone	5.00	U R
156-59-2	cis-1,2-Dichloroethene	390 ~~480~~	~~E~~ J
67-66-3	Chloroform	0.326	J J
71-55-6	1,1,1-Trichloroethane	1.00	U UJ
56-23-5	Carbon Tetrachloride	1.00	U
107-06-2	1,2-Dichloroethane	0.377	J J
71-43-2	Benzene	1.00	U UJ
79-01-6	Trichloroethene	1900 ~~830~~	~~EB~~ J
78-87-5	1,2-Dichloropropane	1.00	U UJ
75-27-4	Bromodichloromethane	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
108-88-3	Toluene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
79-00-5	1,1,2-Trichloroethane	36	J
127-18-4	Tetrachloroethene	3.65	J
108-10-1	4-Methyl-2-Pentanone	5.00	U UJ
591-78-6	2-Hexanone	5.00	U R
124-48-1	Dibromochloromethane	1.00	U UJ
108-90-7	Chlorobenzene	1.00	U
100-41-4	Ethylbenzene	1.00	U
1330-20-7	Xylenes (total)	3.00	U
100-42-5	Styrene	1.00	U
75-25-2	Bromoform	1.00	U

FORM I VOA

(B)04/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08R

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-11

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN050

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	620 ~~590~~	~~E~~ J

03/04/03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08RDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-11DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN049

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 100.0

Soil Extract Volume: _____ (uL) See original analysis Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	100	U UJ
75-01-4	Vinyl Chloride	12	DJ J
74-83-9	Bromomethane	100	U UJ
75-00-3	Chloroethane	100	U
67-64-1	Acetone	560 ~~360~~	~~DJB~~ R
75-35-4	1,1-Dichloroethene	100	U UJ
75-09-2	Methylene Chloride	160	~~DB~~ UJ
75-15-0	Carbon Disulfide	100	U UJ
156-60-5	trans-1,2-Dichloroethene	140	~~D~~ J
75-34-3	1,1-Dichloroethane	~~100~~	U UJ
78-93-3	2-Butanone	~~500~~	~~U~~ R
156-59-2	cis-1,2-Dichloroethene	390	~~D~~ J
67-66-3	Chloroform	~~100~~	U UJ
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
107-06-2	1,2-Dichloroethane	100	U
71-43-2	Benzene	100	U
79-01-6	Trichloroethene	1900	~~DB~~ J
78-87-5	1,2-Dichloropropane	100	U UJ
75-27-4	Bromodichloromethane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	100	U
79-00-5	1,1,2-Trichloroethane	100	U
127-18-4	Tetrachloroethene	100	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	~~U~~ R
124-48-1	Dibromochloromethane	100	U UJ
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U
1330-20-7	Xylenes (total)	300	U
100-42-5	Styrene	100	U
75-25-2	Bromoform	100	U

FORM I VOA 03/08/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EA SAMPLE NO.

MW03-08RDL

Lab Name: CEIMIC CORP Contract: EA

Lab Code: CEIMIC Case No.: SITE03 SAS No.: SDG No.: EA110R

Matrix: (soil/water) WATER Lab Sample ID: 030069-11DL

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: LN049

Level: (low/med) LOW Date Received: 01/28/03

% Moisture: not dec. _____ Date Analyzed: 02/10/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 100.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	620	~~D~~ J

See original analysis

03/04/03

FORM I VOA

Appendix C

Site Inspection Checklist

INSTITUTIONAL CONTROL INSPECTION CHECKLIST
for LAND USE CONTROL AND IMPLEMENTATION PLAN
PARCEL 7, ZONE 3

(Includes Study Areas 01 and 04, and Sites 02, 03, and 16)

A. Annual Certification:

Name: Frederick J Evans

Affiliation: Engineering Field Activity Northeast Naval Facilities Engineering Command

Signature: Frederick J Evans

Date: 7/14/03

B. Documentation Inspection:

Inspect documentation to ensure no permits have been issued to change the use of the Site, build residential units, or install ground-water supply wells, including the following:

	ITEM	CIRCLE ONE	COMMENTS*
1.	Any related notice(s) filed with the Town of North Kingstown, RIEDC, and RIDEM?	Yes or No	
2.	Any related building permits found?	Yes or No	
3.	Any related Department of Public Works Permits found?	Yes or No	
4.	Any related Zoning permits or variances found?	Yes or No	
5.	Any related Conservation Commission findings, proposals, or notices of intent found?	Yes or No	

C. Physical On-Site Inspection:

Name: Sam Whitin

Affiliation: EA Engineering, Science, and Technology

Signature:

Date: 01/21/03

	ITEM	CIRCLE ONE	COMMENTS*
1.	Land-Use Condition; i.e. Residential-Use Buildings Present?	Yes or No	
2.	Evidence of any ground-water supply wells?	Yes or No	
3.	Weather Conditions?	≈ 15°F overcast wind ≈ 15-20 knots	

* If the answer to a question is 'Yes', use the 'Comments' column to explain, e.g. list type(s) and name(s) of notices, permits, variances, notices of intent found; describe the type and location of where a residential-use building or ground-water supply well was observed.

INSPECTION CHECKLIST FOR LONG TERM MONITORING PLAN SITE 03
FORMER NCBC DAVISVILLE FACILITY, NORTH KINGSTOWN, RHODE ISLAND

Monitoring Well Network Inspection: 21 January 2003,VLD, SW, SS						
Well Number	Locked? (Y or N)	Labeled? (Y or N)	Damaged? (Y or N)	Depth to Water (ft BTPVC)	Time	Comments[a]
MW01-10D	Y	N	N	19.93	1030	
MW01-13D	Y	Y	N	12.86	0915	
MW01-14D	Y	Y	N	22.05	0910	
MW01-15D	Y	N	N	13.27	1038	
MW02-03D	Y	Y	N	23.69	0928	
MW02-08D	Y	N	Y	18.49	0951	Well Cap has separated into two pieces.
MW02-11D	Y	Y	N	28.63	0947	
MW03-03D	Y	Y	N	16.60	1006	
MW03-05D	Y	N	Y	16.62	0956	Well Cap has separated into two pieces.
MW03-08D	Y	Y	N	9.29	1012	
MW03-09D	Y	Y	N	19.91	1020	
MW03-10D	Y	N	N	13.51	1009	
MWZ3-01	Y	N	N	18.63	1015	
MWZ3-02	Y	N	N	20.37	0856	
EA-110D	Y	Y	N	22.76	0932	
EA-111D	Y	N	N	13.09	0934	
MW01-10R	Y	Y	N	21.16	1028	
MW01-15R	Y	N	N	13.48	1036	
MW02-03R	Y	Y	N	22.95	0926	
MW03-03R	Y	Y	N	16.26	1003	
MW03-08R	Y	Y	N	8.60	1011	
EA-110R	Y	N	N	22.34	0935	
EA-111R	Y	N	N	13.24	0936	

(a) If the answer to a question is "Yes," use the "Comments" column to explain, e.g., describe the type of problem or damage observed.
NOTE: ft BTPVC = Feet below top of PVC well casing (pipe) to within 0.01 ft.

Appendix D

Navy Responses to EPA and RIDEM Comments

RESPONSES TO EPA COMMENTS DATED 17 JUNE 2003 ON THE DRAFT SITE 03 INTERIM GROUND-WATER SAMPLING EVENT 02 DATED MAY 2003 FORMER NAVAL CONSTRUCTION BATTALION CENTER DAVISVILLE NORTH KINGSTOWN, RHODE ISLAND

GENERAL COMMENTS

Comment 1: Overall, the Interim Groundwater Sampling Event 02 provides the information that was outlined in the Interim Groundwater Sampling Event Program. However, EPA still retains concerns as to the adequacy of the groundwater sampling program and the potential limitations of the program to define actual long-term groundwater trends. This is important both to support a natural attenuation remedial alternative, and to ascertain that there is not a near present or future threat to potential down gradient receptors. Therefore, several comments are provided relative to several of the observations and conclusions provided in the report.

Previous investigations at the PR-58 Nike Site conducted by the Navy have described what appear to be two "arms" or branches of contamination emanating from the identified release area (presumed to be in the vicinity of MW03-14). One trends northeast along a delineated fracture zone toward and through the locations of EA104D/R and MW Z3-1 toward EA 112D/R/R2. The second extends to the east, southeast through MW03-13D and MW03-08D/R. However, the groundwater sampling and analysis that is currently being conducted in the bedrock along these two pathways under the efforts of this program is limited.

The northeast pathway lies in the direction of identified private groundwater wells along Fletcher Road. Given that the chlorinated volatile organic compounds (CVOC) identified have densities greater than water it is reasonable to presume that there is a tendency for these constituents to sink. The present monitoring program provides for no groundwater sampling in the bedrock along this pathway and even sampling of the deep overburden is limited to MW Z3-01, on the edge of the identified arm. EPA has previously recommended that additional monitoring occur along this pathway as part of the program. This included EA-112D/R/R2, which has previously exhibited contaminants. However, given the Navy/State ownership issues, EPA understands that it is highly improbable that the Navy would include this area in their monitoring program. For the greater good of scientifically monitoring the plume, the Navy and the State (Army Corps of Engineers) should cooperate with a comprehensive monitoring program.

While trends cannot be definitely ascertained yet, the concentrations of CVOC contaminants in MWZ3-01 do not seem to be declining. This sampling event report provides no assessment regarding the potential for contaminants moving

along this inferred pathway to impact the private water supply wells. Specifically, there is no information on groundwater quality in the bedrock or on likely contaminant transport rates. In addition, there is no information on whether this fracture zone is linked to the private water wells via rock fracture sets.

The second identified "arm" of contaminant transport is toward the southeast. Like the northeast component of flow, no long-term CVOC trends in groundwater can be definitively made at this point. However, also like the northeast "arm," the concentrations of CVOC constituents do not seem to be declining. Based upon the hydraulic conductivity data for the deep overburden wells, the hydraulic gradients provided in this and the previous monitoring report, groundwater and contaminants may migrate relatively slowly in the deep overburden. There is though, an absence of hydraulic conductivity data for the bedrock along this "arm" of contaminant migration. This is due to a lack of bedrock monitoring wells between MW03-08R and EA-110R. The concern previously expressed by EPA remains that CVOC constituents may migrate vertically downward and migrate much more rapidly than in the overburden. The Navy is more in control of the area of this southeast "arm" and could install (and monitor) additional deep overburden and rock wells to close this data gap.

Response— Note that the Navy has not selected a remedial alternative for Site 03 at this time. The Navy is conducting interim ground-water monitoring prior to remedy selection for the Navy property while additional studies are being conducted by USACE at the former Nike PR-58 Site located upgradient. Expanded monitoring or hydrogeological characterization of the former Nike PR-58 Site and the northeast trending "arm" of the CVOC plume in ground water emanating from the former Nike Site (FUD site) should be addressed by the State/USACE, not through the Navy BRAC program. As has been demonstrated throughout the RI/FS process, the Navy has been willing to work with the State/USACE in coordinating the environmental investigations at the Navy's Site 03 area.

This document for IGWSE 02 is a data package. Regarding the second "arm" of the dissolved CVOC plume detected in deep ground water and reevaluation of the monitoring plan, that will be performed and reported separately. The Navy will develop a scope of work for their contractor to evaluate the data to determine if it is associated with a Navy BRAC program source.

Comment 2: This Interim Groundwater Sampling Event report also expresses the interpretation that there is not a discernable trend in hydraulic gradient between the deep overburden and bedrock wells. However, vertical migration of CVOC compounds can occur without a significant downward vertical gradient. Nonetheless, even with the limited number of deep overburden and deep bedrock well pairs, distinct periods of downward vertical gradients have been recorded. Furthermore, review of the screened intervals for the monitoring well pairs that do

exist reveal significant limitations to being able to ascertain the magnitude of vertical gradients.

The bedrock components have 25 feet long open intervals while the deep overburden screens are 10 feet long. The relatively long open interval of the bedrock wells is likely to smooth or reduce actual gradients in the deeper portion of the rock interval screened. The difficulty of obtaining vertical gradients is also compounded by the relative location of the screens. The deep overburden screen and the bedrock open interval do not have significant separation for their screen/open interval length. For the four well pairs surrounding the southeast "arm" of contamination (MW02-08D/R, MW03-03D/R, EA111D/R, and EA110D/R), the separation distances are only 8.2, 12.5, 0.5, and 3.0 feet, respectively.

Response— This document for IGWSE 03 is a data package. Additional evaluation of the dissolved CVOC plume detected in deep ground water and reevaluation of the monitoring plan will be performed and reported separately. The Navy will develop a scope of work for their contractor to evaluate the data and the monitoring locations and frequency.

Also, note that not all bedrock wells included in the IGWSE are open boreholes in bedrock. MW03-08R is constructed with a 10-ft screen, EA-110R and EA-111R are constructed with 25-ft screens, and MW01-10R, MW02-03R and MW03-03R are constructed with 25-ft open boreholes.

Comment 3: Lastly, it is not entirely clear that the MW03-14 area is the only, or even the major source of the observed CVOC contamination that is flowing across the Navy Site 03. Review of the groundwater contours provided in this report strongly point to a source area that lies to the north of the presumed release area in the vicinity of monitoring wells EA-102 and MW03-14. The origin of the groundwater appears to lie in the vicinity of either Building 378 or the "triangle-shaped" area north of Building 378. The groundwater contours suggest that the area to the north of EA-102 and MW03-14 may intermittently be a significant recharge area. This area may intermittently raise groundwater levels significantly to result in radial flow from the vicinity of MW-Z3-01. As a result, CVOC contamination released in this vicinity can be pushed to the south in the vicinity of EA-102 and MW03-14.

Also, review of the groundwater contours provided in this report suggests that the primary direction of groundwater flow and contaminant migration from the EA-102 and MW03-14 locations is to the southeast moving cross gradient around the Navy Site 03 area. It should be noted that previous investigations have not resulted in a defined release area for the CVOC contamination. To that extent, the conceptual model for groundwater flow and contaminant migration remains less than optimal.

Response— Please refer to the Navy's response to EPA's General Comment No. 1. Regarding the ground-water contours, IGWSE 02 does not include any water level data for monitoring wells on the adjacent upgradient FUD site. Additionally, the water surface contour figure for measurements during the previous sampling event's (IGWSE 01) deep overburden zone (Figure 3A) shows an easterly flow near the western, upgradient edge of the Navy property. Therefore over time, ground water flow to the Navy property appears to be east to southeasterly, not just southeasterly.

SPECIFIC COMMENTS

Comment 4: **Page 9 of 13, 1st Bullet:** Review of Figures 3A and 3C actually appear to show that groundwater in the deep zone flows across the Navy Site 03 from the northwest to the southeast. The origin of this groundwater appears to be what is an open "triangular" area delineated by an apparent road. This area lies to the northeast of the MW03-14 area. These groundwater flow directions strongly suggest a release area that is not associated with the MW03-14 area. These contours and the absence of a defined surface release area in the vicinity of the MW03-14 area suggest that the MW03-14 area may not be the, or the only location, for the CVOC release. Since dense, non-aqueous phase liquid (DNAPL) can migrate in various directions including against prevailing groundwater flow directions, and the site hydrogeology is very complex, there is the possibility that what is observed in the vicinity of MW03-14 and EA-102 is derived from another location, possibly the "triangular" area noted above.

Response— Please refer to the Navy's response to EPA's General Comment No. 3.

Comment 5: **Page 9 of 13, 2nd Bullet:** Review of Figure 3D shows groundwater flow in the bedrock to be strongly to the southeast across the Navy Site 03 from the northwest corner of the property. While the December 2002 (Figure 3B) groundwater flow in the bedrock appears to originate in the vicinity of EA-102 and MW03-14, the January 2002 groundwater flow appears to originate further to the north of that location.

Response— The curved shape of the contours on Figure 3D suggest that the ground water would be from the area west of SeaBee Avenue, not the northwest corner of the Navy property.

The first sentence will be revised as follows: "Ground water beneath the site in the rock zone is interpreted to flow toward the east and southeast beneath the Navy Site 03 area (Figures 3B and 3D)."

Comment 6: **Page 9 of 13, Last Paragraph:** Contrary to this statement, review of the data does suggest a downward vertical gradient across portions of the site. There are times and locations where the gradient is vertically downward from deep overburden into the bedrock. In addition, as mentioned in the General Comments, the lengths of the bedrock open hole intervals and minimal separation distances between deep overburden and bedrock open hole interval mutes vertical hydraulic head differences. Further, there is an absence of bedrock monitoring along the interpreted major migratory pathway from MW03-08 to EA110. Nonetheless, MW03-08, EA111, and EA110 all aligned along that pathway, have exhibited strong downward vertical gradients over the ("4 to 5 sets of vertical hydraulic conductivity data").

In July 2000, MW03-08D/R had a downward vertical gradient of -9.14E-03. This is almost an order of magnitude greater than the average horizontal hydraulic gradient of 2.0E-03. Also in July 2000, EA111D/R exhibited a similarly strong downward vertical gradient of -9.04E-03. In November 2001, EA110D/R exhibited a downward gradient of -3.82E-03, similar to the average horizontal gradient. Variability of vertical gradients may be expected. However, review of Table 5 shows that when downward gradients do occur, they are at times much stronger than the upward gradients when they occur. When combined with the construction of the well pairs (open interval separation, and screen/open interval length) it still suggests a downward migration into the bedrock. Furthermore, there is a complete absence of characterization of vertical gradients between MW03-08 and EA-110, a distance of almost 2,000 feet. This is a data gap to the monitoring program previously described by EPA.

Response— Please refer to the first paragraph of the Navy's response to EPA's General Comment No. 2.

Comment 7: **Page 12 of 13, 1st Paragraph, Last Sentence:** Based upon a review of the groundwater contours presented in this monitoring event report, it is not entirely convincing that the contaminated groundwater noted on the Navy Site 03 property originated primarily, or at least entirely, at the MW03-14 area. The contours presented suggest that there is a source in the vicinity of Building 378 or possibly the triangular area delineated by an apparent road near Perimeter Road and Seabee Avenue. While the presence of high concentrations of CVOC constituents in the groundwater at MW03-14 suggests DNAPL release at that location, there has been no documentation of a surface release at that location. Because of the migratory behavior of DNAPL, the origin of that material may be due to another release area.

The CVOC compounds of note appear to be primarily 1,1,2,2-Tetrachloroethane (1,1,2,2-TCA). This is a chemical that has been documented as being used and disposed of by the Navy in large quantities at other locations, i.e. Calf Pasture

Point. The Army operated the Nike PR58 site for a limited period of time from the middle 1950's to 1962. The silos were not abandoned by drilling holes and filling until 1995. The solvents reportedly used did not include 1,1,2,2-TCA. Peabody Clean Industries operated between 1980 and 1982. A release at the Peabody Clean Industries location would most logically have involved chemicals/solvents other than 1,1,2,2-TCA. The Navy used the area for Disaster Recovery Training between 1964 and 1974. If the Navy used the Disaster Recovery Area for chemical recovery then there could have been large quantities of 1,1,2,2-TCA used and disposed of, and not necessarily directly at the delineated Disaster Recovery Training Area. The Nike PR58 and the Peabody Clean Industries operations do not appear to be primary candidates for release of large quantities of 1,1,2,2-TCA. However, since the Army Corps of Engineers has assumed responsibility for the contamination under the Formerly Used Defense Site program this is a mute point.

Response— The EPA's position and belief about the site history is noted.

Comment 8: **Page 12 of 13, 2nd Bullet:** The monitoring well network is not adequate for the intended interim monitoring purposes. At a minimum, additional monitoring is needed along the northeast "arm" described toward the northeast along the direction of EA104, through MW-Z3-01 to EA112. An additional monitoring well pair is also needed between MW03-08 and EA110 along the southeast trending "arm". EPA understands the difficulty the Navy would have to monitor the northeast "arm", however, it is our opinion that the State/ACOE should be monitoring it. The Navy should have no difficulty in expanding the interim monitoring program to include additional wells along the southeast "arm".

Response— Please refer to the Navy's response to EPA's General Comment No. 1.

Comment 9: **Figures 3A and 3C:** These figures show groundwater migrating across the Navy 03 Site from a location to the north of the EA-102 and MW03-14 presumed source area. This suggests another source. Also, extrapolation of the groundwater contours to the south suggest that if the EA-102 and MW03-14 area is the primary or sole release area for CVOC, there is almost no monitoring well coverage to the south and southeast of EA-102 and MW03-14. This is where the major direction of groundwater flow from EA102 and MW03-14 appears to flow.

Response— Please refer to the Navy's response to EPA's General Comment Nos. 1 and 3.

Comment 10: **Figure 3D:** The groundwater flow directions presented on the figure do not indicate the EA102 or MW03-14 locations to be the source areas for the contamination noted on the Navy Site 03. This figure suggests that contamination originates in the vicinity of the "triangular area" delineated by an apparent road located to the southwest of MW-Z3-01. This figure also suggests the possibility

of radial flow of groundwater from that location. It is possible that at least intermittently, during high groundwater this area serves as a recharge zone for groundwater into the south and southeast. If so, a release of CVOC in this area would have the potential to migrate to the south as well as the southeast, being manifested as the high CVOC concentrations in groundwater at EA102 and MW03-14.

Response— Please refer to the Navy's response to EPA's General Comment No. 3.

RESPONSES TO RIDEM'S COMMENTS DATED 2 JUNE 2003 ON THE DRAFT SITE 03 INTERIM GROUND-WATER SAMPLING EVENT (IGWSE) 02 DATED MAY 2003 FORMER NAVAL CONSTRUCTION BATTALION CENTER DAVISVILLE NORTH KINGSTOWN, RHODE ISLAND

Comment 1: **Page 2 of 13, Section 1.1, Paragraph 1** -- This paragraph notes that human health risk levels were not in exceedance of USEPA risk thresholds. Please also include a sentence which states that constituents in soil exceed RIDEM Remediation Regulation Direct Exposure Criteria.

Response— The following text will be added to the end of the referenced paragraph: "However, individual soil samples may exceed RIDEM Remediation Regulation Direct Exposure Criteria."

Comment 2: **Page 13 of 13, Section 3.2, Recommendations** -- It is noted that some samples exceed both RIDEM GA and GB groundwater standards. RIDEM therefore, concurs with the Navy's recommendation to continue with the sampling program until such time as a Record of Decision is processed for this site.

Response— Comment noted.

Comment 3: **Page 13 of 13, Section 3.2 Recommendations** -- The repair of wells MW02-08D and MW03-05D noted in Section 2.3 should be noted in the Recommendations section.

Response— The recommendation will be added. Please note that Section 2.3 of the final IGWSE 03 report (EA, December 2004) states that the wells were stated to be in good condition during the related field activity.