145407

REFERENCE 64

Science Applications International Corporation
An Employee-Owned Company

1/14

June 3, 1999

Mr. Robert Hayton
Case Manager
New Jersey Department of Environmental Protection
Bureau of Federal Case Management
401 E. State Street, P.O. Box 028
Trenton, NJ 08625-0028

Re: Matlack, Inc. Swedesboro Facility
Woolwich Township, Gloucester County, New Jersey
SAIC Project 01-1408-00-4246-107

Dear Mr. Hayton:

On behalf of Matlack, Inc. (Matlack), Science Applications International Corporation (SAIC) has prepared this letter regarding the above referenced Matlack, Inc. (Matlack) facility. The purpose of the letter is to respond to the New Jersey Department of Environmental Protection (NJDEP) letter to Mr. Paul Moyer of Matlack dated May 3, 1999. This letter and various other issues were discussed with the NJDEP during our on-site meeting on May 26, 1999.

GENERAL COMMENTS

The NJDEPs May 3, 1999, letter states that Matlack has violated Paragraphs 48, 61, 77, and 81 of the May 1987 Administrative Consent Order (ACO). The following discussion addresses these concerns.

Paragraph 48 - Matlack shall submit to the Department a draft Remedial Investigation Report (hereinafter "RI Report") in accordance with Appendix A and the RI Work Plan and approved schedule.

Discussion

Matlack provided the NJDEP with a revised RI Report in February 1991. Subsequent workplans and associated investigations have been submitted and completed with NJDEP approval.

Paragraph 61 (Progress Reports) - Matlack shall submit to the Department quarterly progress reports; the quarters being December through February, March through May, June through August, and September through November of each calendar year. Each progress report shall

be submitted on or before the 30th day of the month following the quarter being reported. Matlack shall submit the first progress report to the Department by June 30, 1997. Each progress report shall detail the status of Matlack' compliance with this Administrative Consent Order and shall include the following:

A. Identification of site and reference to this Administrative Consent Order;
B. Status of work at the site and progress to date;
C. Difficulties or problems encountered during the reporting period;
D. Actions taken or to be taken to rectify difficulties or problems;
E. Activities planned for the next reporting period;
F. Required and actual completion dates for each item required by this Administrative Consent Order;
G. An explanation of any non-compliance with the approved work plan(s), Remedial Action Plan or schedule(s);
H. All data collected, including quality assurance evaluation with supporting documentation, and field observations;
I. *A discussion of performance evaluation of all remedial measures implemented.*

Discussion

Matlack will provide the NJDEP with quarterly progress reports, beginning with the June through August 1999 quarter. Using this timeframe, the next quarterly progress report will be submitted to the NJDEP on or before September 30, 1999. Matlack is confident that the submittal of quarterly progress reports to the NJDEP will effectively address the concerns outlined in the first paragraph of the May 3, 1999, letter.

Paragraph 77(Cost Review) - Beginning three hundred and sixty-five (365) calendar days after the effective date of this Administrative Consent Order and annually thereafter on that same calendar day, Matlack shall submit to the Department a detailed review of all costs required for Matlack's compliance with this Administrative Consent Order. The cost review shall include a detailed summary of all monies spent to date pursuant to this Administrative Consent Order, the estimated cost of all future expenditures required to comply with this Administrative Consent Order (including any operation and maintenance costs), and the reason for any changes from the previous cost review submitted by Matlack.

Discussion

A detailed cost review, including estimated future expenditures will be submitted to the NJDEP along with the above mentioned quarterly progress report in September 1999.

Paragraph 81 (Stipulated Penalties) - Matlack shall pay stipulated penalties to the Department for their failure to comply with any of the paragraphs in this Administrative Consent Order according to the following schedule, unless the Department has modified the compliance date in writing or pursuant to the force majeure provisions herein below:

Calendar Days After Due Date	*Stipulated Penalties*
1 - 7	*$500 per calendar day*
8 - 14	*$1,000 per calendar day*
15 - over	*$2,000 per calendar day*

Discussion

Since the signing of the Administrative Consent Order (ACO) with the NJDEP in 1987, Matlack has made significant forward progress in meeting the goal of mitigating the groundwater impact at considerable expense. Matlack completed an endangerment assessment in 1990, a remedial investigation (RI) in 1991, and a conceptual remedial design in 1992. In 1994, Matlack completed installation of a groundwater containment remedy by constructing a pump and treat system to mitigate the immediate risk to groundwater. A remedial system evaluation work plan was submitted in March 1995 and system operation was implemented November 1995. Progress on cleanup was reported per the system evaluation work plan in April 1996 and May 1997.

This progress has occurred even though there were significant changes in personnel in both the NJDEP and Matlack staff during the intervening period. Progress was previously communicated by a combination of the above cited reports, meetings, and teleconferences with the former NJDEP case managers. ~~However, through the process of changing personnel, demonstration of forward progress, and the provision of milestone reports, the requirement for quarterly progress reports was over looked by Matlack. Matlack understands this is a violation of Paragraph 61 of the ACO and potentially subjects Matlack to the stipulated penalties of Paragraph 81 of the ACO.~~

Matlack's goals for the site are the same as those of the NJDEP: cleanup of the site to mitigate its risks. Matlack also understands the powers, intentions, and goals of the NJDEP for this site and is in complete agreement with the goals that do not compromise Matlack's rights under the ACO and due process. Further, it is Matlack's intention to cooperate with the NJDEP and comply fully with both the ACO and current regulations in moving towards site cleanup.

SPECIFIC RESPONSES TO NJDEP COMMENTS

A total of eleven (11) comments were included in the May 3, 1999, NJDEP letter that are addressed herein. In general, the comments relate to the *Remedial Investigation Progress Report* (RIPR) dated February 1999. The following provides each comment and a detailed response (discussion).

1. ***Summary tables of sampling results do not include which contaminant concentrations exceed applicable remediation standards. This is not consistent with N.J.A.C. 7:26E-4.8c3i.***

Discussion

A description of the sampling results in relation to applicable remediation standards was included in the RIPR. However, the summary tables did not specifically identify which results exceeded the applicable remediation standards. Upon completing the next phase of work (additional plume delineation, monitoring well installations, etc.), the RIPR will be updated and revised into a comprehensive report that will incorporate the all of the results of the revised Phase II Remedial Investigation Work Plan (RIWP) dated March 1998. Summary tables of the sampling results included in the report will clearly identify which contaminant concentrations exceed applicable remediation standards.

2. ***Section 3.4, Domestic Well Sampling Results, page 13.***

Three wells were sampled. Low levels of certain VOCs, SVOCs, and pesticides were detected in some wells sampled. The concentrations were below the MCLs, where MCLs are available. However, two of the wells (Bien Veninno and King) had lead levels above the federal action level (15 µg/l) and the NJDEPs PQL (10 µg/l) for groundwater. Matlack did not state whether the results of the sampling were provided to the homeowners.

Discussion

To date, the groundwater sampling results from the residential wells have not provided to the homeowners. Upon completion of additional domestic well sampling (discussed herein under comment 10b.), the results will be provided to the homeowners.

3. ***Section 4.1, Subsurface Stratigraphy and Soil Quality***

Detailed descriptions of the subsurface stratigraphy, photoionization detector (PID) screening results, and other observations made during the installation of the borings are provided in Appendix D.

This information should have been provided in stratigraphic cross sections also, pursuant to N.J.A.C. 7:26E-4.8c 5.

Discussion

Stratigraphic cross section(s), including the results of photoionization detector (PID) screening and other observations made during the installation of the borings will be included in the comprehensive Phase II RIWP report. As indicated in the RIPR and discussed during our on-site meeting on May 26, 1999, six (6) additional borings will be completed to the west of the Matlack Terminal [hydraulically downgradient with respect to groundwater flow] to delineate the extent of groundwater contamination. Additionally, four (4) borings will be installed at evenly spaced locations along the west side of Grand Sprute Run, hydraulically downgradient of the Matlack Terminal (one to the north and three to the south of Route 322, respectively). These borings are necessary to determine whether or not groundwater contamination extends underneath Grand Sprute Run. Based upon this scope of work, a total of ten (10) additional borings are proposed for this stage of work.

As indicated on the RIPR, soils from the previously installed borings were inspected for evidence of contamination (odors, staining, etc.). Additionally, soils from some of the borings were screened with a PID. The results of the inspections and PID screening (included in Appendix D of the RIPR) did not indicate the presence of contamination. Soils from the proposed borings to the west of the Matlack Terminal and along the west side of Grand Sprute Run will be visually inspected and screened with a PID consistent with the protocols outlined in the revised Phase II RIWP and discussed in the RIPR.

4. Section 4.2, Groundwater Sampling, page 17.

Matlack states that a total of 26 groundwater samples were collected using a peristaltic pump attached to dedicated polyflow tubing.

Review of the notes provided in the boring logs in Appendix D, indicates that some of the groundwater samples were collected with a bailer. In the RIWP (page 13) it was proposed that a stainless steel mini-bailer would be used to collect groundwater samples obtained from the Geoprobe/CPT devise. The department considers that use of both bailers and peristaltic pumps are acceptable for collecting groundwater samples for screening purposes. However the use of the peristaltic pump should have been proposed in the RIWP. The type of bailer actually used

(stainless steel, Teflon, etc.) should be provided in the report. In addition, the polyflow tubing should be described; e.g., does it refer to Teflon-lined tubing?

Discussion

Further discussions with the field personnel responsible for collecting the groundwater samples from the borings indicates that all of the groundwater samples were collected using stainless steel mini-bailers. This clarification will be documented in the comprehensive Phase II RIWP report.

5. Section 4.2.1, Groundwater Quality, page 23.

While the statement "The downgradient extent of benzene in groundwater is limited, as evidence by the highest concentration being detected at boring 2-3, at a concentration of 2.3 µg/l" may be appropriate, the Department has informed Matlack on numerous occasions that additional groundwater sampling is needed to confirm that the plume does not extend beyond Grand Sprute Run. See additional comments on this issue below.

Discussion

As indicated previously herein under the discussion addressing comment number 3, additional screening borings will be installed and groundwater samples collected for analysis from selected locations to the west of the Matlack Terminal and along the west side of Grand Sprute Run. The samples will be collected and analyzed in accordance with the revised Phase II RIWP dated March 1999 with the following exceptions:

1. Due to limited accessibility to the sample locations with conventional drilling equipment, the borings will be installed using properly decontaminated hand auger equipment.

2. Due to the limited number of groundwater samples proposed to be collected during this phase of work (10 total), the samples will be not be analyzed in the field. Rather, the samples will be submitted to a DEP certified laboratory for analysis of volatile organic compounds (VOCs) using United States Environmental Protection Agency (EPA) Method 624. The results of the laboratory analysis will be available within 10 to 15 days following submittal to the laboratory.

3. Following receipt of the groundwater sample analysis results form the laboratory, they will be reviewed and a determination as to whether or not additional sampling is necessary will be completed. The analytical results and recommended approach will be reviewed and

approved by the NJDEP prior to completing additional sampling or initiating the monitoring well installations.

6. Section 4.2.1, Groundwater Sampling, page 24.

Matlack states that the concentrations of TCE and vinyl chloride detected at GW-1 exceed the NJDEP groundwater cleanup standards of 7 and 2 µg/l, respectively. The correct standards are 1 and 5 µg/l, respectively

Discussion

The correct groundwater cleanup standards for TCE and vinyl chloride will be referenced in the comprehensive Phase II RIWP report.

7. Table 4.

The TCE and PCE results for boring 1-2 appear to be reversed as compared to the data provided in Figures 4 and 5.

Discussion

The TCE and PCE results provided on Table 4 of the RIPR for boring 1-2, are reversed as compared to Table 3 and Figures 4 and 5. The correct TCE and PCE concentrations for boring 1-2 are 2.4 and 3.6 µg/l, respectively. Table 4 will be revised and incorporated into the comprehensive Phase II RIWP report.

8. Section 5.0, Surface Water and Stream Sediment Sampling, Page 26.

Sediment samples should be analyzed for total organic carbon and grain size in order to evaluate ecological effects of any contamination. Sediment samples should have been collected from the center of the channel in a depositional area, not from the stream bank along the water/bank interface. Although surface water samples were collected during a low-flow period, it was not determined whether Grand Sprute Run is a gaining or losing stream or whether the stream is perennial or intermittent. This shall be determined. If it is a losing stream (discharging to groundwater), it's not surprising that the surface water samples were ND, as contaminated groundwater would not be discharging to the stream. This determination shall take into consideration seasonal variations in water levels since the stream may be gaining or losing at different times.

Discussion

The reason our stream sediment samples were acquired on the stream bank is that the bank is typically a depositional area based on our understanding of fluvial processes. The samples were taken on the east bank of Grand Sprute Run as the most likely location of impact from groundwater into the stream. Any future sediment samples that may be collected will be from the center of the stream channel as per NJDEP's request. These will be analyzed for total organic carbon and grain size, in addition to any chemical analyses.

The NJDEP is requesting that Matlack determine whether or not Grand Sprute Run is a gaining or losing stream and whether it is perennial or intermittent. As discussed with the NJDEP during our on-site meeting on May 26, 1999, Matlack requests that this determination be deferred until the groundwater sampling along the western side of Grand Sprute Run is completed. If contamination were not detected in groundwater along the western side of Grand Sprute Run, then this determination would not provide any substantial benefit to the project. Similarly, if contamination is detected (which is highly unlikely due to the presence of observed springs and seeps along the eastern stream bank), then this finding might indicate that the plume has migrated underneath the stream. In either case, this determination of stream origin would be of minimal significance.

Matlack concurs with the NJDEPs comment that if Grand Sprute Run were a losing stream, that significant concentrations of contamination would not be detected in surface water samples. This condition, not withstanding, and the previous surface water sampling results do suggest minimal impact to the stream by contamination from the Matlack property has occurred. To further evaluate the potential future impact to the stream and assess seasonal variation in water level and flow, Matlack proposes to collect additional surface water samples. The sampling will be initiated upon approval of the NJDEP, and will consist of quarterly sampling of the surface water for a time period of one year. The samples will be collected using the same protocols and at the same locations where SW-1 and 2 were collected previously, which is consistent with the NJDEP "Field Sampling Procedures Manual" dated May 1992. The samples will be analyzed by an NJDEP certified laboratory for VOCs using EPA method 624 and Methyl-Blue Active Surfactants (MBAS) by EPA Method 5540C. Upon completion of the sampling and evaluating the results, the potential need for additional sampling will be evaluated and discussed with the NJDEP.

9. Section 5.1, Stream Sample Results, Page 27.

Stream sediment sample results should be evaluated against ecological sediment criteria, not NJDEP RDCSCC. These criteria can be found in the Department's Guidance for Sediment Quality Evaluations, which is easily obtainable on the Site Remediation Program's web site at www.state.nj.us/dep/srp/index.htm.

Discussion

As requested, the stream sediment sample results will be evaluated against ecological sediment criteria, not NJDEP RDCSCC in the comprehensive Phase II RIWP report.

10. Section 7.0, Recommended Monitoring Well Locations, Page 31.

a. As discussed above, the Report does not present data to substantiate the assumption that the downgradient extent of the groundwater plume to the North and West is the Grand Sprute Run. Contaminant concentrations in groundwater are elevated in the most downgradient samples collected to date. Matlack recommends installing five new monitoring wells at the locations illustrated on Figure 2. The wells will be installed in accordance with the protocols outlined and previously approved by the Department in the RIWP.

The locations of the five proposed monitor wells are acceptable, however, in addition to the placement of those wells, Matlack shall conduct geoprobe sampling of groundwater down-gradient (West) of Grand Sprute Run. This shall be done to optimize the locations of the proposed monitoring wells and to confirm that the stream is acting as a groundwater divide and prevents migration of the plume West of the Stream. Depending upon the results of the proposed geoprobe investigation, additional wells may be needed (i.e., an additional well(s) may need to be installed West of the stream).

Although the proposed well construction provided in the RIWP (see page 14) was previously approved, the Department recommends that the well screens be 10-slot rather than the 20-slot since the boring logs indicate that the aquifer materials consist of a significant amount of fine sand and silt. Also, the well screens should not exceed 10 feet in length. Sampling wells with longer screens would likely cause dilution of the contaminants and a reduction in measured concentrations in the groundwater. Finally, the depth to water in some wells is on the order of 20 feet. Bentonite pellet seals, if not properly installed, can bridge off resulting in poor installation of the grout. For this reason, bentonite, cement or bentonite/cement grouts should be installed without pellet seals using a tremie pipe and prescribed in the Department's Field Sampling Procedures Manual (FSPM, see Appendix 7-1).

Discussion

The work scope included herein and in the RIPR has been developed based upon the results of recently completed on-site and off-site investigations. The purpose is to further delineate the downgradient extent of groundwater contamination to the west of the Matlack Terminal. The workscope includes groundwater quality sampling along the western side of Grand Sprute Run (refer to discussions under comments 3 and 5 herein) to determine whether or not groundwater contamination from the Matlack Terminal has migrated to the west of the stream. The results

of these activities will be used to determine the appropriate locations of the new groundwater monitoring wells.

A total of five new groundwater monitoring wells will be installed in accordance with the revised Phase II RIWP, the RIPR, and NJDEP comments regarding screen slot size, screen length and the well seal. The wells will be sealed using a tremie pipe to pressure fill the annular space above the sand pack from the bottom upward with grout (94 pounds of Portland cement with 5 pounds of bentonite powder to 8.3 gallons of water).

Three of the new monitoring wells will be drilled using hollow stem auger methods. The two new wells to the west of the Matlack Terminal, and adjacent to the eastern side of Grand Sprute Run, will be completed as 2-inch wells using hand auger methods. This method of drilling is appropriate because access to these areas with a hollow stem auger rig is limited due to the steep topography, rough terrain, and thick forest. However, Matlack requests NJDEP approval to modify the construction of these wells from the specifications included in the RIWP. Specifically, Matlack proposes to build these wells using a preconstructed 10-foot long section of well screen. The screen consists of a 2-inch diameter screen inside a 3-inch diameter screen (both 10-slot), both of which will be connected to the 2-inch diameter solid PVC riser pipe. The annular space between the two screens will be filled during construction with a sand pack. All other well construction protocols will be consistent with the RIWP. This method of well construction will ensure that an adequate sand pack is installed surrounding the well screen.

Matlack will initiate the installation of the monitoring wells within two weeks following the completion of the groundwater quality sampling (refer to discussions under comments 3 and 5 herein). The well installations are expected to be completed within a two week time period. Consistent with the revised RIWP, Matlack will prepare a letter to the NJDEP for approval of a groundwater-sampling plan. The plan shall include a list of new and selected existing wells, a schedule for sampling them, and justification of the approach. Sampling will not commence until Matlack has received approval of the selected wells by the NJDEP. All groundwater sampling shall be completed consistent with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual, dated May 1992.

b. *Matlack proposes to re-sample the Mills residence domestic well in order to assess the relatively low concentrations of naphthalene and 1,4-dichlorobenzene detected in October 1998.*

   This proposal is acceptable. However, Matlack shall again try to sample nearby domestic wells, 22, 24, and 25 (see Figure 1 and Table 1) as these wells could not be sampled previously. It is suggested that Matlack notify the residents by mail and telephone in order to gain access. Sampling/analysis of all four wells should include TAL metals in addition to VOCs and SVOCs.

Discussion

Matlack went door-to-door to collect groundwater samples from residential wells. In the future, Matlack will use mail, telephone and go door-to-door to obtain the four above-mentioned residential well samples for analysis of TAL metals, VOCs, and SVOCs. The results of these efforts will be provided to the NJDEP in the comprehensive Phase II RIWP report.

11.

In addition to the proposed installation and sampling of the monitoring wells, characterization of source areas shall be considered (i.e., sampling and analysis of surface and subsurface soils in the former lagoon and area of the USTs). If a P&T groundwater remedy cannot be designed and in place within 120 days, other source removal and/or control measures will need to be evaluated. If Matlack wishes to pursue natural remediation for groundwater, as provided by N.J.A.C. 7:26E-6.3(d), there can be no impact to receptors, free and residual product have to be treated, removed or contained and soils with contaminant concentrations exceeding impact to groundwater soil cleanup criteria (IGWSCC) in the unsaturated zone would need to be remediated. In addition, information would have to be provided to show that natural attenuation will be protective, e.g., site-specific information showing that biodegradation is occurring or can occur. Evidence shall include collection of data showing that there are adequate alternate electron acceptors and biodegradation by-products which can be used to identify the type(s) of biodegradation (e.g., aerobic, anaerobic, reductive dechlorination, etc.) or other attenuation processes that may be occurring at the site. In this case, Matlack shall refer to appropriate USEPA guidance on Monitored Natural Attenuation (MNA) and consider collecting these data during the next round of groundwater sampling.

Discussion

Significant efforts to characterize the site and potential source area(s) have been completed dating back to September/October 1982. The results of these efforts are documented in reports previously prepared and submitted by Matlack to the NJDEP. The revised Remedial Investigation (RI) Report prepared by Environmental Resources Management, Inc. (ERM) dated February 8, 1991, provides a comprehensive summary of the initial site characterization activities.

Matlack has identified potential source areas on-site as follows:

- Area of Diesel Fuel Leak
- Area of Buried Waste Tanks
- Former Lagoon Area
- Former Disposal Pits

- Existing USTs

Diesel Fuel Leak and Buried Waste Tanks

The diesel fuel leak area was located to the north of the existing terminal building, in the vicinity of former fueling islands. The leak was discovered in 1986 from an underground diesel fuel pipeline that extended from USTs located to the west of the southern end of the existing terminal building to the fuel islands. Following the release, the line was removed from service. Matlack excavated and removed approximately 545 tons of diesel fuel impacted soil associated with the release in August 1992.

In April 1992, Matlack excavated and removed two former buried waste USTs from the west of the southern end of the existing terminal building. The USTs consisted of one 15,000-gallon tank used to contain tanker truck residue and one 4,000-gallon for the storage of used motor oil UST. The tanks were emptied and cleaned by Matlack in 1987. During the removals, impacted soil was observed around the former heal tank, however, soil samples collected upon removal of the former UST indicated concentrations of contaminants below the NJDEP cleanup levels.

The results of the diesel fuel leak remediation efforts and the removal of the former USTs were documented in an Interim Remedial Action Report dated June 7, 1994 which was submitted to the NJDEP.

Former Lagoon Area

Matlack discontinued the use of the former lagoon (located to the south of the existing waste treatment building) in 1976. The affected soil within the lagoon was reportedly left in place and the lagoon was subsequently covered with fill. The approximate boundaries of the former lagoon have been determined and the soil remaining in-place has been investigated by sampling numerous soil borings. Monitoring wells have been installed surrounding the former lagoon area and groundwater quality has been assessed. The results of these investigations have been submitted to the NJDEP previously.

Former Disposal Pits

Magnetic anomalies were identified in the area of the former lagoon through the use of a geophysical (magnetometer) survey. Ten test pits were dug in these areas and soil samples were collected and analyzed. The test pits uncovered several crushed drums, oil filters, and other debris. The results of the test pits were discussed in a report by ERM entitled Phase II Hydrogeologic Investigation dated September 1986.

Existing USTs

Nine (9) regulated UST currently exist at the site that consist of the following:

- Two 15,000-gallon Diesel Fuel
- Two 20,000-gallon Diesel Fuel
- One 6,000-gallon Heating Oil
- One 6,000-gallon Trichloroethene (TCE)
- One 6,000-gallon Lube Oil (new motor oil)
- One 10,000-gallon Heating Oil
- One 4,000-gallon Heating Oil

The above mentioned USTs are not currently being used, and Matlack has registered them with the NJDEP as out-of -service. Matlack submitted the 30-day notice of intent to remove the USTs to the NJDEP on April 1, 1999. The UST removals are scheduled for August 1999 and the closures will be completed in accordance with N.J.A.C. 7:14B-9.2.

The information provided herein and in previous reports indicates that the potential source areas have been adequately characterized or will be characterized in the near future upon the removal of the existing USTs. Additionally, operation of the existing remediation system has demonstrated that it effectively captures groundwater contamination prior to off-site migration. Based upon this information, Matlack requests that further characterization of potential source areas be deferred until the long-term effects of groundwater remediation can be assessed.

As indicated in the revised Phase II RIWP, the existing pump and treat groundwater containment system was in operation from November 1995 through May 1997 when it was turned off for maintenance. Over this time period, 9 million gallons of contaminated groundwater was treated and approximately 140 pounds of VOCs were removed from the subsurface. In order to restart the system, Matlack prepared an Application for New Jersey Pollutant Discharge Elimination System (NJPDES) Permit Discharge To Groundwater (DGW). Matlack is currently in the process of revising/updating the permit in response to the NJDEPs comments, including appropriate signatures, and shall to submit the permit application to the NJDEP by no later than July 15, 1999, contingent on owner/township approval signatures. Upon NJDEP approval, the groundwater remediation system will be reactivated. Using this schedule, pending no delays out of Matlack's control, Matlack will meet the 120-day requirement for a P & T groundwater remedy as indicated in the May 3, 1999, NJDEP letter.

The NJDEPs May 3, 1999, letter references the option of pursuing natural remediation for groundwater. Since the delineation of groundwater contamination off-site is not complete and the potential impact to receptors (i.e., Grand Sprute Run) has not been determined, the use of a natural remediation remedy for groundwater has not been fully evaluated by Matlack at this time. If appropriate, Matlack will pursue the option of Monitored Natural Attenuation (MNA) with the NJDEP at a later date.

In closing, Matlack has made significant forward progress in meeting the goal of site cleanup and intends to continue in a cooperative effort with the NJDEP while complying fully with both the ACO and current regulations. Matlack and SAIC trust that the responses and discussions presented herein serve to clarify issues concerning the RIRP and the progress made by Matlack to address site conditions. If you have any questions or require any additional information, please feel free to contact the undersigned at your convenience.

Respectfully submitted,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Kent V. Littlefield, P.G.
Project Director

KVL:pjp

cc: Paul M. Moyer, Matlack, Inc.

REFERENCE 65

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

TRICHLOROETHYLENE

CAS # 79-01-6

Division of Toxicology ToxFAQs™ **July 2003**

This fact sheet answers the most frequently asked health questions (FAQs) about trichloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Trichloroethylene is a colorless liquid which is used as a solvent for cleaning metal parts. Drinking or breathing high levels of trichloroethylene may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Trichloroethylene has been found in at least 852 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is trichloroethylene?

Trichloroethylene (TCE) is a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers.

Trichloroethylene is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical.

What happens to trichloroethylene when it enters the environment?

- Trichloroethylene dissolves a little in water, but it can remain in ground water for a long time.
- Trichloroethylene quickly evaporates from surface water, so it is commonly found as a vapor in the air.
- Trichloroethylene evaporates less easily from the soil than from surface water. It may stick to particles and remain for a long time.
- Trichloroethylene may stick to particles in water, which will cause it to eventually settle to the bottom sediment.
- Trichloroethylene does not build up significantly in plants and animals.

How might I be exposed to trichloroethylene?

- Breathing air in and around the home which has been contaminated with trichloroethylene vapors from shower water or household products such as spot removers and typewriter correction fluid.
- Drinking, swimming, or showering in water that has been contaminated with trichloroethylene.
- Contact with soil contaminated with trichloroethylene, such as near a hazardous waste site.
- Contact with the skin or breathing contaminated air while manufacturing trichloroethylene or using it at work to wash paint or grease from skin or equipment.

How can trichloroethylene affect my health?

Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating.

Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.

ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html

Drinking large amounts of trichloroethylene may cause nausea, liver damage, unconsciousness, impaired heart function, or death.

Drinking small amounts of trichloroethylene for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear.

Skin contact with trichloroethylene for short periods may cause skin rashes.

How likely is trichloroethylene to cause cancer?

Some studies with mice and rats have suggested that high levels of trichloroethylene may cause liver, kidney, or lung cancer. Some studies of people exposed over long periods to high levels of trichloroethylene in drinking water or in workplace air have found evidence of increased cancer. Although, there are some concerns about the studies of people who were exposed to trichloroethylene, some of the effects found in people were similar to effects in animals.

In its 9th Report on Carcinogens, the National Toxicology Program (NTP) determined that trichloroethylene is "reasonably anticipated to be a human carcinogen." The International Agency for Research on Cancer (IARC) has determined that trichloroethylene is "probably carcinogenic to humans."

Is there a medical test to show whether I've been exposed to trichloroethylene?

If you have recently been exposed to trichloroethylene, it can be detected in your breath, blood, or urine. The breath test, if it is performed soon after exposure, can tell if you have been exposed to even a small amount of trichloroethylene.

Exposure to larger amounts is assessed by blood and urine tests, which can detect trichloroethylene and many of its breakdown products for up to a week after exposure. However, exposure to other similar chemicals can produce the same breakdown products, so their detection is not absolute proof of exposure to trichloroethylene. This test isn't available at most doctors' offices, but can be done at special laboratories that have the right equipment.

Has the federal government made recommendations to protect human health?

The EPA has set a maximum contaminant level for trichloroethylene in drinking water at 0.005 milligrams per liter (0.005 mg/L) or 5 parts of TCE per billion parts water.

The EPA has also developed regulations for the handling and disposal of trichloroethylene.

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 100 parts of trichloroethylene per million parts of air (100 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: The ability of a substance to cause cancer.
CAS: Chemical Abstracts Service.
Evaporate: To change into a vapor or gas.
Milligram (mg): One thousandth of a gram.
Nonflammable: Will not burn.
ppm: Parts per million.
Sediment: Mud and debris that have settled to the bottom of a body of water.
Solvent: A chemical that dissolves other substances.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Trichloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

REFERENCE 66

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

TETRACHLOROETHYLENE
CAS # 127-18-4

Agency for Toxic Substances and Disease Registry ToxFAQs **September 1997**

This fact sheet answers the most frequently asked health questions (FAQs) about tetrachloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Tetrachloroethylene is a manufactured chemical used for dry cleaning and metal degreasing. Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is tetrachloroethylene?

(Pronounced tĕt′rə-klôr′ ō-ĕth′ə-lēn′)

Tetrachloroethylene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

Other names for tetrachloroethylene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at a level of 1 part tetrachloroethylene per million parts of air (1 ppm) or more, although some can smell it at even lower levels.

What happens to tetrachloroethylene when it enters the environment?

- Much of the tetrachloroethylene that gets into water or soil evaporates into the air.
- Microorganisms can break down some of the tetrachloroethylene in soil or underground water.
- In the air, it is broken down by sunlight into other chemicals or brought back to the soil and water by rain.
- It does not appear to collect in fish or other animals that live in water.

How might I be exposed to tetrachloroethylene?

- When you bring clothes from the dry cleaners, they will release small amounts of tetrachloroethylene into the air.
- When you drink water containing tetrachloroethylene, you are exposed to it.

How can tetrachloroethylene affect my health?

High concentrations of tetrachloroethylene (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.

Irritation may result from repeated or extended skin contact with it. These symptoms occur almost entirely in work (or hobby) environments when people have been accidentally exposed to high concentrations or have intentionally used tetrachloroethylene to get a "high."

In industry, most workers are exposed to levels lower than those causing obvious nervous system effects. The health effects of breathing in air or drinking water with low levels of tetrachloroethylene are not known.

Results from some studies suggest that women who work in dry cleaning industries where exposures to tetrachloroethyl-

ene can be quite high may have more menstrual problems and spontaneous abortions than women who are not exposed. However, it is not known if tetrachloroethylene was responsible for these problems because other possible causes were not considered.

Results of animal studies, conducted with amounts much higher than those that most people are exposed to, show that tetrachloroethylene can cause liver and kidney damage. Exposure to very high levels of tetrachloroethylene can be toxic to the unborn pups of pregnant rats and mice. Changes in behavior were observed in the offspring of rats that breathed high levels of the chemical while they were pregnant.

How likely is tetrachloroethylene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that tetrachloroethylene may reasonably be anticipated to be a carcinogen. Tetrachloroethylene has been shown to cause liver tumors in mice and kidney tumors in male rats.

Is there a medical test to show whether I've been exposed to tetrachloroethylene?

One way of testing for tetrachloroethylene exposure is to measure the amount of the chemical in the breath, much the same way breath-alcohol measurements are used to determine the amount of alcohol in the blood.

Because it is stored in the body's fat and slowly released into the bloodstream, tetrachloroethylene can be detected in the breath for weeks following a heavy exposure.

Tetrachloroethylene and trichloroacetic acid (TCA), a breakdown product of tetrachloroethylene, can be detected in the blood. These tests are relatively simple to perform. These tests aren't available at most doctors' offices, but can be performed at special laboratories that have the right equipment.

Because exposure to other chemicals can produce the same breakdown products in the urine and blood, the tests for breakdown products cannot determine if you have been exposed to tetrachloroethylene or the other chemicals.

Has the federal government made recommendations to protect human health?

The EPA maximum contaminant level for the amount of tetrachloroethylene that can be in drinking water is 0.005 milligrams tetrachloroethylene per liter of water (0.005 mg/L).

The Occupational Safety and Health Administration (OSHA) has set a limit of 100 ppm for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that tetrachloroethylene be handled as a potential carcinogen and recommends that levels in workplace air should be as low as possible.

Glossary

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Tetrachloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone:1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

REFERENCE 67

Bureau of
Environmental Health
Health Assessment Section
"To protect and improve the health of all Ohioans

Trichloroethylene (TCE)

(try- klor'oh eth'uh- leen)

Answers to Frequently Asked Health Questions

What is TCE?

TCE is a man-made chemical that is not naturally found in the environment. TCE is a non-flammable (does not burn), colorless liquid with a somewhat sweet odor and sweet, "burning" taste. It is mainly used as a cleaner in industry to remove grease from metal parts. TCE can also be found in common household items such as glues, paint removers, typewriter correction fluids and spot removers.

The biggest source of TCE in the environment comes from evaporation (changing from a liquid into a vapor/gas) when industries use TCE to remove grease from metals or when we use common household products that contain TCE. It can also contaminate soils and groundwater (underground drinking water) as the result of spills or improper disposal.

What happens to TCE in the environment?

- Upon contact with the air, TCE quickly evaporates and breaks down in the sunlight and oxygen.
- TCE quickly evaporates from the surface waters of rivers, lakes, streams, creeks and puddles.
- If large amounts of TCE are spilled on the ground, some of it will evaporate and some of it may leak down into the soils. When it rains, TCE can be carried through the soils and into the groundwater (drinking water).
- When TCE-contaminated groundwater is in an anaerobic (without oxygen) environment and with time, it will break down into different chemicals such as 1,2 Dichloroethene (1,2 DCE) and Vinyl Chloride (VC).
- TCE does not build up in plants and animals.
- TCE found in foods is believed to come from TCE contaminated water used in food processing or from food processing equipment cleaned with TCE.

How does TCE get into your body?

- Breathing (Inhalation): TCE can get into your body by breathing air contaminated with TCE vapors. The vapors can be released from the industrial use of TCE, from using household products that contain TCE, or by TCE contaminated water evaporating in the shower.
- Drinking (Ingestion): TCE can get into your body by drinking TCE contaminated water.
- Skin (Dermal): Small amounts of TCE can get into your body through skin contact. This can take place when using TCE as a cleaner-degreaser or by contact with TCE contaminated soils.

Can TCE make you sick?

Yes, you can get sick from TCE. But getting sick will depend on the following:

- How much you were exposed to (dose).
- How long you were exposed (duration).
- How often you were exposed (frequency).
- General Health, Age, Lifestyle Young children, the elderly and people with chronic (on-going) health problems are more at risk to chemical exposures.

How does TCE affect your health?

Breathing (Inhalation):

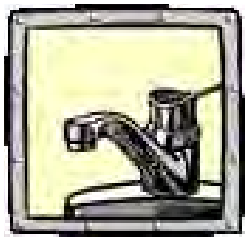
- Breathing high levels of TCE may cause headaches, lung irritation, dizziness, poor coordination (clumsy) and difficulty concentrating.
- Breathing very high levels of TCE for long periods may cause nerve, kidney and liver damage.

Drinking (Ingestion):

- Drinking high concentrations of TCE in the water for long periods may cause liver and kidney damage, harm the immune system and damage fetal heart development in pregnant women.
- It is uncertain whether drinking low levels of TCE will lead to adverse health effects.

Skin (Dermal) Contact:

- Short periods of skin contact with high levels of TCE may cause skin irritation and rash.



Does TCE cause cancer?

In September of 2011 the U.S. EPA revised their Integrated Risk Information System (IRIS) numbers for cancer and non-cancer effects for Trichloroethylene (TCE). The U.S. EPA newly revised IRIS document has classified TCE as "carcinogenic to humans." This classification is used when there is evidence between human exposure and cancer.

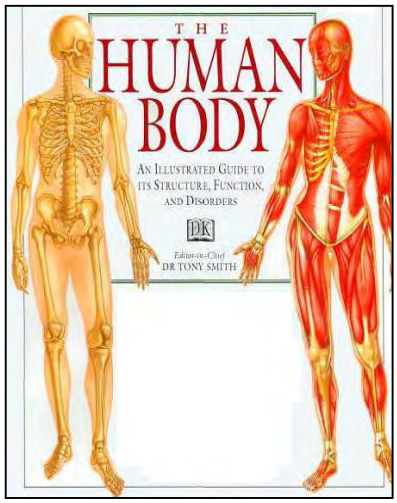
The National Toxicology Program's 12th Report on Carcinogens list TCE as *Reasonably Anticipated to be a Human Carcinogen*. **NOTE:** The 12th Report on Carcinogens was released prior to the release of the new EPA IRIS revision. It is likely the next Report on Carcinogens will reflect the EPA IRIS number changes.

Is there a medical test to show whether you have been exposed to TCE?

Yes, medical testing is available to determine recent exposure(s).

- TCE can be measured in your breath, but only if you have been exposed to ***large*** amounts (part per million -- ppm levels).
- Blood or urine samples can also be used, but only if you have been exposed to ***large*** amounts (part per million -- ppm levels).

TCE in the human body:



When chemicals enter the human body, they typically get broken down and eliminated through normal bodily functions. Some of the break down products (called metabolites) of TCE can be measured in your blood or urine. However, some of the same metabolites in your blood and urine can also be produced as a result of exposure to similar chemicals and other sources (diet, medications, environment, etc.). For this reason, blood and urine testing is not always an accurate measure of exposure to TCE.

It is important to note TCE and TCE's metabolites usually leave the body shortly after exposure, so the testing would only be useful for recent exposures. Also, testing may not be useful or reliable in determining whether people have been exposed to low-doses of TCE or whether they will experience any harmful health effects.

Has the federal government made recommendations to protect human health?

The federal government develops regulations and recommendations to protect public health and these regulations can be enforced by law.

Recommendations and regulations are periodically updated as more information becomes available. Some regulations and recommendations for TCE follow:

- ✓ On 09/28/2011 the U.S. EPA revised their Integrated Risk Information System (IRIS) numbers for Trichloroethylene (TCE) (CASRN 79-01-6) -- see below reference section for link --
- ➢ The Environmental Protection Agency (EPA) has set a maximum contaminant level (MCL) for TCE in drinking water at 0.005 milligrams per liter (0.005 mg/L) or 5.0 parts of TCE per billion parts water (5.0 ppb).
- ➢ The Occupational Safety and Health Administration (OSHA) have set an exposure limit of 100 ppm (or 100 parts of TCE per million parts of air) for a healthy adult, 8-hour workday, 40-hour workweek.
- ➢ The EPA has developed regulations for the handling and disposal of TCE.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological profile for TCE (electronic at) http://www.atsdr.cdc.gov/ToxProfiles/tp.asp?id=173&tid=30

Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, 2011 (electronic at http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf)

U.S. EPA Integrated Risk Information System (IRIS) for Trichloroethylene (TCE) (CASRN 79-01-6) http://www.epa.gov/iris/subst/0199.htm

The Ohio Department of Health is in cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), Public Health Service, U.S. Department of Health and Human Services.

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REFERENCE 68

WATER QUALITY OF THE POTOMAC-RARITAN-MAGOTHY AQUIFER SYSTEM IN THE COASTAL PLAIN, WEST-CENTRAL NEW JERSEY

By Elisabeth M. Ervin, Lois M. Voronin, and Thomas V. Fusillo

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U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 94-4113

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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

West Trenton, New Jersey
1994

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Gordon P. Eaton, Director

For additional information
write to:

District Chief
U.S. Geological Survey
Mountain View Office Park
810 Bear Tavern Road
Suite 206
West Trenton, NJ 08628

Copies of this report can be
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CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATED WATER-QUALITY UNITS

Multiply	By	To Obtain
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi^2)	2.590	square kilometer
foot per second (ft/s)	0.3048	meter per second
gallon per minute per foot (gal/min)/ft	0.2070	liter per second per meter of drawdown
gallons per minute (gal/min)	0.000063	cubic meters per second
foot squared per day (ft^2/d)	0.0929	meters squared per day
million gallons per day (Mgal/d)	3785	cubic meter per day

Temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$°F = 1.8\ (°C) + 32$$

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Abbreviated water-quality units used in this report: Chemical concentrations and water temperature are given in metric units. Chemical concentration is given in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter. For concentrations less than 7,000 mg/L, the numerical value is the same as for concentrations in parts per million.

Concentrations of major ions represented in Stiff diagrams in some of the illustrations are in milliequivalents per liter (meq/L).

Specific electrical conductance of water is expressed in microsiemens per centimeter (µS/cm) at 25 °C (degrees Celsius). This unit is equivalent to micromhos per centimeter (µmho/cm) at 25 °C, formerly used by the U.S. Geological Survey.

Readers who are unfamiliar with hydrologic terms are directed to the following glossaries and sources of information: Heath (1984), Freeze and Cherry (1979), and Lohman and others (1972).

WATER QUALITY OF THE POTOMAC-RARITAN-MAGOTHY AQUIFER SYSTEM IN THE COASTAL PLAIN, WEST-CENTRAL NEW JERSEY

By Elisabeth M. Ervin, Lois M. Voronin, and Thomas V. Fusillo

ABSTRACT

The Potomac-Raritan-Magothy aquifer system includes some of the most productive and extensive aquifers in the Coastal Plain of New Jersey. In 1983, 68 percent of all water withdrawn from the Coastal Plain aquifers was from this aquifer system. This study, started in 1980 and conducted by the U.S. Geological Survey in cooperation with the New Jersey Department of Environmental Protection and Energy, was designed to define the areal and vertical distribution of chemical constituents, to determine downdip water quality, and to identify possible threats to the aquifer system as a result of pumping and other human activities. The study area comprises parts of Mercer, Burlington, Camden, Gloucester, and Salem Counties.

Predevelopment ground-water flow was from recharge areas along the outcrop of the Potomac-Raritan-Magothy aquifer system in Mercer and Middlesex Counties through the aquifer system; ground water ultimately discharged to the Delaware River. Pumping has altered this flow pattern. A large cone of depression is centered on Camden, N.J. As a result, the direction of ground-water flow has reversed in some parts of the Potomac-Raritan-Magothy aquifer system, particularly along the Delaware River, allowing estuarine water to flow into the aquifer system.

Ground-water quality in the Potomac-Raritan-Magothy aquifer system results from a combination of predevelopment and present-day flow patterns. Hydrochemical facies correlate to a large extent with prepumping flow patterns; water near the recharge areas is enriched with calcium, magnesium, and sulfate. Downdip, a zone of bicarbonate and sodium and potassium-rich water is present where the sediments of the Potomac-Raritan-Magothy aquifer system have not been flushed with fresh recharge water.

Concentrations of many constituents and values of chemical properties, such as dissolved solids, dissolved sodium, dissolved chloride, and dissolved iron, and pH, reflect the predevelopment regional recharge and discharge patterns. Water downdip in the Potomac-Raritan-Magothy aquifer system tends to contain higher concentrations of dissolved solids than water in the outcrop area and is, therefore, less desirable for human consumption. High concentrations of dissolved iron in the outcrop area (greater than 0.3 milligrams per liter) have resulted in the abandonment of many wells.

Potential threats to the quality of water in the Potomac-Raritan-Magothy aquifer system include flow of downdip saline water toward areas of large ground-water withdrawals; intrusion of salty or saline water from the Delaware River as a result of drought or rising sea level; possible migration of poor-quality water from Philadelphia in response to changes in potentiometric-head relations; and continued contamination of the aquifer system, especially by purgeable organic compounds, in and near the outcrop area.

INTRODUCTION

The confined sand and gravel aquifers of the Potomac Group and Raritan and Magothy Formations that comprise the Potomac-Raritan-Magothy aquifer system are used extensively as sources of water in much of the Atlantic Coastal Plain of New Jersey. Withdrawals of more than 220 Mgal/d from these aquifers during 1983 for public-supply, industrial, commercial, and agricultural use represent approximately 68 percent of total ground-water withdrawals from the Coastal Plain aquifers in New Jersey. The greatest water use in 1983 was in Camden County (fig. 1), where 97 percent of all pumped water came from the Potomac-Raritan-Magothy aquifer system (C.L. Qualls, U.S. Geological Survey, oral commun., 1986).

Total withdrawal from the Potomac-Raritan-Magothy aquifer system in New Jersey has increased significantly since the early 1900's; withdrawals nearly doubled from 1956 to 1973 (Luzier, 1980, p. 2). The increased withdrawal has caused the potentiometric surface to decline over much of the aquifer system. Declines in the potentiometric surface have, in turn, resulted in the movement of poor-quality water[1] toward areas of major ground-water withdrawal. Potential sources of poor-quality water include saline water from the Delaware River estuary, water from industrially contaminated reaches of the Delaware River, water from contaminated parts of the aquifer system, and naturally occurring saline water in downdip parts of the aquifer system (Harbaugh, 1980, p. 2).

The U.S. Geological Survey (USGS), in cooperation with the New Jersey Department of Environmental Protection (NJDEP), collected, analyzed, and compiled water-quality data for the Potomac-Raritan-Magothy aquifer system in parts of Burlington, Camden, Gloucester, and Salem Counties in west central New Jersey to determine water quality in the aquifer system and to examine the effects of pumping and human activities on water quality. The study area (fig. 1) encompasses approximately 880 mi^2. Emphasis was on water quality in the downdip part of the aquifer system, defined as the area of the aquifer system outside and southeast of the generalized outcrop area of the Potomac Group and the Raritan and Magothy Formations (fig. 1).

Purpose and Scope

This report describes the areal and vertical distribution of chemical constituents in the aquifer system in relation to past and present ground-water-flow conditions, the quality of water in the downdip part of the aquifer system, and the effects of human activities on water quality.

The report is based on water-quality data collected from 1980-86 in the study area. Data from 1985 and 1986 were collected during this study, whereas data from 1980-84 were compiled from other reports (Fusillo and Voronin, 1981; Fusillo and others, 1984).

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[1] In this report, poor-quality water is water that is not suitable for human consumption because of elevated concentrations of one or more chemical constituents that exceed State/Federal drinking-water regulations.

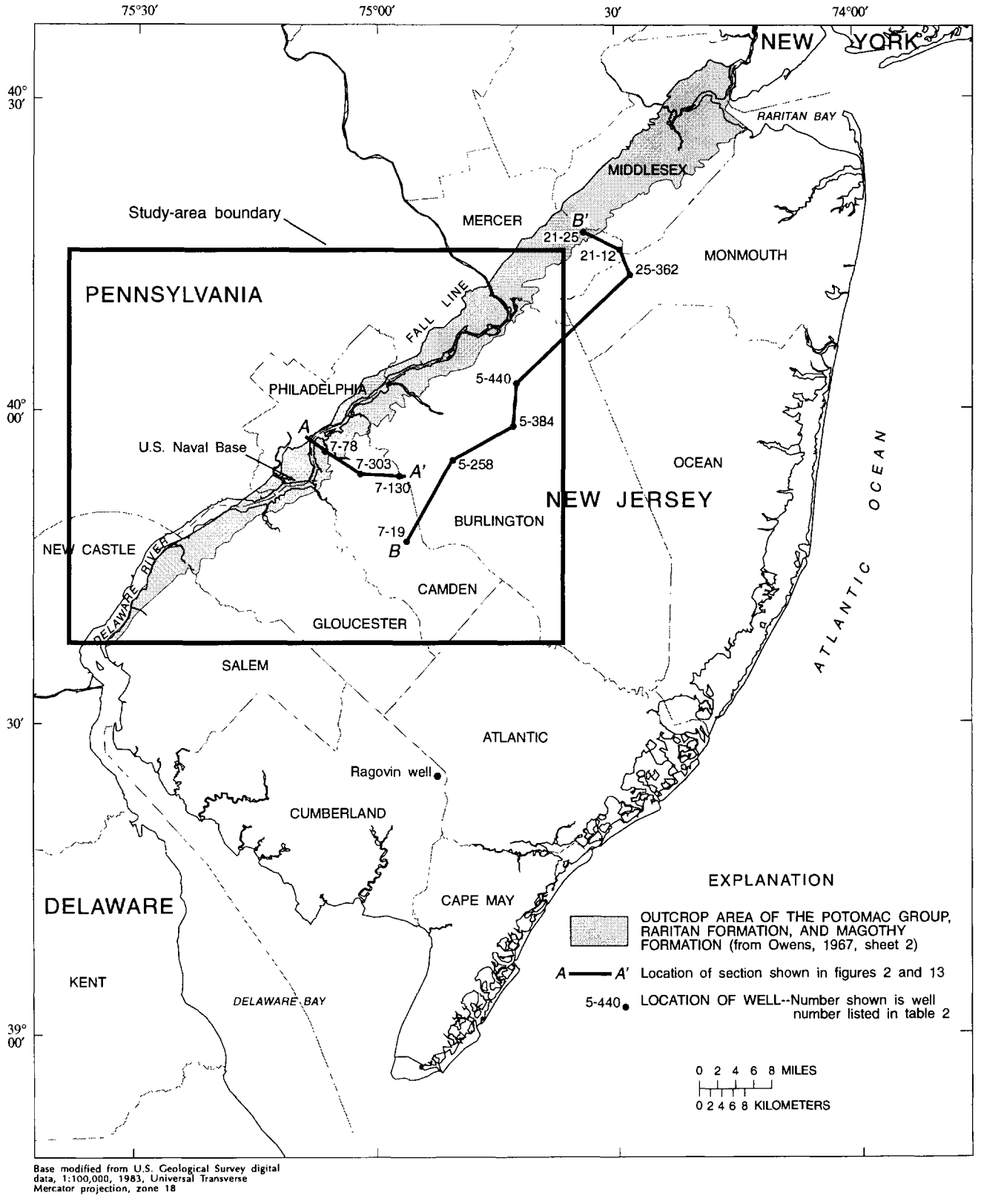


Figure 1.--Location of the study area.

Well-Numbering System

The well-numbering system used in this report is based on the numbering system used by the USGS in New Jersey and Pennsylvania. The well number consists of the county code and the sequence number of the well within the county. New Jersey county codes are numerical two digit codes: Burlington (05), Camden (07), Gloucester (15), Mercer (21), and Salem (33). Pennsylvania county codes are two-letter codes. In this report the only Pennsylvania county code used is for Philadelphia (PH). Examples of well numbers are 15-137 for the 137th well in Gloucester County, N.J., and PH-19 for the 19th well in Philadelphia County, Pa.

Previous Studies

The numerous studies on the ground-water resources of the Potomac-Raritan-Magothy aquifer system in New Jersey and surrounding areas include several countywide ground-water studies and regional studies that involved ground-water modeling. An overview of previous studies is presented below.

Thompson (1932) studied ground-water supplies, pumping rates, and the effect of pumping on ground-water quality of the Camden area. Graham and Kammerer (1952) studied the ground-water resources in the area of the U.S. Naval Base in Philadelphia and defined three aquifers and water-quality problems in the aquifers. Barksdale and others (1958) reported on the quality of water in the outcrop region of the aquifer system as compared to downdip water quality, especially in relation to cations and anions; these authors also discussed the occurrence and flow of highly mineralized ground water in Philadelphia and Camden Counties. Greenman and others (1961) studied the ground-water resources of the Coastal Plain in southeastern Pennsylvania and defined a gradual decline in the water quality of the aquifers in the Raritan and Magothy Formations (currently called the Potomac-Raritan-Magothy aquifer system) in Philadelphia County.

Vecchioli and Palmer (1962) studied the ground-water resources of Mercer County and reported on the water quality of the aquifer system. Rush (1968) described the water quality in Burlington County and recharge from the Delaware River to the aquifer system. Rosenau and others (1969) reported that the water quality in the Potomac-Raritan-Magothy aquifer system was highly variable in Salem County. Hardt and Hilton (1969) observed that water in the Potomac-Raritan-Magothy aquifer system in Gloucester County was suitable for public use in most of the county, owing to generally low concentrations of dissolved solids. Langmuir (1969) investigated the distribution of iron in the ground water of the Magothy and Raritan Formations in Camden and Burlington Counties. Farlekas and others (1976) reported that the water quality of the Potomac-Raritan-Magothy aquifer system in Camden County had changed over time (1923-70) as a result of human activities.

The intrusion of saline water has been a concern in and near the study area since the late 1950's, when Barksdale and others (1958) studied the potential for saltwater intrusion in the southern Coastal Plain. Other authors, including Seaber (1963), Parker and others (1964), Hardt and Hilton (1969), Rosenau and others (1969), Luzier (1980), and Schaefer (1983) have discussed this problem in relation to the Potomac-Raritan-Magothy aquifer system.

The Delaware Valley Regional Planning Commission (1979) listed 48 potential sources of ground-water contamination in the outcrop area of the aquifer system in Burlington, Camden, and Gloucester Counties; the 48 sites consisted of landfills, lagoons, and industrial storage areas. Luzier (1980) developed a single-layer, two-dimensional finite-difference digital model to simulate the response of the Potomac-Raritan-Magothy aquifer system to pumping stress. Harbaugh and others (1980) used Luzier's model of the Potomac-Raritan-Magothy aquifer system to simulate the effects of supplementing ground-water supplies with water from the Delaware River. McAuley and Kendall (1989) used data on the stable isotopes deuterium and oxygen-18 to trace induced recharge from the Delaware River into the Potomac-Raritan-Magothy aquifer system in the Camden area.

Acknowledgments

The authors are grateful for the cooperation of public officials, industry representatives, and individuals who provided information on their wells and allowed access for the collection of water samples.

HYDROGEOLOGIC SETTING

The Atlantic Coastal Plain in New Jersey is a region of mostly low relief that is characterized by broad plains and gently sloping hills and ridges. The Coastal Plain is underlain by a wedge-shaped mass of unconsolidated, stratified sediments composed of gravel, sand, silt, and clay. These sediments dip toward the Atlantic Ocean and range in thickness from nearly zero at the updip limit of the sediments at the Fall zone to 6,500 ft in Cape May County (Gill and Farlekas, 1976).

Geologic Formations of the New Jersey Coastal Plain

The formations of the Coastal Plain range in age from Cretaceous to Holocene, and lie unconformably on a basement complex composed largely of Precambrian and lower Paleozoic crystalline rocks. The geologic units of primary interest to this study are the Potomac Group, the Raritan and Magothy Formations, the Merchantville Formation, and the Woodbury Clay, all of Cretaceous age (table 1). These deposits, the oldest in the Coastal Plain, overlie the crystalline rocks of the Precambrian Wissahickon Formation and consist of sand and gravel interbedded with silt and clay units. The formations are exposed at or near the surface in a narrow band along the Delaware River in New Jersey and Pennsylvania (fig. 1). The sediments average 250 ft in thickness near the outcrop area and attain a maximum thickness in excess of 4,000 ft at Cape May (Gill and Farlekas, 1976). The formations contain a relatively high percentage of sand near the outcrop area (57 to 67 percent) in Camden County and less sand (37 percent) downdip (Farlekas and others, 1976, p. 18).

The Potomac Group is present at the base of the Coastal Plain stratigraphic section and in the Delaware River Valley from Trenton to Salem, N.J.; its geology and depostional history are similar to those of the overlying Raritan Formation (both are fluvial-continental deposits). The Potomac Group consists of alternating layers of unconsolidated sand, clay, and gravel.

Table 1.--Geologic and hydrogeologic units in the study area

[Modified from Zapecza, 1989, table 2]

SYSTEM	SERIES	GEOLOGIC UNIT	LITHOLOGY	HYDROGEOLOGIC UNIT		HYDROLOGIC CHARACTERISITICS
Quaternary	Holocene	Alluvial deposits	Sand, silt, and black mud	Undifferentiated		Surficial material, commonly hydraulically connected to underlying aquifers. Locally some units may act as confining units. Thicker sands are capable of yielding large quantities of water
		Beach sand and gravel	Sand, quartz, light-colored, medium- to coarse-grained, pebbly			
	Pleistocene	Cape May Formation	Sand, quartz, light-colored, heterogeneous, clayey, pebbly			
Tertiary	Miocene	Pensauken Formation				
		Bridgeton Formation				
		Beacon Hill Gravel	Gravel, quartz, light-colored, sandy	Kirkwood-Cohansey aquifer system		A major aquifer system. Ground water occurs generally under water-table conditions. In Cape May County the Cohansey Sand is under artesian conditions
		Cohansey Sand	Sand, quartz, light-colored, medium- to coarse-grained, pebbly; local clay beds			
		Kirkwood Formation	Sand, quartz, gray and tan, very fine- to medium-grained, micaceous, and dark-colored diatomaceous clay	Confining unit		Thick diatomaceous clay bed occurs along coast and for a short distance inland. A thin water-bearing sand is present in the middle of this unit
				Rio Grande water-bearing zone		
				Confining unit		
				Atlantic City 800-foot sand		A major aquifer along the coast
	Oligocene	Piney Point Formation [1] / Shark River Formation	Sand, quartz and glauconite, fine- to coarse-grained	Composite confining unit		Poorly permeable sediments
	Eocene				Piney Point aquifer	Yields moderate quantities of water
		Manasquan Formation	Clay, silty and sandy, glauconitic, green, gray, and brown, contains fine-grained quartz sand			Poorly permeable sediments
	Paleocene	Vincentown Formation	Sand, quartz, gray and green, fine- to coarse-grained, glauconitic, and brown clayey, very fossiliferous, glauconite and quartz calcarenite		Vincentown aquifer	Yields small to moderate quantities of water in and near its outcrop area
		Homerstown Sand	Sand, clayey, glauconitic, dark green, fine- to coarse-grained			Poorly permeable sediments
Cretaceous	Upper Cretaceous	Tinton Sand	Sand, quartz, and glauconite, brown and gray, fine- to coarse-grained, clayey, micaceous			
		Red Bank Sand			Red Bank Sand	Yields small quantities of water in and near its outcrop area
		Navesink Formation	Sand, clayey, silty, glauconitic, green and black, medium- to coarse-grained			Poorly permeable sediments
		Mount Laurel Sand	Sand, quartz, brown and gray, fine- to coarse-grained, slightly glauconitic	Wenonah-Mount Laurel aquifer		A major aquifer
		Wenonah Formation	Sand, very fine- to fine-grained, gray and brown, silty, slightly glauconitic	Marshalltown-Wenonah confining unit		A leaky confining unit
		Marshalltown Formation	Clay, silty, dark greenish-gray, glauconitic quartz sand			
		Englishtown Formation	Sand, quartz, tan and gray, fine- to medium-grained; local clay beds	Englishtown aquifer system		A major aquifer. Two sand units in Monmouth and Ocean Counties
		Woodbury Clay	Clay, gray and black, micaceous silt	Merchantville-Woodbury confining unit		A major confining unit. Locally the Merchantville Formation may contain a thin water-bearing sand
		Merchantville Formation	Clay, glauconitic, micaceous, gray and black; locally very fine-grained quartz and glauconitic sand			
		Magothy Formation	Sand, quartz, light-gray, fine- to coarse-grained. Local beds of dark-gray lignitic clay. Includes Old Bridge Sand Member	Potomac-Raritan-Magothy aquifer system	Upper aquifer	A major aquifer system. In the northern Coastal Plain, the upper aquifer is equivalent to the Old Bridge aquifer and the middle aquifer is equivalent to the Farrington aquifer. In the Delaware River Valley, three aquifers are recognized. In the deeper subsurface, units below the upper aquifer are undifferentiated
		Raritan Formation	Sand, quartz, light-gray, fine- to coarse-grained pebbly arkosic; contains red, white, and variegated clay. Includes Farrington Sand Member		Confining unit	
					Middle aquifer	
	Lower Cretaceous	Potomac Group	Alternating clay, silt, sand, and gravel		Confining unit	
					Lower aquifer	
Pre-Cretaceous		Bedrock	Precambrian and Lower Paleozic crystalline rocks, metamorphic schist and gneiss; locally Triassic sandstone and shale and Jurassic diabase are present	Bedrock confining unit		No wells obtain water from these consolidated rocks, except along Fall Line

[1] of Olsson and others, 1980

The Raritan Formation overlies the Potomac Group and is typically composed of light-colored, medium- to coarse-grained quartzose sand that contains some gravel and clay (Barksdale and others, 1958). The Woodbridge Clay is the predominant clay in this formation. In the outcrop area, adjacent to the Delaware River, the sediments of the Raritan Formation are highly variable vertically and horizontally.

The Magothy Formation, which lies unconformably on the Raritan Formation, typically consists of marine and nearshore deposits of dark-gray or black clay that contains alternating beds of white micaceous fine-grained sand (Barksdale and others, 1958).

The Merchantville Formation lies unconformably on the Magothy Formation and is conformably overlain by the Woodbury Clay. The Merchantville Formation is typically a green to black glauconitic micaceous clay that contains beds and lenses of quartzose or glauconitic sandy clay. The Woodbury Clay is composed of dark-gray to black clay. The unit is distinguished from the Merchantville Formation by a greater concentration of clay and a much lower concentration of glauconitic sand. Fossil evidence indicates that both formations are of marine origin (Owens and Sohl, 1969). The combined thickness of the Merchantville Formation and the Woodbury Clay is approximately 100 ft in the outcrop and more than 300 ft near the Atlantic Coast (Luzier, 1980).

Potomac-Raritan-Magothy Aquifer System

Many of the geologic formations in the Coastal Plain contain aquifers capable of yielding moderate to large quantities of water; however, the Potomac-Raritan-Magothy aquifer system is the largest and most productive of these. The aquifers contained in the Potomac Group and the Raritan and Magothy Formations generally are confined; however, the aquifers can be unconfined in parts of the outcrop area. The aquifers and the confining units might not correspond exactly to the geologic formations of similar names. At the Ocean and Atlantic County coastlines, a minimum of 2,000 ft of sediment separates the bottom of the Atlantic Ocean from the top of the Potomac-Raritan-Magothy aquifer system (Martin, 1990).

The Potomac-Raritan-Magothy aquifer system in the study area (fig. 1) has been subdivided into a major confining layer--the Merchantville-Woodbury confining unit--and three aquifer units, termed upper, middle, and lower aquifers (Zapecza, 1989; E.O. Regan, U.S. Geological Survey, written commun., 1986). A generalized hydrologic section through the aquifer system is shown in figure 2.

The Merchantville-Woodbury confining unit is poorly permeable and forms an extensive confining layer throughout the Coastal Plain. Significant volumes of water can be transmitted through the confining unit, however, if large differences in potentiometric head exist between overlying and underlying aquifers. This unit separates the Potomac-Raritan-Magothy aquifer system from the overlying Englishtown aquifer system. Where the Englishtown aquifer system is absent, the Merchantville-Woodbury confining unit separates the Wenonah-Mount Laurel aquifer from the Potomac-Raritan-Magothy aquifer system.

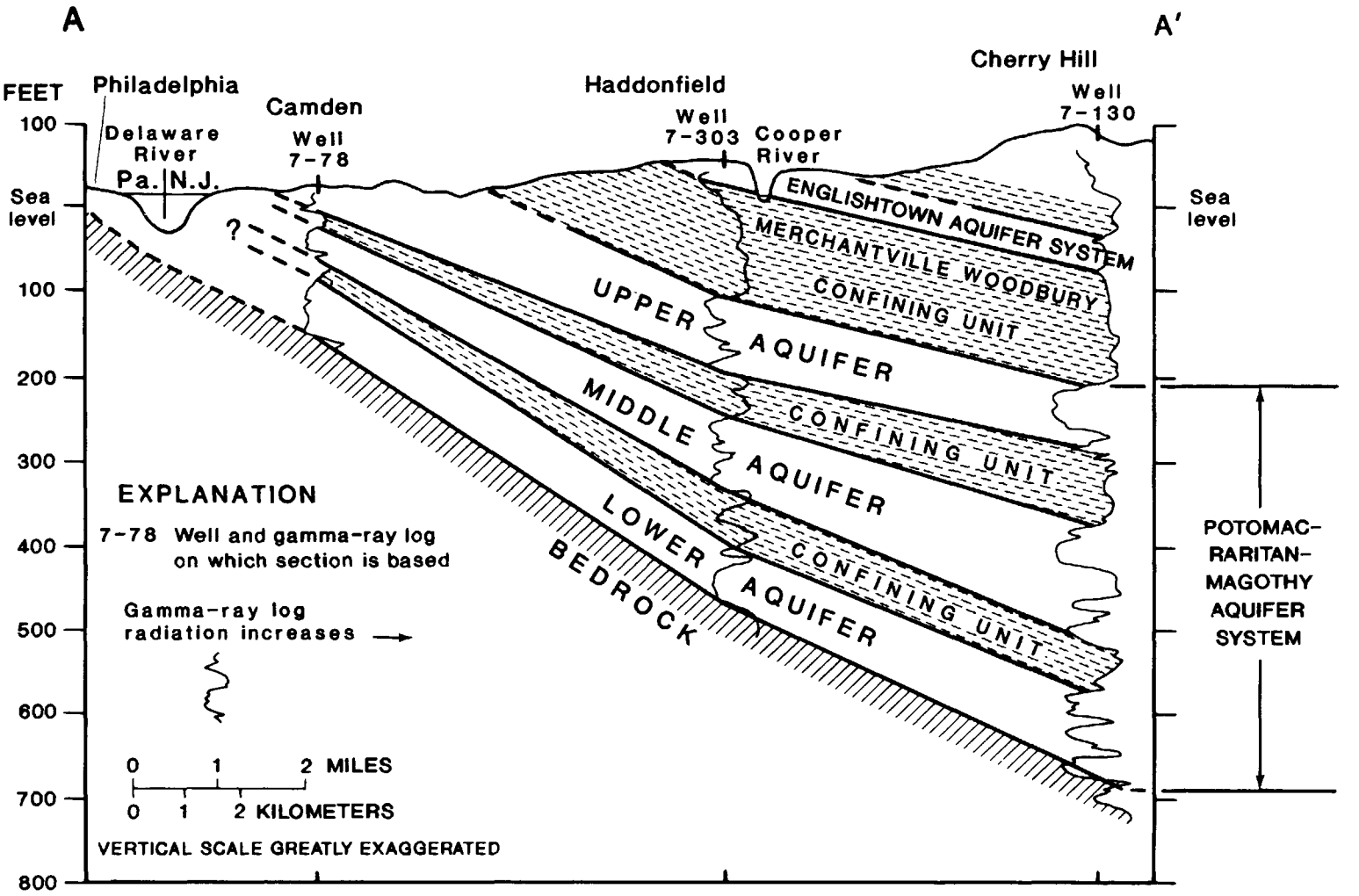


Figure 2.--Generalized hydrogeologic section A-A' through the study area. (Location of section shown in fig. 1.)

The upper aquifer is the most extensive of the three aquifers, and most nearly corresponds to the Magothy Formation. It crops out in a narrow band east of the Delaware River from Trenton to Penns Grove, N.J. In this area it is unconfined and is recharged directly by precipitation and by vertical leakage from discontinuous overlying post-Cretaceous sands and gravels. The upper aquifer is composed of coarse-grained sediments and thin, localized, clay beds. East of the outcrop, the upper aquifer is confined beneath the Merchantville-Woodbury confining unit. The thickness of the upper aquifer ranges from 100 ft near the outcrop in Salem County to 350 ft in the northeastern Coastal Plain (Zapecza, 1989).

The confining unit between the upper and middle aquifers ranges in thickness from 20 ft in Camden and Gloucester Counties to 50 ft in Burlington County. The general thickness of the confining unit is 50 ft in the outcrop area; in the southeastern part of the study area, the thickness ranges from 150 to 200 ft (Zapecza, 1989).

The middle aquifer crops out in a narrow band adjacent to and beneath the Delaware River. This aquifer is unconfined in Burlington County and in Pennsylvania; elsewhere in New Jersey, it is confined. The percentage of sand and the thickness of the middle aquifer are variable. The unit also contains silt and clay layers (Zapecza, 1989). The middle aquifer ranges in thickness from a few feet to 230 ft and the sand content ranges from 60 to 100 percent.

The confining unit between the middle and the lower aquifers consists of very fine-grained silts and clays; it is generally less than 50 ft thick over half of its mappable extent (Zapecza, 1989). Near the river, the silts and clays of this unit are less than 50 ft thick (H.E. Gill and G.M. Farlekas, U.S. Geological Survey, written commun., 1970). The confining unit thickens downdip in a nonuniform manner, as a result of lensing, to a total thickness of greater than 100 ft (Zapecza, 1989). The limited extent of this confining unit and the similarity in heads in the middle and lower aquifers (Walker, 1983) indicate the presence of a hydraulic connection between the two aquifers.

The lower aquifer contains sediments of the Raritan Formation and the Potomac Group. In Salem County, the lower aquifer appears to be equivalent to the lower hydrologic zone of the Potomac Group (Zapecza, 1989). This aquifer is the most limited in extent of the three aquifers, and it is not known to crop out in New Jersey. E.O. Regan (U.S. Geological Survey, written commun., 1986) confirmed that the lower aquifer is present beneath the Delaware River and provides a connection between the Potomac-Raritan-Magothy aquifer system in Pennsylvania and New Jersey. In the northern part of the study area, near Mount Holly, N.J., the lower aquifer thins and pinches out against the crystalline basement rock. The updip extent of the lower aquifer is shown on plates 1C-7C. The percentage of sand ranges from 37 to 100, and the average sand content exceeds 70 percent. The lower aquifer attains a maximum thickness of 250 ft in Camden and Gloucester Counties (Zapecza, 1989).

Aquifer Characteristics

The Potomac-Raritan-Magothy aquifer system yielded more than 80 x 10^9 gallons throughout the Coastal Plain in 1983 (C.L. Qualls, U.S. Geological Survey, oral commun., 1986). The average yield of 106 large-diameter wells (diameter 12 inches or greater) in Camden County is 1,085 gal/min, and the average specific capacity is 29.3 (gal/min)/ft (Farlekas and others, 1976, p. 38). The results of aquifer tests in Burlington, Camden, and Gloucester Counties indicate that the transmissivity of individual aquifers ranges from 2,300 to 31,000 ft^2/d (Hantush, 1960). The storage coefficient ranges from 3.3 x 10^{-5} to 4.0 x 10^{-3} (Gill and Farlekas, 1976).

Predevelopment Ground-Water Flow

Regional ground-water flow before development was controlled by recharge to two areas of the outcrop at high altitudes in Mercer and Middlesex Counties (figs. 3 and 4) (Barksdale and others, 1958) and by areally distributed leakage from the Englishtown Formation through the Merchantville-Woodbury confining unit (H.E. Gill and G.M. Farlekas, U.S. Geological Survey, written commun., 1969). Maps of the simulated predevelopment potentiometric surfaces are shown in figures 3 to 5 for the upper, middle, and lower aquifers, respectively. These maps are based on results from the Regional Aquifer System Analysis (RASA) model (Martin, 1990). Water-level altitudes exceeded 70 ft above sea level in the middle and upper units in the recharge areas. In the outcrop area, local flow patterns were complex because of variations in topography and geology. Much of the precipitation entering the unconfined aquifer in low-lying areas was discharged into streams crossing the outcrop area.

The simulated predevelopment flow patterns in the Potomac-Raritan-Magothy aquifer system are supported by carbon-14 dating (Winograd and Farlekas, 1974). The distribution of carbon-14 concentrations within the aquifer system approximated the prepumping potentiometric contours shown in figures 3 to 5.

Before development, leakage through the Merchantville-Woodbury confining unit was the major source of recharge to the aquifer system between Trenton, N.J., and Wilmington, Del. (H.E. Gill and G.M. Farlekas, U.S. Geological Survey, written commun., 1969). Simulated heads in the overlying Englishtown and Wenonah-Mount Laurel aquifers are greater than 80 and 100 ft above sea level, respectively, near Lindenwold, Camden County (Martin, 1990). Downward vertical flow through the Merchantville-Woodbury clay would be possible as a result of the potentiometric-head differences of 60 and 80 ft between the Englishtown aquifer system and Wenonah-Mount Laurel aquifer, respectively, and the Potomac-Raritan-Magothy aquifer system. Under predevelopment conditions, potentiometric heads in the three aquifers of the Potomac-Raritan-Magothy aquifer system were within 10 feet of each other (Martin, 1990); therefore, under the prepumping scenerio, the aquifers can be considered as a single hydrologic unit.

In predevelopment flow-budget simulations for the upper aquifer (Martin 1990), discharge to the Delaware River is exceeded only slightly by downward flow to the middle aquifer. Similar simulations demonstrate that discharge to the Delaware River exceeds all other outflow from the middle and lower aquifers.

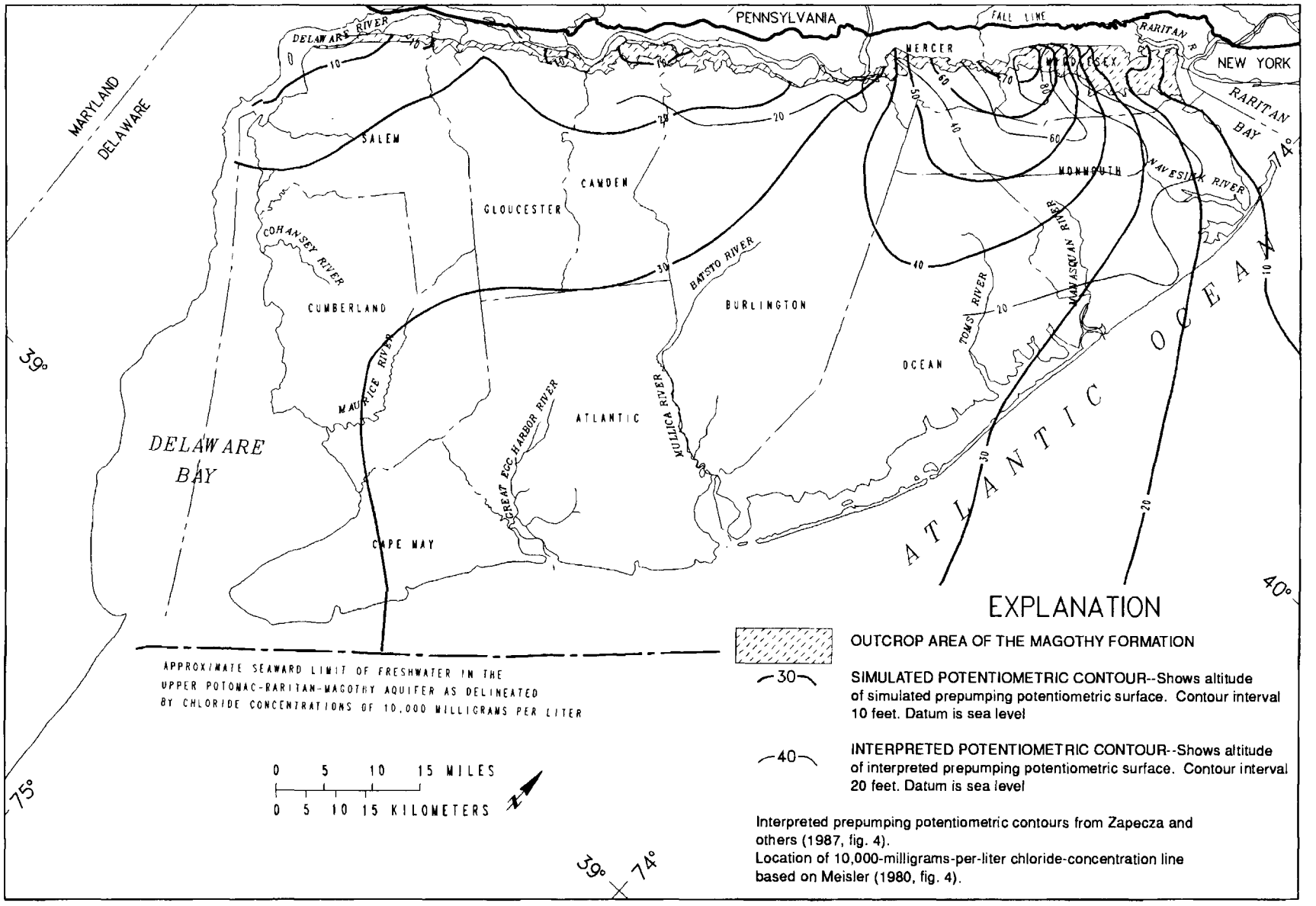


Figure 3.--Simulated and interpreted predevelopment potentiometric surfaces the upper aquifer,in Potomace-Raritan-Magothy aquifer system, 1983. (Modified from Martin, 1990, fig. 32)

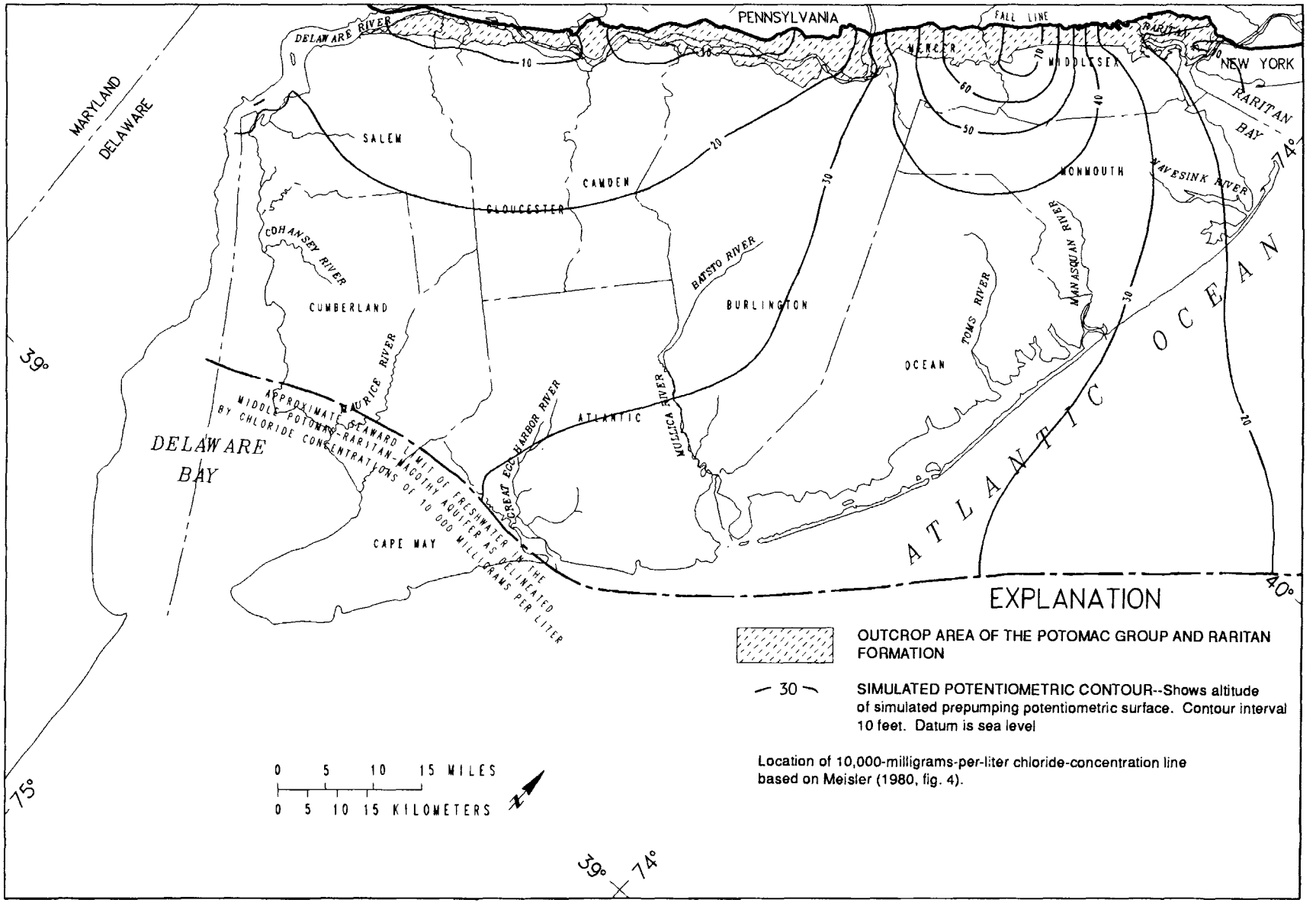


Figure 4.--Simulated predevelopment potentiometric surface in the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1983. (Modified from Martin, 1990, fig. 31)

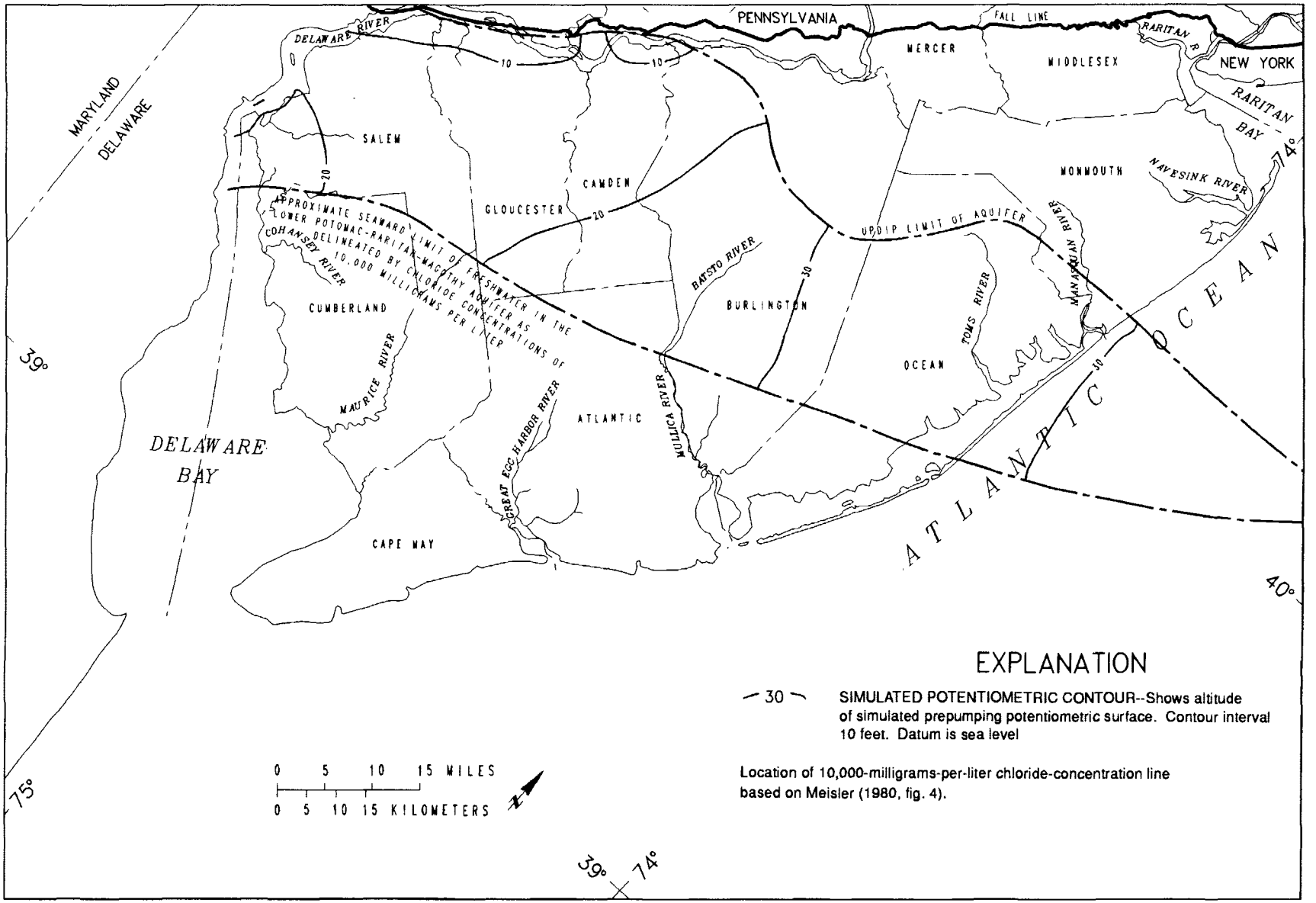


Figure 5.--Simulated predevelopment potentiometric surface in the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1983. (Modified from Martin, 1990, fig. 30)

Present-Day Ground-Water Flow

Ground-water withdrawals have significantly changed the distribution of potentiometric heads in the aquifer system. Average yearly withdrawals from the upper, middle and lower aquifers from 1920-80 in Burlington, Camden, and Gloucester Counties are shown in figure 6. These ground-water withdrawals have reversed the flow patterns in much of the aquifer system, especially in and near the outcrop area.

The potentiometric surfaces in the upper, middle, and lower aquifers in 1983 are shown in figures 7 to 9. In the upper and middle aquifers, the potentiometric surface in the recharge area in Mercer and Middlesex Counties is above sea level and has changed little since 1900 (figs. 3 to 5). A regional cone of depression--the result of ground-water withdrawals for public supply, industry, and irrigation--is present in all three aquifers of the Potomac-Raritan-Magothy aquifer system in central Camden and southwestern Burlington Counties. This cone is located where overlying aquifers, such as the Englishtown aquifer system, appear to be leaking. The associated potentiometric heads at this location in the aquifer system are more than 80 ft below sea level. The decline in potentiometric heads in this area represents a change of 90 to 100 ft from simulated predevelopment conditions (figs. 3 to 5).

Another major cone of depression is in the middle aquifer in southwestern Salem County, where water levels have declined to 70 ft below sea level near Artificial Island. Several smaller cones of depression (figs. 7 to 9) indicate locally large withdrawals from the aquifer system.

Changes in the distribution of potentiometric heads have resulted in a reversal of the predevelopment ground-water-flow directions adjacent to the Delaware River. The 1983 potentiometric surfaces and data from other sources (Greenman and others, 1961; Barksdale and others, 1958) indicate that flow patterns have changed and that ground water presently is flowing southeast from the river into the aquifer system, especially in areas of extensive pumping. Changes in flow directions in the upper, middle, and lower aquifers also are evident from simulations of 1978 ground-water-flow conditions (Martin, 1990). Results of these simulations demonstrate that the aquifer system receives recharge from the Delaware River and verify that pumping is responsible for most of the outflow from the aquifer system.

Results of simulations by Vowinkel and Foster (1981) indicate that the area of greatest inflow from the Delaware River during 1973-78 was the area adjacent to Camden, where recharge to the aquifer system was approximately 39 ft^3/s in 1973 and 42 ft^3/s in 1978. In addition, inflow along the river in the northeastern part of Gloucester County was approximately 34 ft^3/s in 1973 and in 1978.

Reversal of flow directions--especially near the Potomac-Raritan-Magothy aquifer system outcrop area--affects the quality of water in the aquifer system. Contaminated water could be drawn into these aquifers from parts of the outcrop area on the New Jersey and Philadelphia sides of the river. The inflow of water from the Delaware River to the aquifer system could dilute contaminated water being drawn in from the outcrop area.

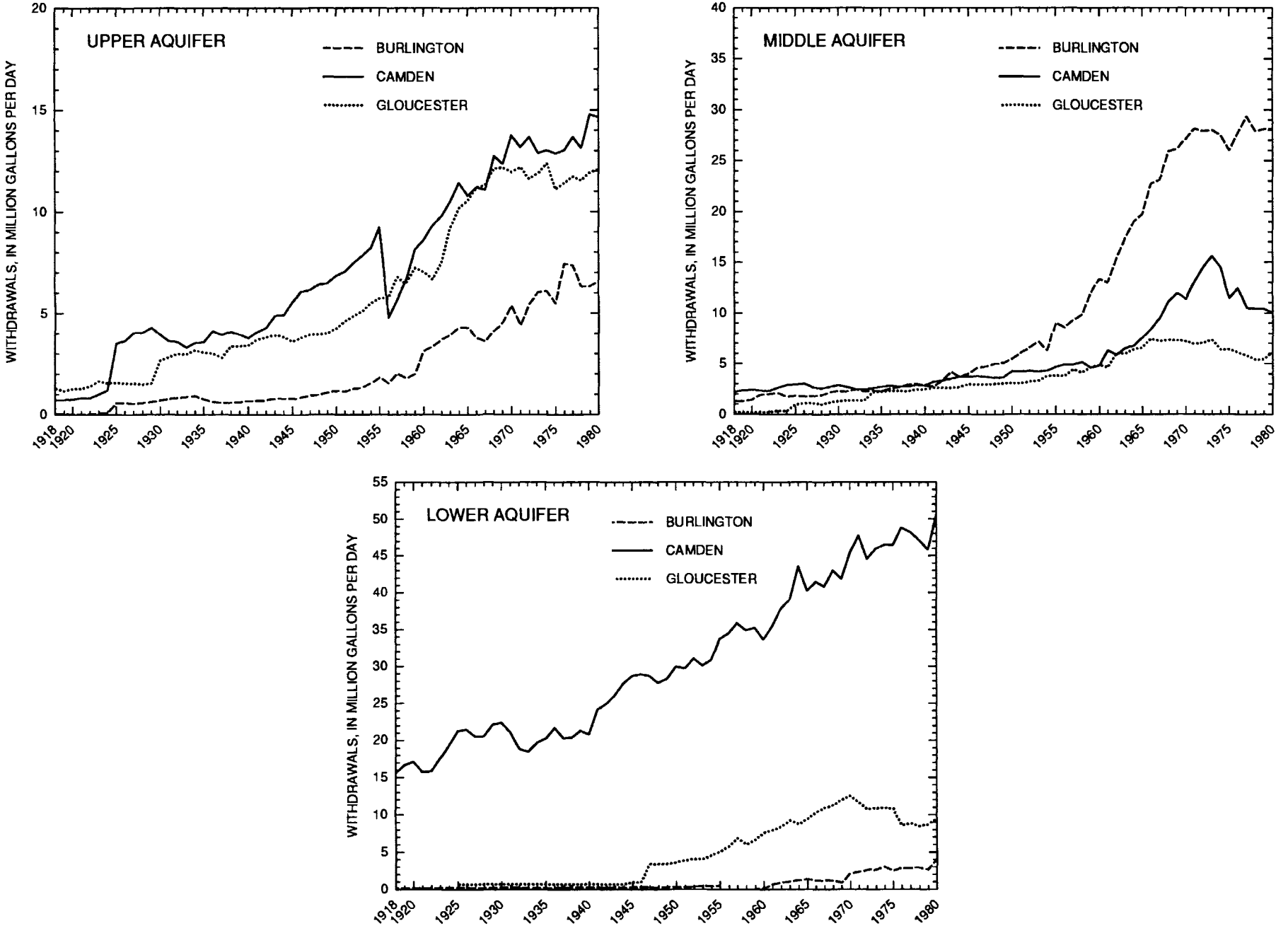


Figure 6.--Average yearly ground-water withdrawals from the Potomac-Raritan-Magothy aquifer system in Burlington, Camden, and Gloucester Counties, New Jersey, 1920-80.

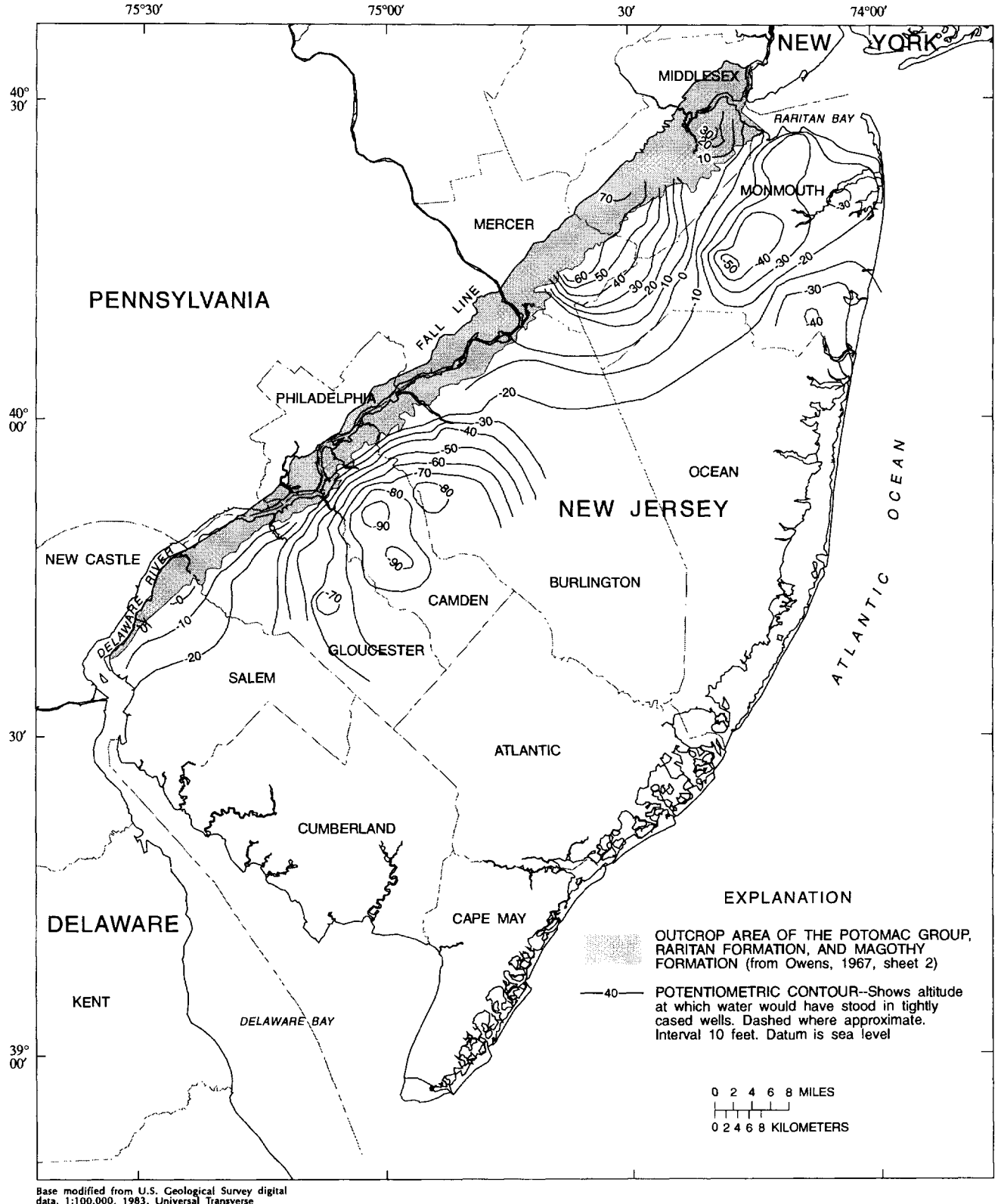


Figure 7.--Potentiometric surface in the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1983. (Modified from Eckel and Walker, 1986, pl. 3.)

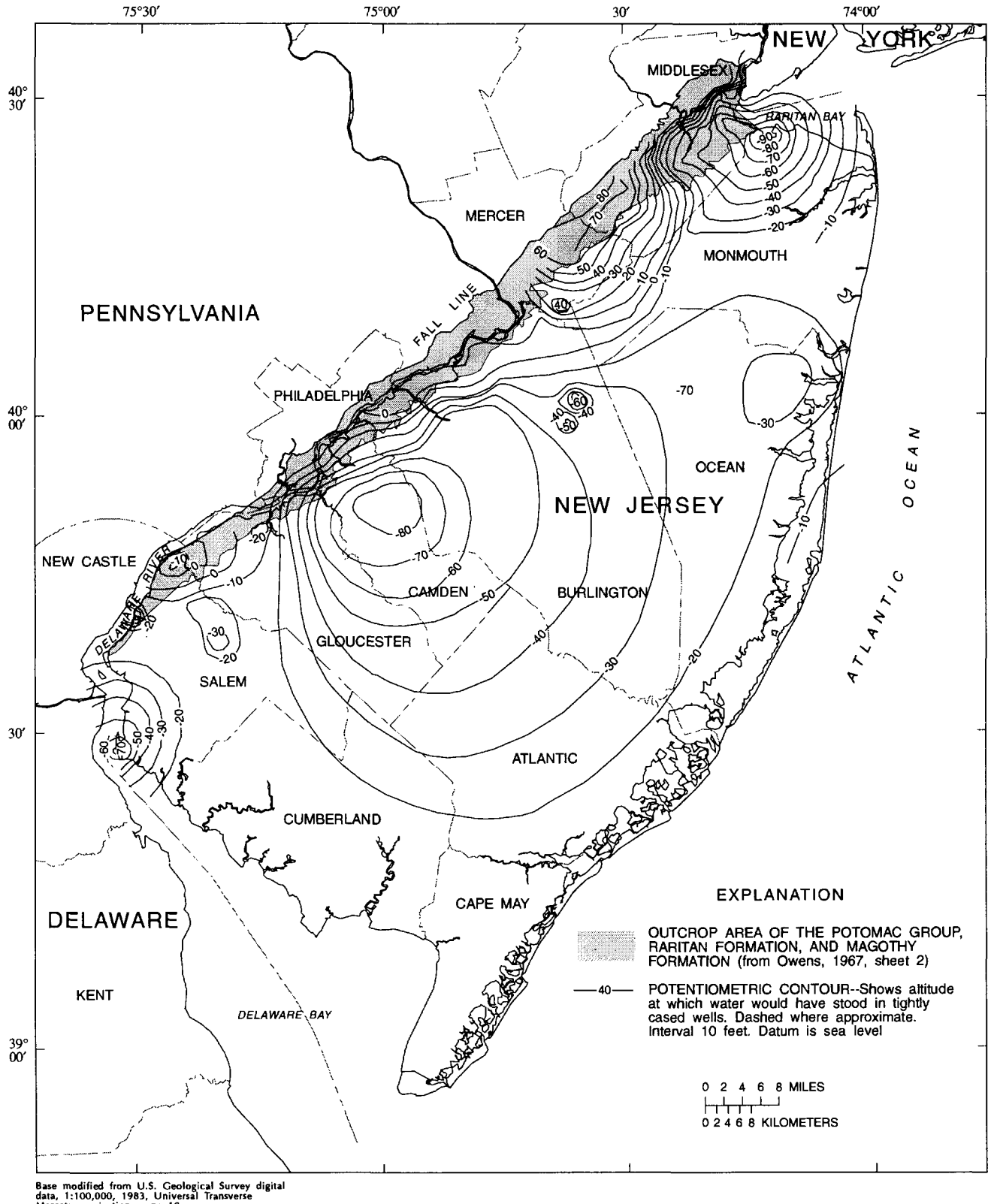


Figure 8.--Potentiometric surface in the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1983. (Modified from Eckel and Walker, 1986, pl. 4.)

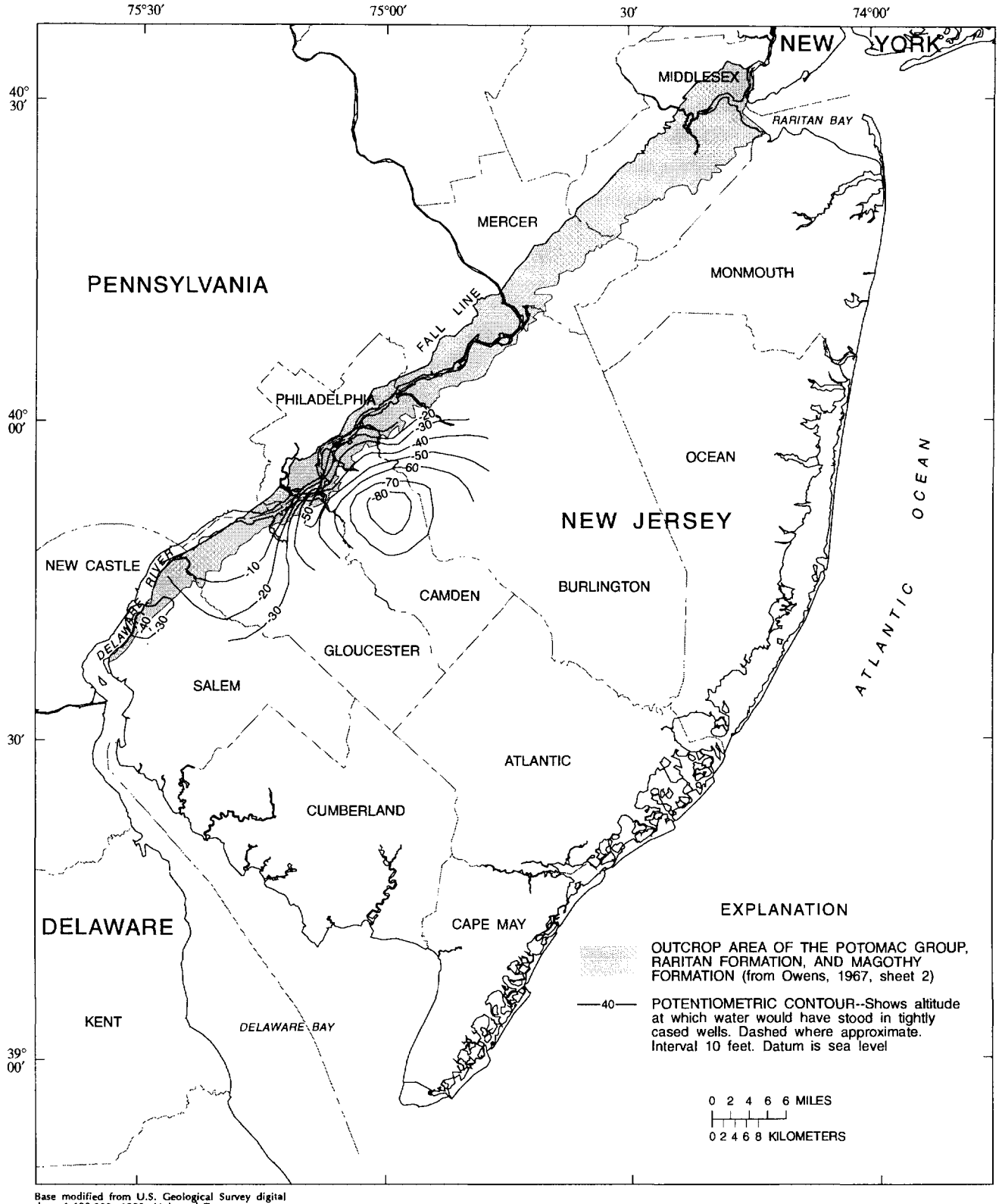


Figure 9.--Potentiometric surface in the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1983. (Modified from Eckel and Walker, 1986, pl. 5.)

The Potomac-Raritan-Magothy aquifer system can be divided into two regimes of flow--the active-flow area and an area of little flow in the downdip area. The active-flow area is that part of the aquifer system in which formation water has been flushed by fresh regional recharge in the predevelopment flow system. Flow paths downdip are long relative to the flow paths updip and little flushing of the formation water has occurred. Water in this downdip zone of little flow has been in the aquifers for a longer time than water in the recharge areas and contains higher concentrations of dissolved solids than does water in the active-flow area.

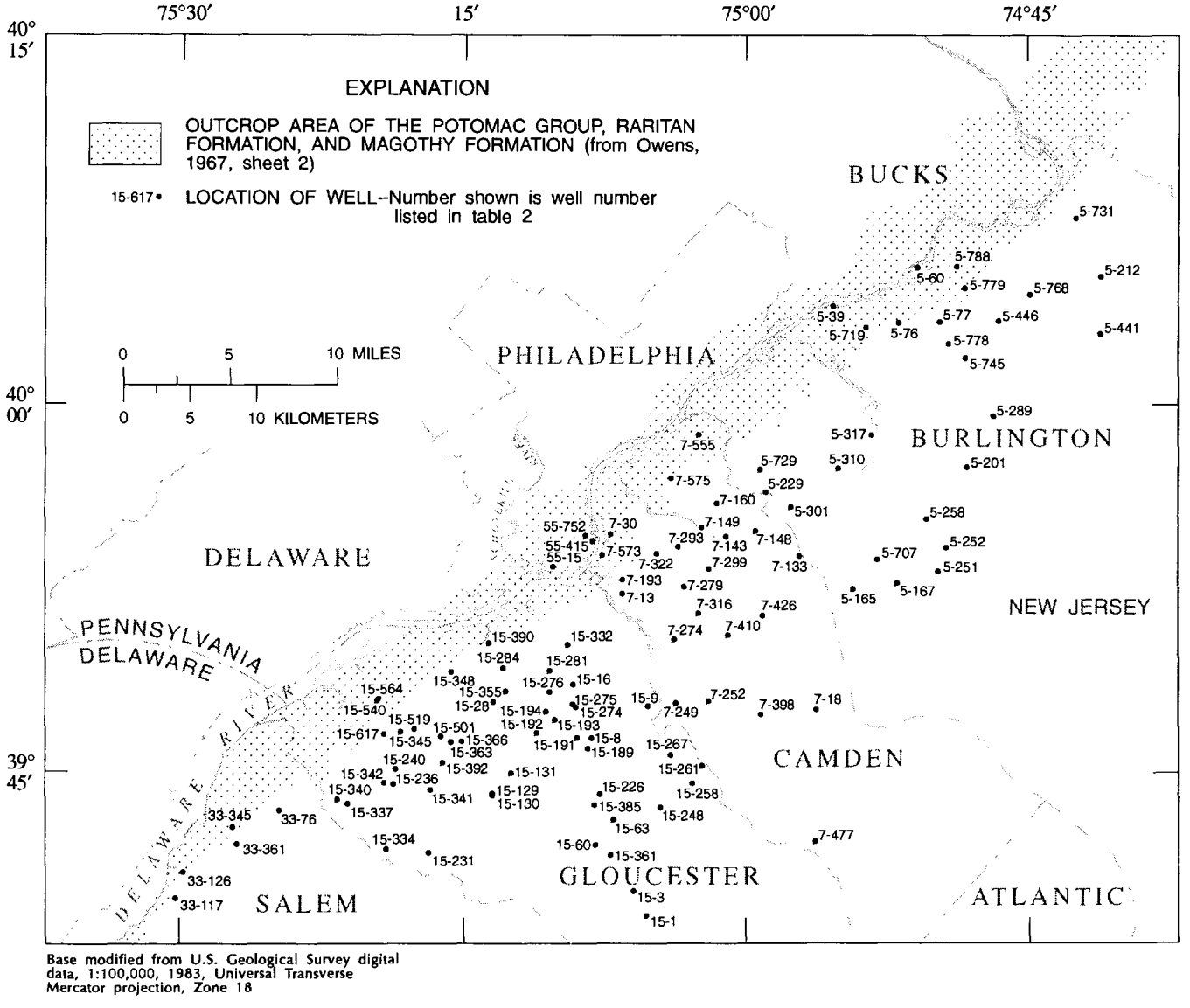
WATER QUALITY

Water-quality data for the Potomac-Raritan-Magothy aquifer system used in this report were collected during three sampling periods: June through December 1980, July through December 1982, and July 1985 through January 1986. A total of 356 wells was sampled; because some wells were sampled several times, a total of 503 water samples were collected. The wells sampled are in the outcrop area of the Potomac-Raritan-Magothy aquifer system from Trenton to Pennsville, as well as downdip in the confined part of the aquifer system.

The water samples collected during 1980-86 were analyzed for major and common inorganic ions, dissolved metals, nutrients, dissolved organic carbon (DOC), and purgeable organic compounds (POC's) at the USGS Central Laboratory in Arvada, Colo. Water samples were scanned for POC's by use of a gas chromatograph according to methods 601 and 602 of the U.S. Environmental Protection Agency (USEPA) (U.S. Environmental Protection Agency, 1982) at the USGS laboratory in Trenton, N.J. Water samples in which one or more compounds were detected were sent to the USGS Central Laboratory for additional analysis of POC's by means of gas chromatography/mass spectrometry.

The ground-water-quality data collected during 1980-82, as well as historic data for the study area, are reported in Fusillo and Voronin (1981) and Fusillo and others (1984). The latter report also summarizes chloride-concentration and specific-conductance data for wells sampled more than once. Surface-water-quality data are published in Hochreiter (1982).

Records of wells sampled in 1985 and 1986 for this study are listed in table 2 (at end of report). Some wells were previously assigned to different aquifers; changes in aquifer codes from those previously published by Fusillo and others (1984), based on later hydrostratigraphic studies of the Potomac-Raritan-Magothy aquifer system (E.O. Regan, U.S. Geological Survey, written commun., 1986; Zapecza, 1989), are listed in table 3 (at end of report). A statistical summary of water-quality data collected from 1985-86 is presented in table 4. Water-quality data for the sampling period 1985-86 (common constituents, trace elements, nutrients, and POC's) are listed in tables 5-8 (at end of report). The locations of wells at which samples were collected from the upper, middle, and lower aquifers are shown in figures 10-12. Water-quality data are stored in the USGS National Water-Data Storage and Retrieval System (WATSTORE).



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 10.--Location of wells for which water-quality data are available, upper aquifer, Potomac-Raritan-Magothy aquifer system.

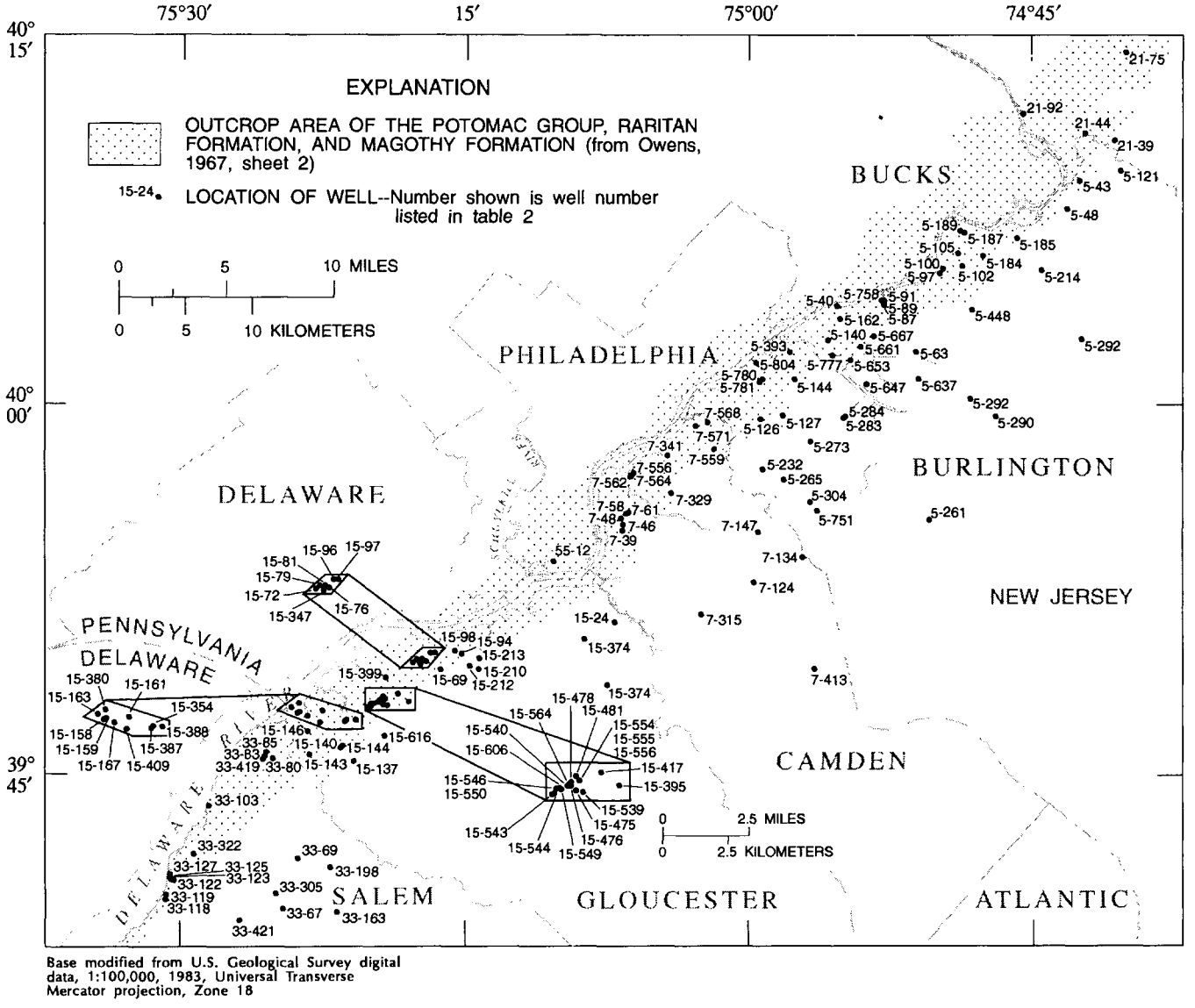
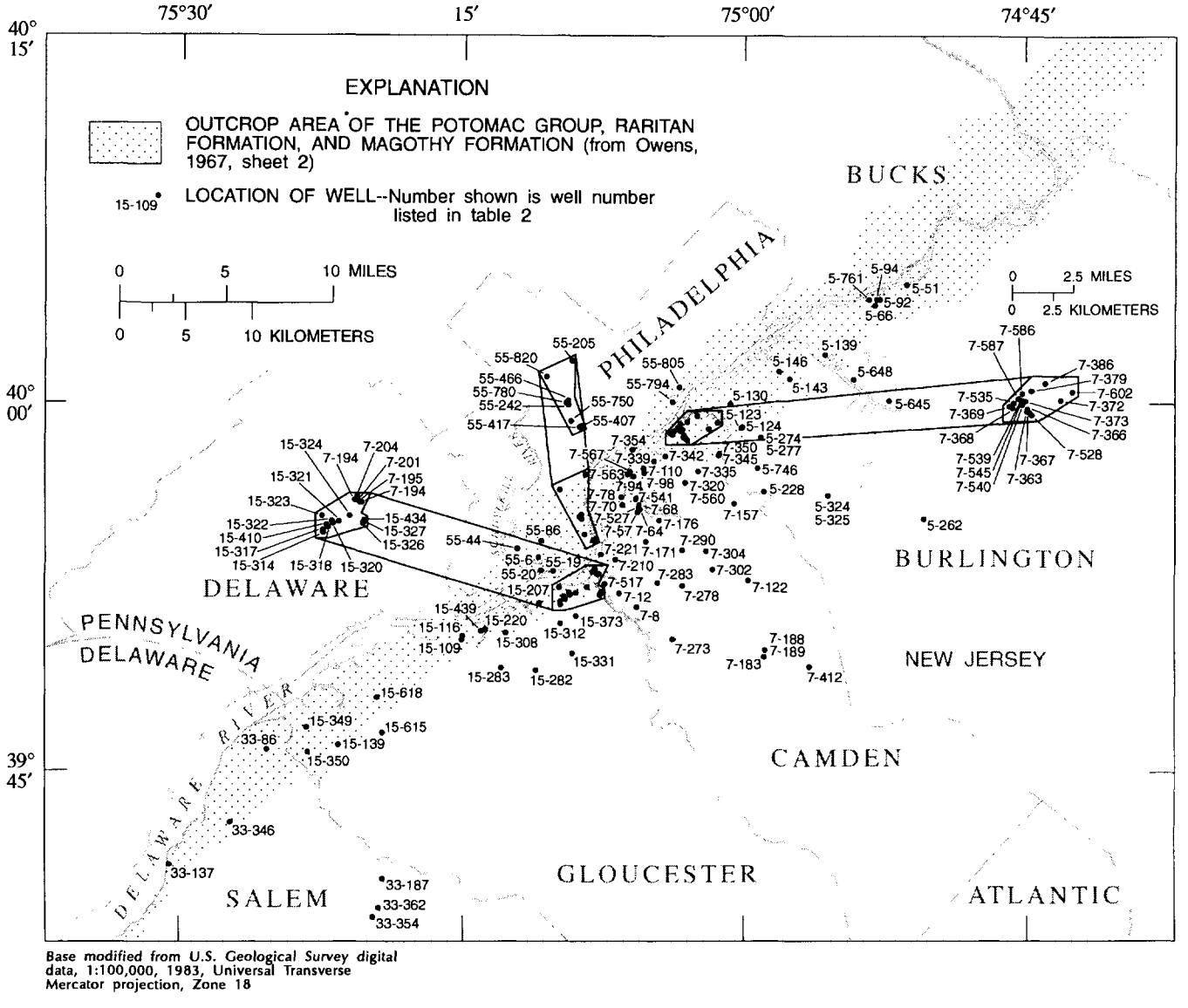


Figure 11.--Location of wells for which water-quality data are available, middle aquifer, Potomac-Raritan-Magothy aquifer system.



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 12.--Location of wells for which water-quality data are available, lower aquifer, Potomac-Raritan-Magothy aquifer system.

Table 4.-- Statistical summary of analyses of water from the Potomac-Raritan-Magothy aquifer system, 1985-86

[°C, degrees Celsius; μS/cm, microsiemens per centimeter at 25 degrees Celsius; μg/L, micrograms per liter; *, residue on evaporation at 180 degrees Celsius; **, sum of constituents; <, less than; concentrations in milligrams per liter of dissolved constituent except as noted]

Dissolved constituent or characteristic	Number of samples	Minimum	25th Percentile	Median	75th Percentile	Maximum
Temperature (°C)	117	13.00	14.50	15.50	16.50	22.00
Specific conductance, field (μS/cm)	107	84.00	178.00	252.00	520.00	1,210.00
Specific conductance, lab (μS/cm)	116	58.00	184.25	259.00	508.25	1,080.00
pH, field (units)	117	4.20	6.00	6.70	7.65	9.30
pH, lab (units)	116	3.90	5.82	6.60	7.40	9.00
Alkalinity, field (as $CaCO_3$)	111	0	37.00	82.00	137.00	456.00
Alkalinity, lab (as $CaCO_3$)	116	<1.00	17.00	68.50	124.00	438.00
Dissolved oxygen	113	0	.20	.3	.55	8.70
Hardness ($CaCO_3$)	116	11.00	31.00	62.00	91.50	448.00
Hardness, noncarbonate (as $CaCO_3$)	67	0	1.00	24.00	44.00	240.00
Sodium	116	2.50	7.22	16.50	48.75	230.00
Potassium	116	1.30	3.10	5.15	6.60	32.00
Calcium	116	2.80	7.40	16.00	25.00	96.00
Magnesium	116	.44	2.70	4.60	9.17	65.00
Silica	116	1.50	7.92	8.75	10.00	24.00
Chloride	116	1.30	6.42	16.50	41.75	170.00
Sulfate	116	<.20	9.70	23.00	42.00	210.00
Fluoride	116	<.10	<.10	.20	.47	2.10
Iron, total (μg/l)	112	<10.00	110.00	445.00	250.00	54,000.00
Iron, dissolved (μg/L)	115	<3.00	30.00	300.00	100.00	58,000.00
Manganese, total (μg/L)	111	<10.00	20.00	70.00	480.00	7,500.00
Manganese, dissolved (μg/L)	115	<1.00	22.00	57.00	430.00	7,400.00
Dissolved organic carbon	104	.40	<1.00	1.50	2.62	15.00
Phenol (μg/L)	108	<1.00	<1.00	3.00	5.00	68.00
Dissolved solids *	115	55.00	113.00	148.00	274.00	634.00
Dissolved solids **	113	32.00	110.00	150.00	295.00	3,600.00
Aluminum (μg/L)	116	<10.00	<10.00	20.00	30.00	750.00
Arsenic (μg/L)	115	<1.00	<1.00	<1.00	<1.00	49.00
Barium (μg/L)	116	16.00	40.00	64.00	88.25	510.00
Beryllium (μg/L)	116	<.50	<.50	<.50	.80	4.00
Cadmium (μg/L)	116	<1.00	<1.00	<1.00	<1.00	6.00
Chromium (μg/L)	116	<10.00	<10.00	<10.00	<10.00	960.00
Chromium, hexavalent (μg/L)	116	<1.00	<1.00	<1.00	<1.00	980.00
Cobalt (μg/L)	116	<3.00	<3.00	<3.00	6.00	130.00
Copper (μg/L)	116	<10.00	<10.00	<10.00	<10.00	110.00
Lead (μg/L)	116	<10.00	<10.00	<10.00	<10.00	30.00
Lithium (μg/L)	116	<4.00	<4.00	7.00	11.00	47.00
Molybdenum (μg/L)	115	<10.00	<10.00	<10.00	<10.00	<10.00
Strontium (μg/L)	116	36.00	130.00	330.00	725.00	4,200.00
Vanadium (μg/L)	116	<6.00	<6.00	<6.00	<6.00	8.00
Zinc (μg/L)	116	<3.00	5.00	13.50	33.25	240.00
Nitrate and nitrite nitrogen (as N)	116	<.10	<.10	<.10	.96	23.00
Nitrite nitrogen as N	116	<.01	<.01	<.01	<.01	1.20
Nitrogen,dissolved as N	44	.30	1.57	3.75	6.20	43.00
Ammonia nitrogen (as N)	116	<.01	.08	.21	.61	25.00
Ammonia and organic nitrogen (as N)	115	<.10	.30	.40	1.00	28.00
Ammonia nitrogen (as NH_4)	109	.01	.13	.28	.88	32.00
Orthophosphate phosphorus (as P)	114	<.01	<.01	.02	.07	.33

Water-quality data presented in this report were subject to standard laboratory quality-assurance procedures (Friedman and Erdmann, 1982; D.B. Peart, U.S. Geological Survey, written commun., 1985). Data collected before 1985 were subjected to similar quality-assurance techniques, as described in Fusillo and others (1984). All data were examined by means of quality-assurance checks, as described in Friedman and Erdmann (1982), Hem (1985), and Fishman and Friedman (1989).

Ten replicate samples were collected as part of the quality-assurance program. The data for these samples are presented along with the other water-quality data in tables 5 to 8. In addition, three USGS Standard Reference Water Samples (SRWS) were sent to the Central Laboratory as water-quality samples from this project. These SRWS consisted of two trace-elements standards and one standard for major constituents. On the basis of results of duplicate samples and SRWS, the analyses of water-quality samples collected during 1985-86 were considered acceptable.

Regional Variations

The chemical quality of the water in the Potomac-Raritan-Magothy aquifer system is affected by the chemical composition of precipitation, the mineral composition of the aquifers and confining units, the past and present ground-water-flow patterns, the residence time in the aquifer, and human activities.

The earliest recorded chemical analysis of water from the Potomac-Raritan-Magothy aquifer system was done in 1899 on water from the "Camden Supply" (Myers, 1899, p. 148), presumably from the Morris well field of the Camden City Water Department. This analysis showed that the water contained 32 mg/L of total solids, 5.7 mg/L of chloride, and 0.02 mg/L of nitrate nitrogen. Thompson (1932) reported results of a chemical analysis of water from the Morris well field in 1924, in which concentrations of 77 mg/L of total dissolved solids, 7.0 mg/L of chloride, and 2.7 mg/L of nitrate nitrogen were determined. The increase in concentrations of all three constituents in the water from the Morris well field probably resulted from induced infiltration of water from the adjacent Delaware River. Few additional data are available on the predevelopment water quality of the aquifer system; however, the current (1988) water quality in the confined, pumped parts of the aquifer system is assumed to be similar to predevelopment water quality in many areas because (1) the sources of water for the wells tapping the confined part of the aquifer generally are either the deep part of the system or the regional recharge areas, (2) newly recharged water from the Delaware River generally is intercepted by well fields before it can migrate downdip, and (or) (3) newly recharged water from the Delaware River has not had time to reach downdip wells.

Differences in the major-ion chemistry between young ground water near predevelopment recharge areas in Mercer and Middlesex Counties and old water farther from these predevelopment recharge areas are illustrated by ground-water data for wells along section B'-B (fig. 1). The relative ages of the water from these wells were calculated by carbon-14 dating techniques (Winograd and Farlekas, 1974). Natural conditions were approximated by selection of wells minimally affected by present-day pumping.

Stiff diagrams (Hem, 1985) of the ionic composition of water from these wells illustrate changes in water chemistry along section B'-B (fig. 13). The most recent data are diagrammed for each well. Concentrations of dissolved solids generally increase with time as water flows through the system. Water near the regional recharge areas in Mercer and Middlesex Counties is a sodium-calcium-sulfate water that contains low concentrations of dissolved solids, as represented by water from well 21-25 (fig. 13). As the water flows through the aquifer, the dissolved-solids concentration increases. In addition, calcium carbonate dissolves from shells and calcareous deposits (such as clay marls), and the water becomes a calcium bicarbonate type, as represented by water from well 5-384 (fig. 13). Regional trends discussed by Winograd and Farlekas (1974) indicate that pH also increases with the relative age of the water as a result of the dissolution of calcium carbonate in the aquifer.

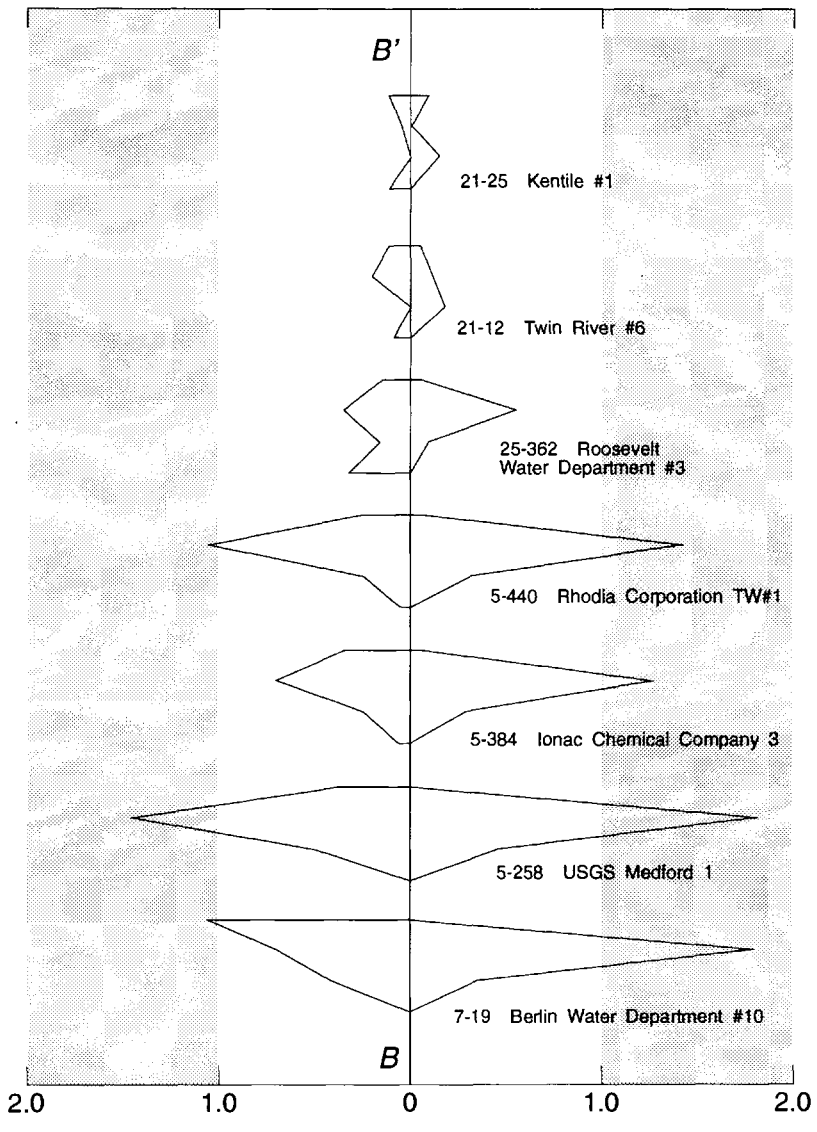
The subcrop of the Potomac-Raritan-Magothy aquifer system south of Trenton, N.J., acted as a regional discharge area under prepumping conditions. With development in the upper and middle aquifers, shallow, local ground-water-flow systems were superimposed on the regional system. These local systems have a greater effect on water quality in the subcrop area than in the confined-aquifer areas. Water samples from wells in this area contained low concentrations of dissolved solids (<150 mg/L) as a result of local recharge and short residence times in the aquifer, compared to the long residence times that are characteristic of a regional flow path.

Hydrochemical Facies

Hydrochemical facies provide an indication of the chemical character of surface water and ground water (Back, 1966, p. A11); they commonly are used to characterize regional ground-water quality, especially in relation to ground-water-flow patterns. Cation facies are defined as the percentage of calcium and magnesium compared to the sum of the major cations. Anion facies are defined as the percentage of chloride and sulfate compared to the sum of the major anions (Back, 1966, p. A15). Hydrochemical facies are expressed in milliequivalents per liter. Facies are affected by the ground-water-flow system, residence time of water in the aquifer, and chemical interactions between water and aquifer material. In addition, facies can be affected by the introduction of contaminants into the ground-water system and by microbial processes.

Hydrochemical facies for the upper, middle, and lower aquifers of the Potomac-Raritan-Magothy aquifer system are shown in figures 14-19. Data for hydrochemical-facies maps are from the 1980-86 sampling period and represent the most recent data from wells sampled more than once during that period. Hydrochemical-facies maps were contoured according to the definition of hydrochemical facies given in Back (1966, p. A15). Hydrochemical facies were subdivided further to include 25-percent and 75-percent cation or anion contours. Stiff diagrams were constructed from the same data set for selected wells within each facies designation.

Five zones of fairly distinct ground-water chemistry related to hydrologic regimes are defined by the hydrochemical facies in the study area. These correspond to (1) zones of recharge, (2) zones of active ground-water flow, (3) zones of discharge, (4) zones of saltwater intrusion, and (5) a zone of little flow. A transition zone is present in some areas between the zone of active ground-water flow and the zone of little flow.



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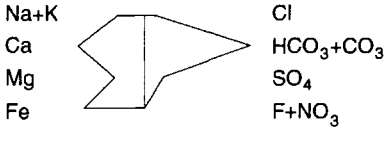


STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number and local identifier name

Figure 13.--Chemical evolution of ground water along section B'-B, (Location of section shown in fig. 1.)

Back (1966, p. A15) characterized the predevelopment recharge zones in Mercer and Middlesex Counties as dominated by a cation facies of calcium and magnesium (>90 percent Ca + Mg) and by an anion facies of chloride and sulfate (>90 percent Cl + SO_4). In this study, it was found that anion facies for recharge areas also can range from 50 to 90 percent Cl and SO_4. Although most of the regional recharge areas are outside the study area, some evidence of recharge water from Mercer and Middlesex Counties exists, as illustrated in the cation-facies maps in figures 14-16. Water from wells near Georgetown, Burlington County, in the upper aquifer (fig. 14)--where cation facies are greater than 90 percent--could indicate the recharge zone. In the middle aquifer, calcium and magnesium also dominate in the same area, although they do not exceed 90 percent (fig. 15).

The zone of active ground-water flow underlies a large area that includes most of northwestern Burlington County and the northwestern half of Camden County. In the zone of active ground-water flow, cation facies are characterized mainly by the calcium and sodium facies (50-90 percent Ca + Mg) in all three aquifers. Anions are characterized by a bicarbonate, chloride, and sulfate facies (10-50 percent Cl + SO_4). This zone becomes slightly smaller in area from the upper to the lower aquifer.

Ground water in regional discharge zones has been characterized by Back (1966, p. A15) as consisting mainly of the bicarbonate facies (<10 percent Cl + SO_4). Before flow patterns were disturbed by development, the regional discharge area was along the Delaware River. Post-development ground-water-quality data, however, provide little evidence of hydrochemical facies typical of discharge zones in these areas. The lack of discharge-zone facies is mainly a result of induced recharge from the Delaware River into the aquifers. The areas thought to be former discharge zones currently (1988) are characterized by anion facies typical of a recharge area: chloride, sulfate, and bicarbonate (50-90 percent Cl + SO_4), and chloride and sulfate, (>90 percent Cl + SO), and cation facies typical of active ground-water flow, calcium and sodium, (50-90 percent Ca + Mg). Back (1966, p. A5) notes that bicarbonate might increase as a result of dissolution of calcareous material as water flows through the Tertiary sediments near the regional recharge areas.

The zone of saltwater intrusion consists of areas that have been affected by salty and brackish water in the Delaware River and its estuary. Constituent concentrations in water from wells 15-140 and 15-118 in Gloucester County, shown in figures 15 and 16, respectively, are evidence of saltwater intrusion along the estuary. The sodium and potassium facies (<10 percent Ca + Mg) is the dominant cation facies in these areas. The chloride and sulfate facies is the dominant anion facies (>90 percent Cl + SO_4). In addition to the intrusion of saltwater into the Potomac-Raritan-Magothy aquifer system, ion-exchange processes could be partially responsible for the presence of sodium facies in this zone (Back, 1966, A15).

The zone of little flow is evident far downdip on the cation-facies maps for the upper, middle, and lower aquifers (figs. 14-16); it also can be seen on the anion-facies map for the upper aquifer (fig. 17) as an area of bicarbonate-rich water (<10 percent Cl + SO_4). The dominant cation facies is sodium and potassium (<10 percent Ca + Mg). Few data are available in this

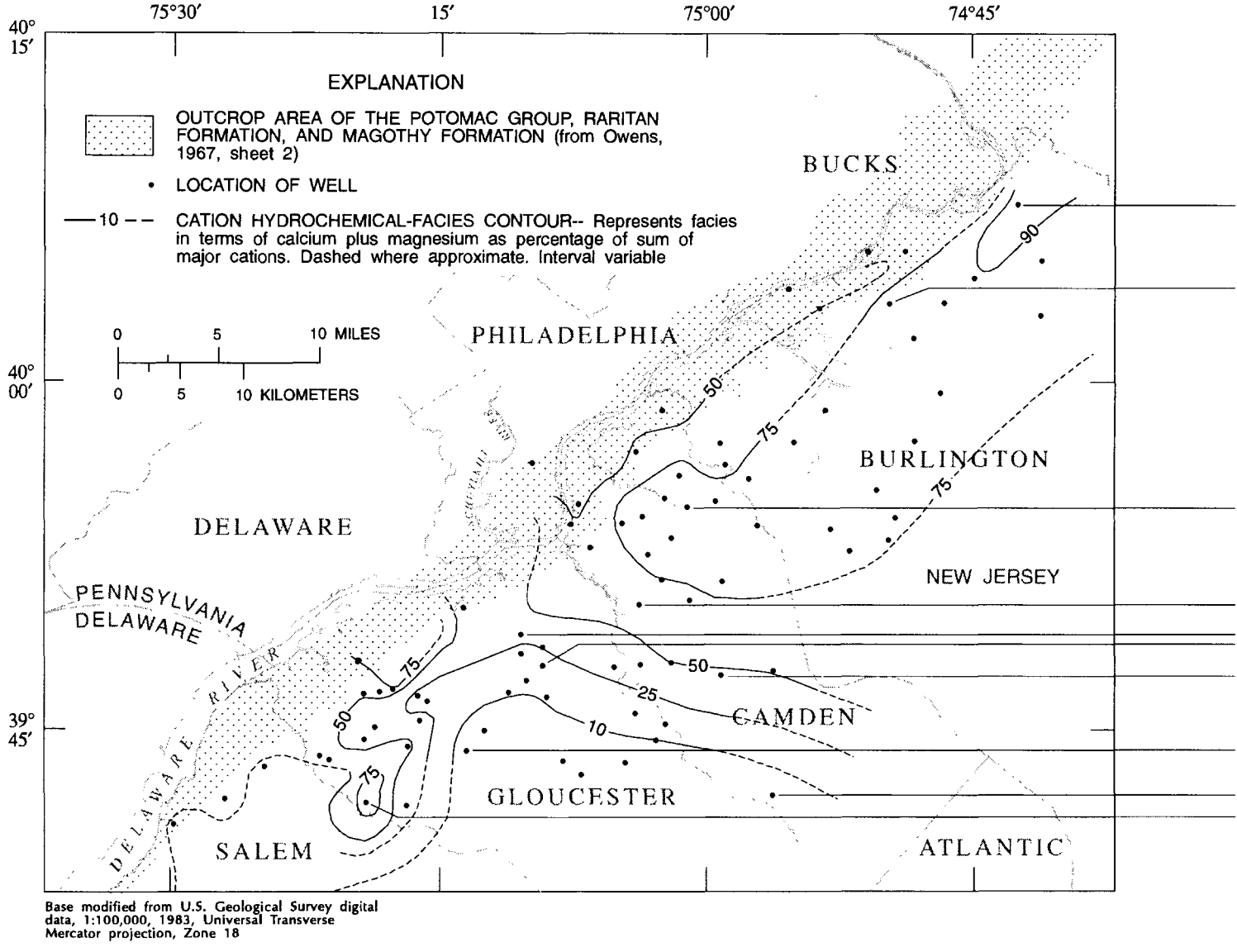
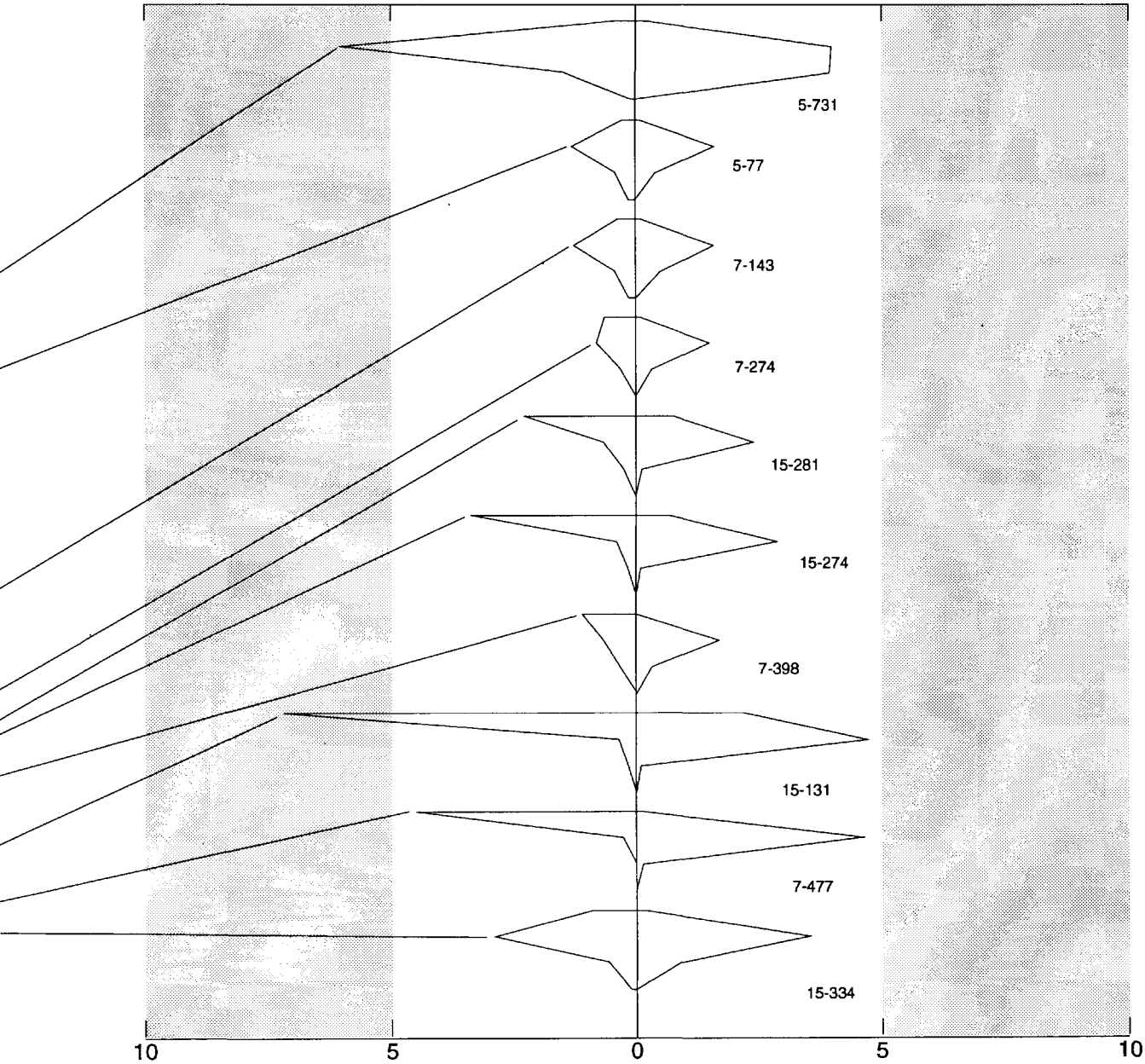


Figure 14.--Cation facies (calcium plus magnesium as percentage of sum of major cations), and associated Stiff diagrams, in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system,1980-86.



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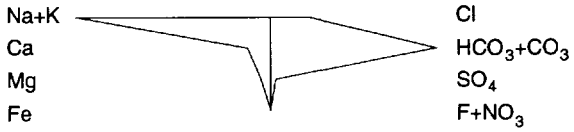
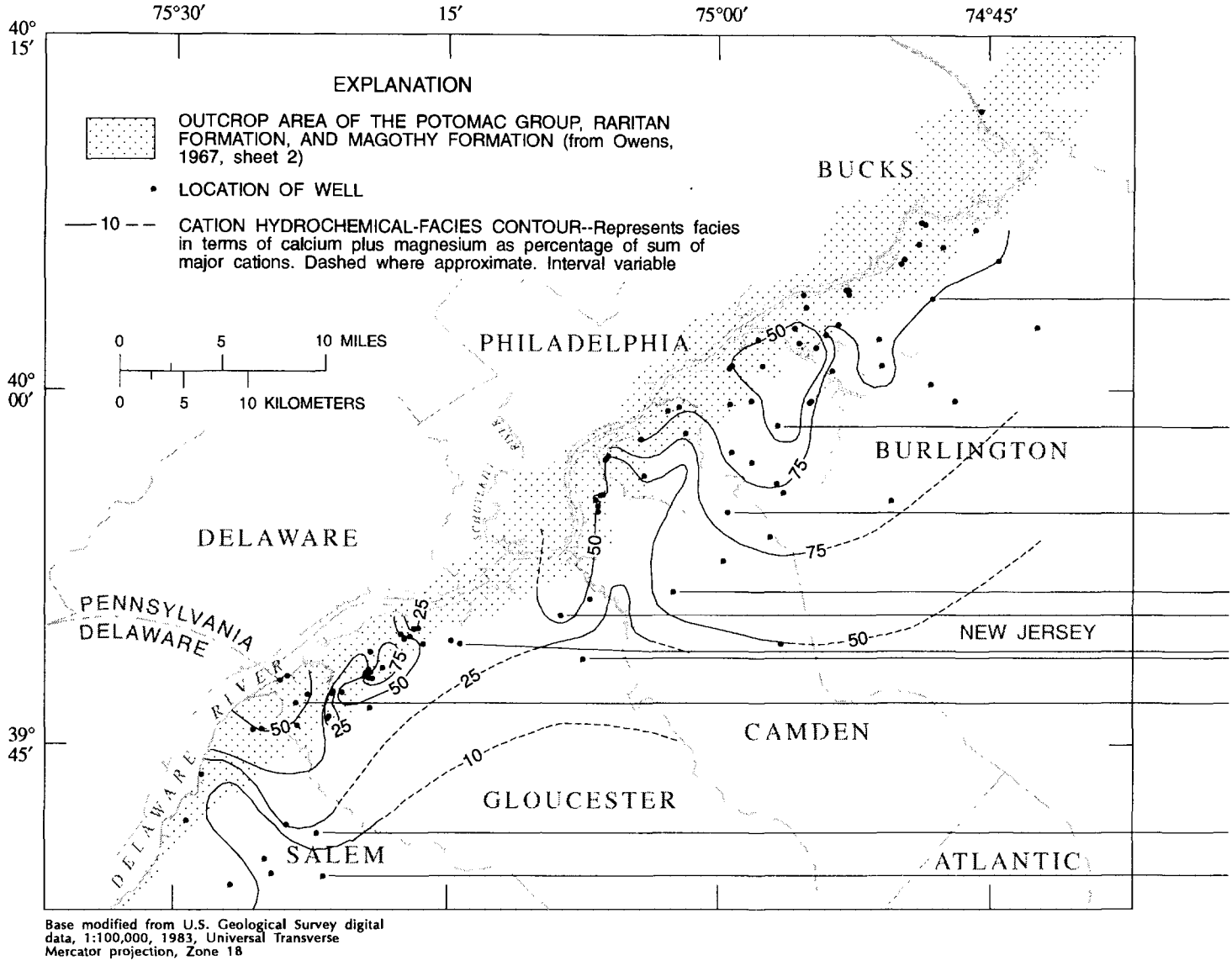
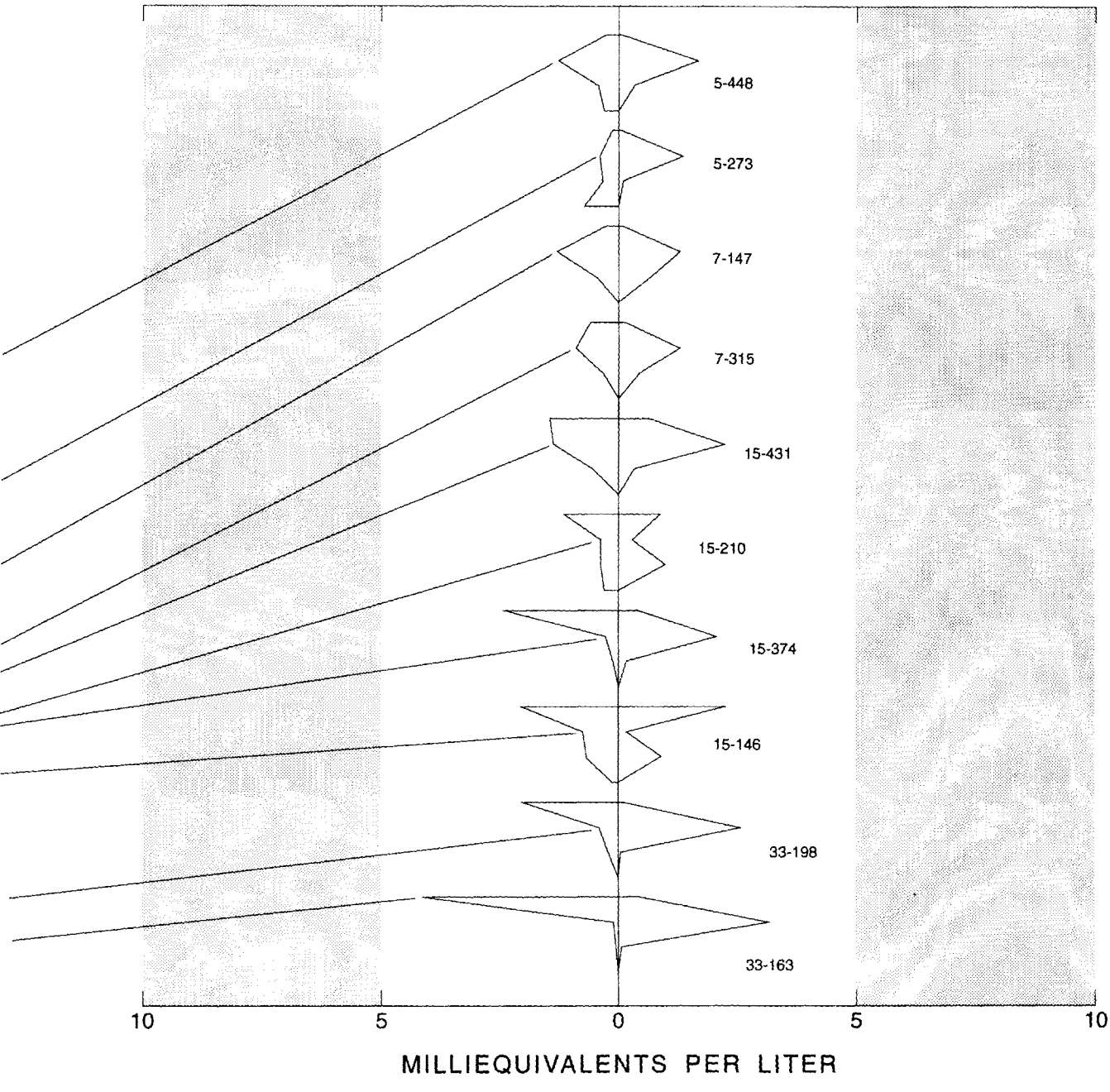


STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 15.--Cation facies (calcium plus magnesium as percentage of sum of major cations), and associated Stiff diagrams, in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



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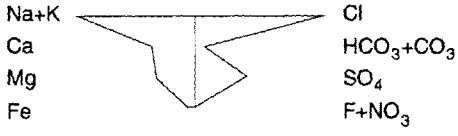


STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number

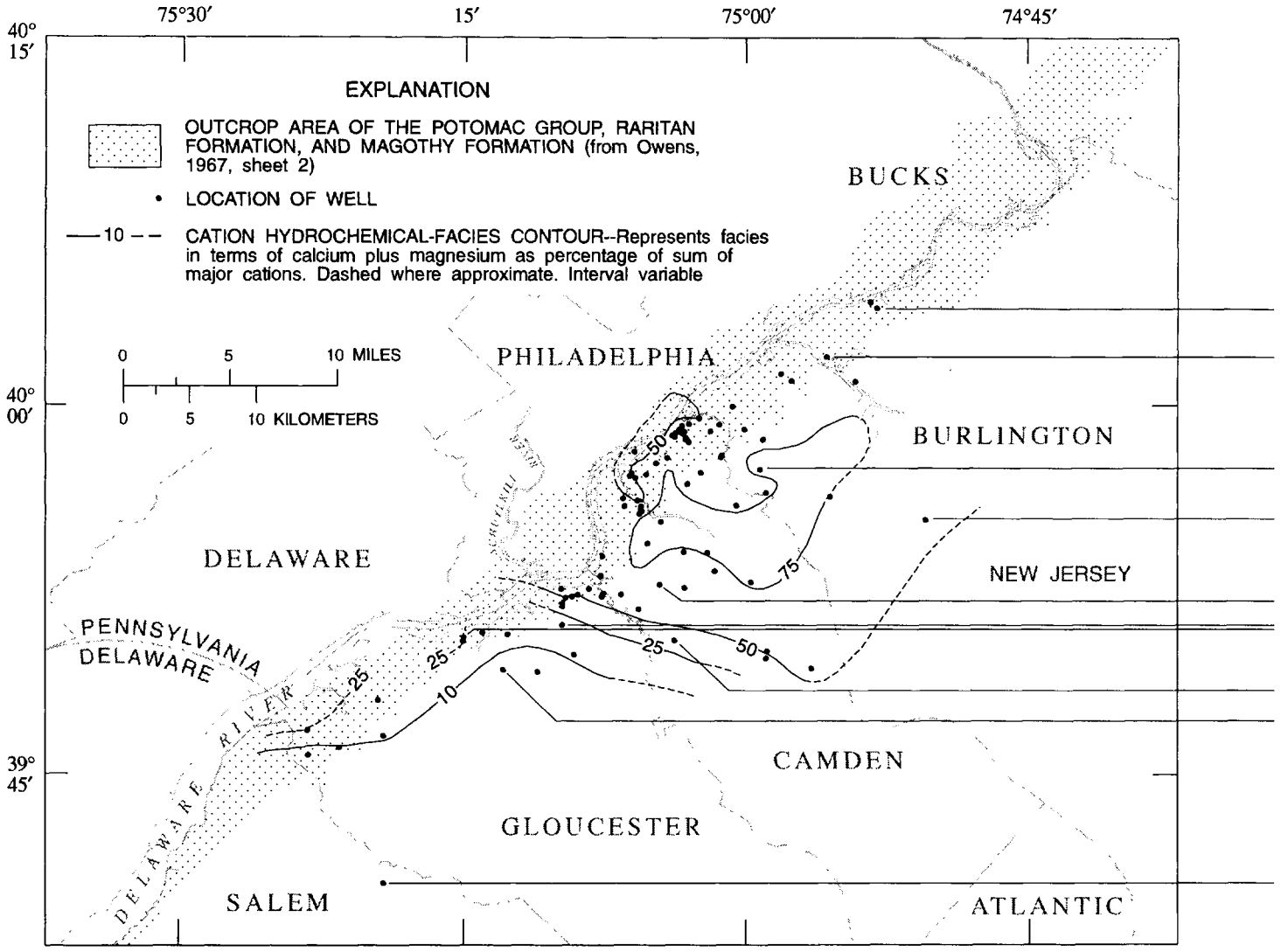
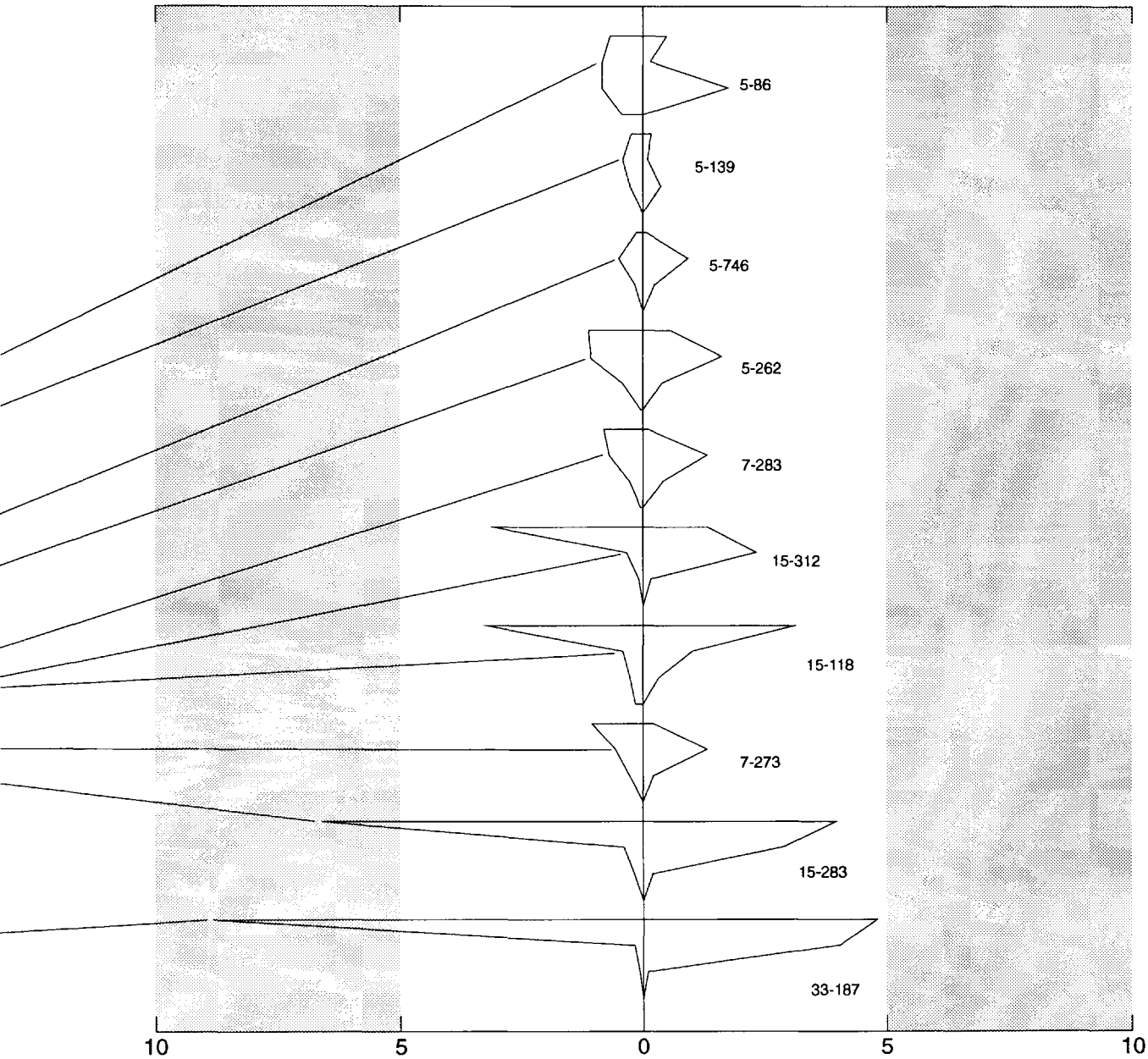


Figure 16.--Cation facies (calcium plus magnesium as percentage of sum of major cations), and associated Stiff diagrams, in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



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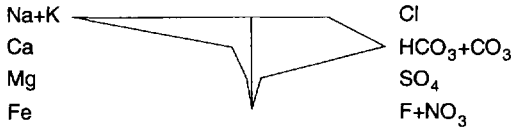


STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number

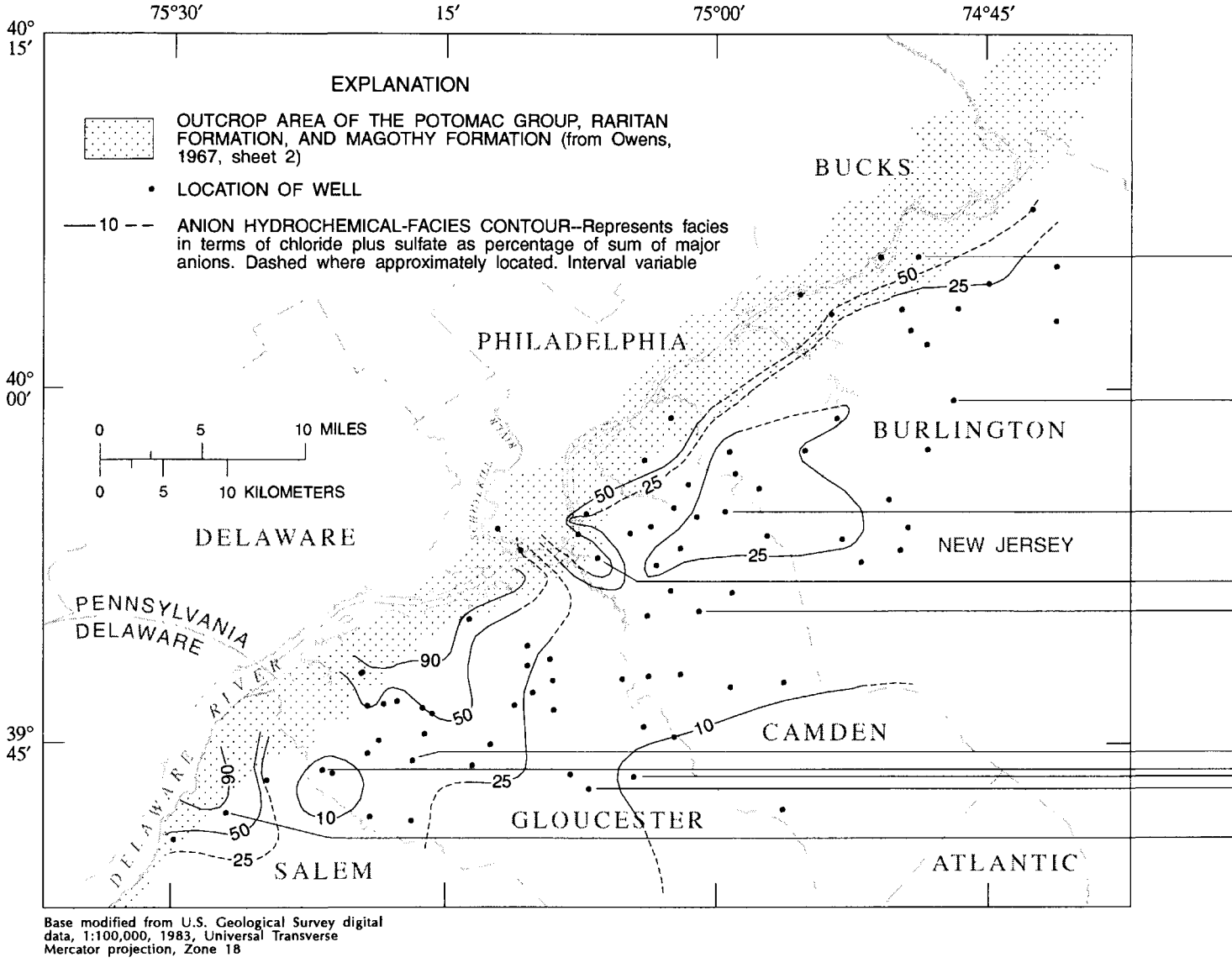
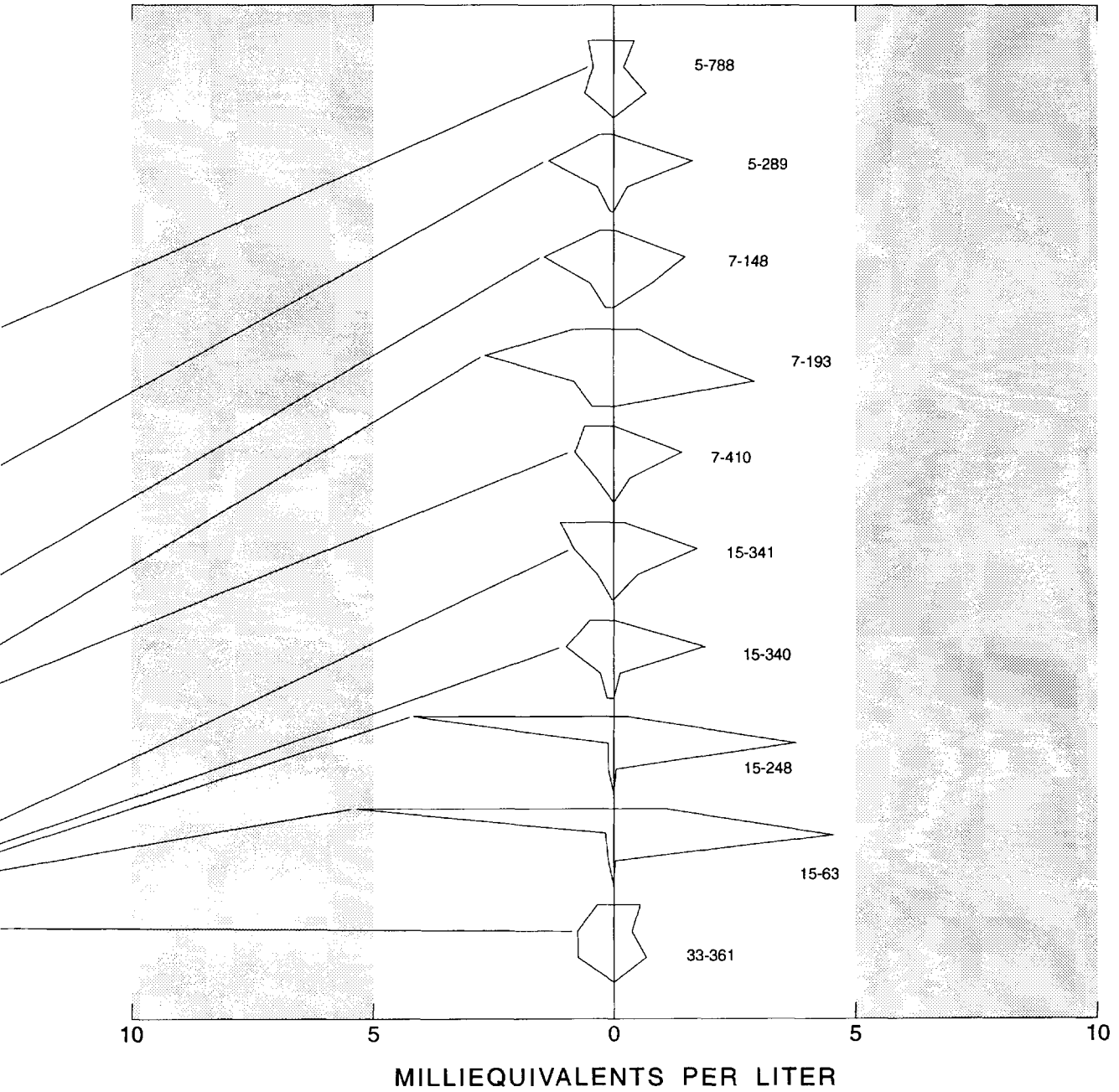


Figure 17.--Anion facies (chloride plus sulfate as percentage of sum of major anions), and associated Stiff diagrams, in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



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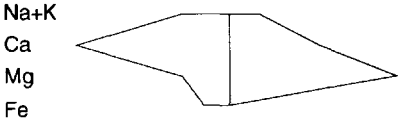


STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number

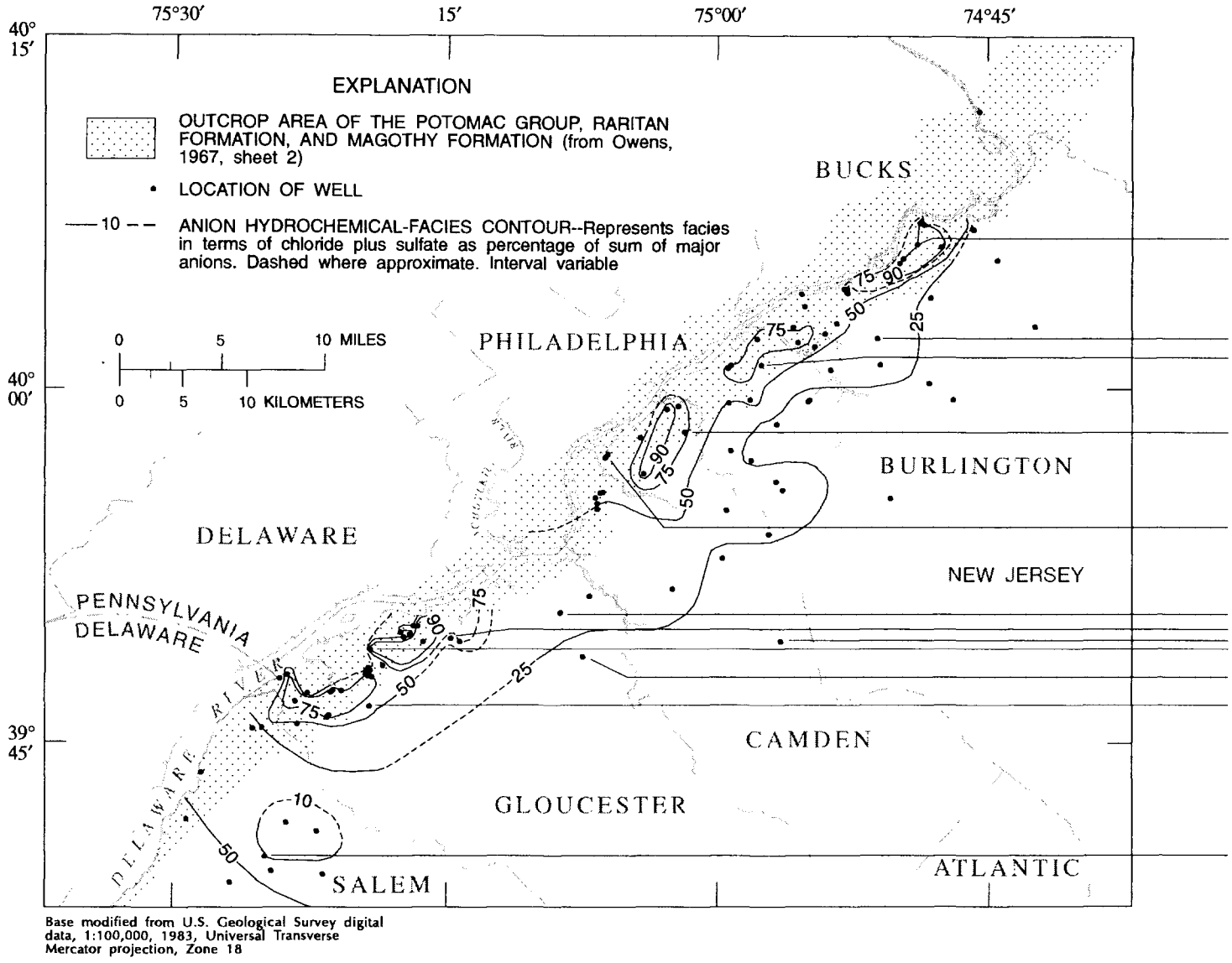
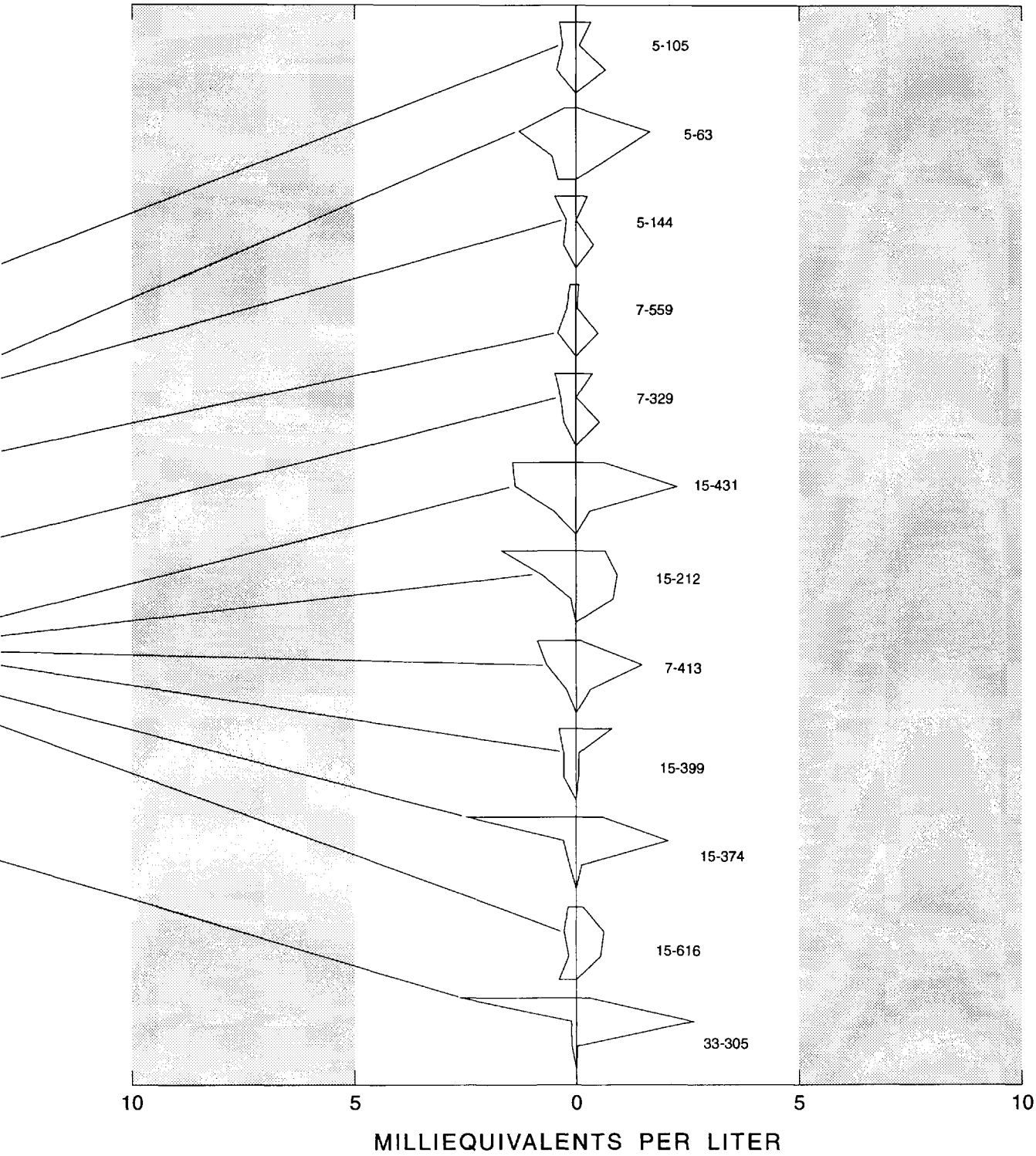
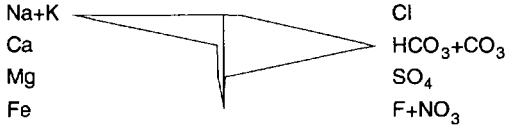


Figure 18.--Anion facies (chloride plus sulfate as percentage of sum of major anions), and associated Stiff diagrams, in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



EXPLANATION



STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number

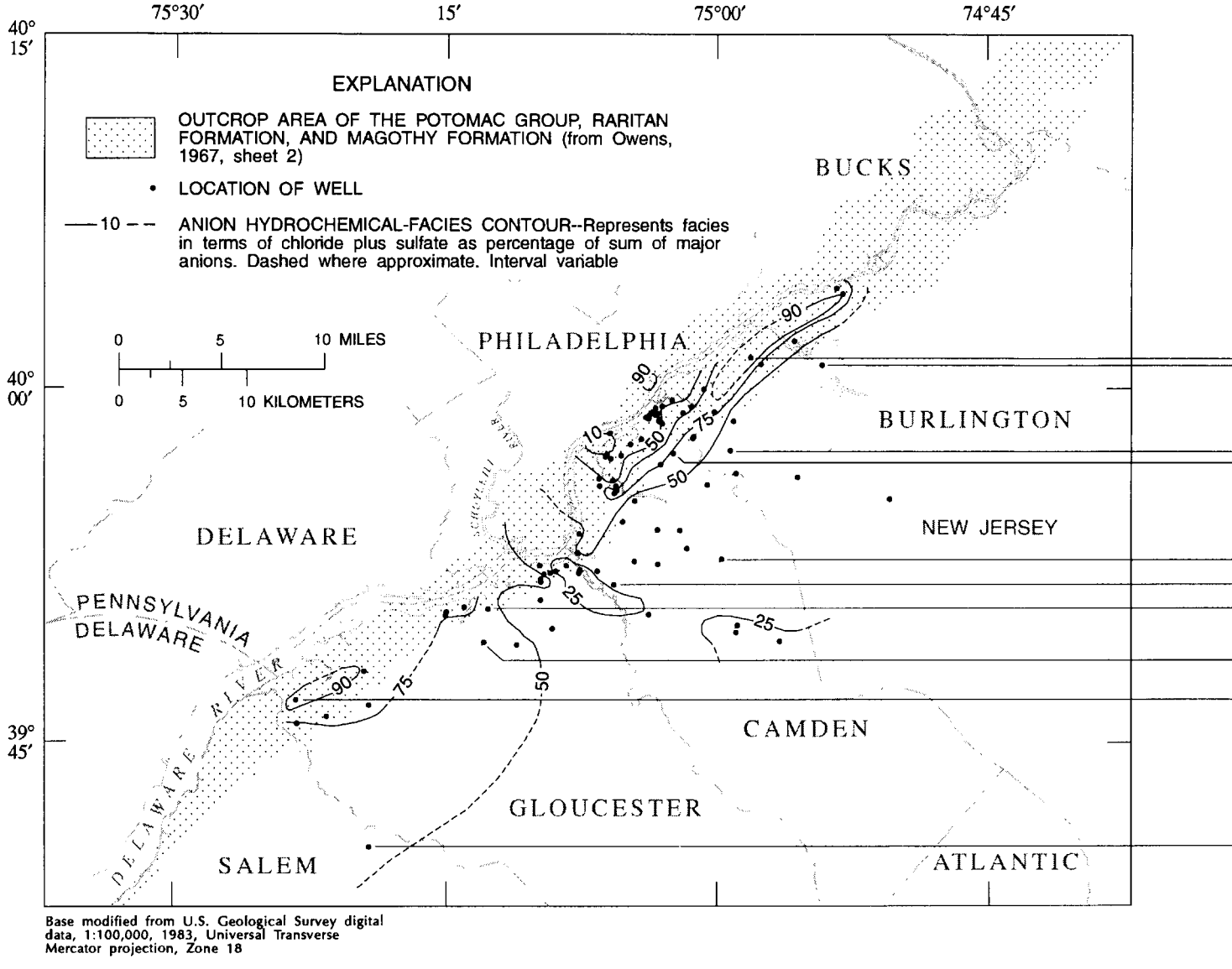
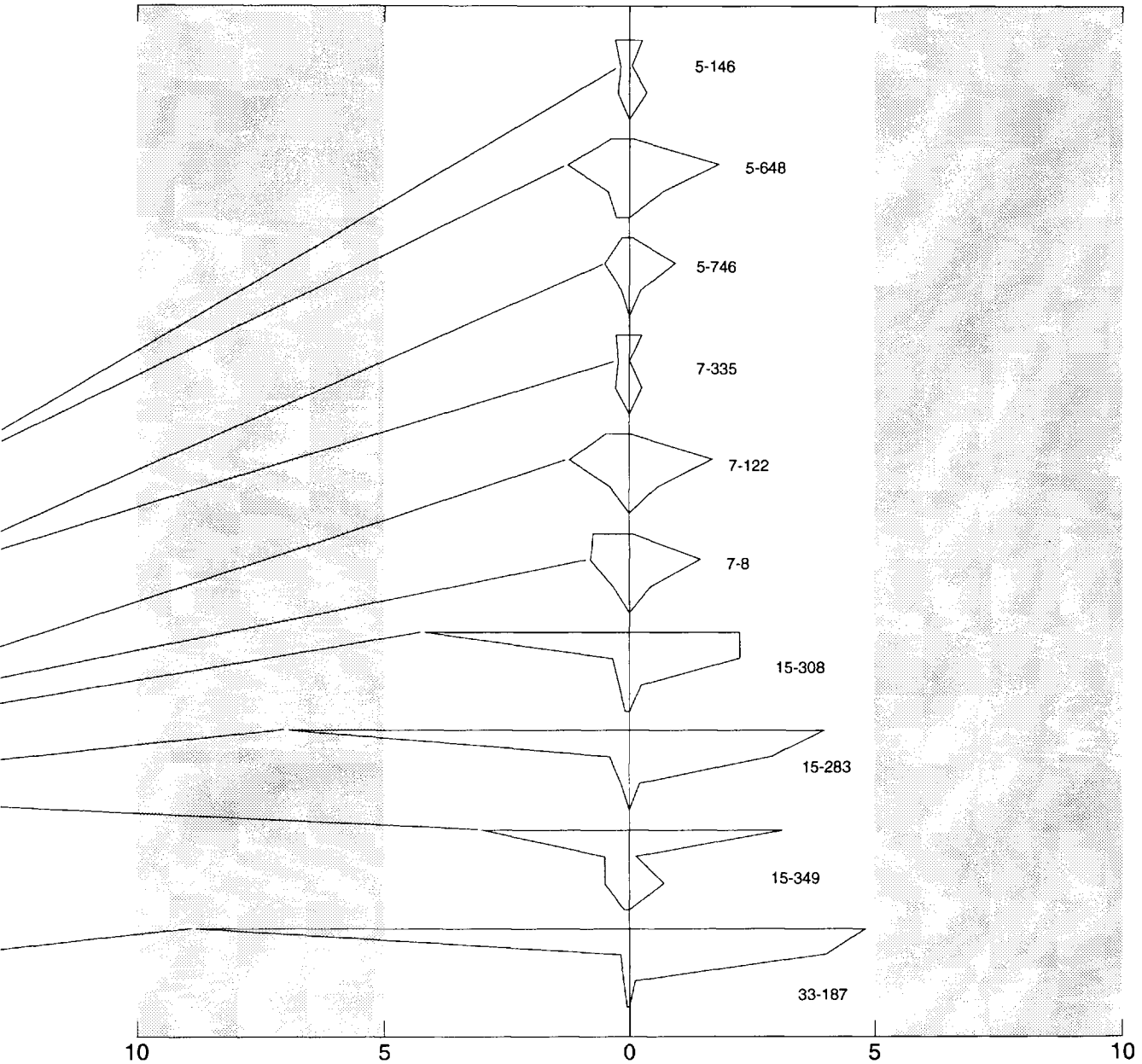
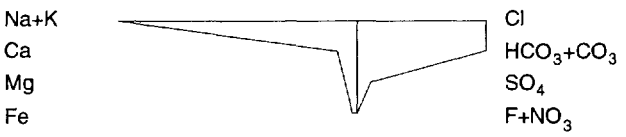


Figure 19.--Anion facies (chloride plus sulfate as percentage of sum of major anions), and associated Stiff diagrams, in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



EXPLANATION



STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter. Number beside diagram is well number

zone to define the quality of this downdip water because the water generally is not of suitable quality for drinking. The Stiff diagrams for water from wells 7-477 and 15-131 in Camden and Gloucester Counties, respectively (fig. 14), illustrate the major-ion chemistry of the zone of little flow.

A transition zone might exist between the zone of active ground-water flow and the zone of little flow. This zone is evident in figures 14 through 16 as a band of water enriched in the sodium and calcium cation facies (10-50 percent Ca + Mg) in the northeastern part of Gloucester County, the central part of Camden County, and the central and southwestern parts of Burlington County.

In general, cations trend from calcium- and magnesium-rich recharge waters updip to sodium- and potassium-rich waters downdip. Anions trend from sulfate- and chloride-rich recharge waters updip to bicarbonate-rich waters downdip. Water near recharge areas tends to be enriched in calcium and magnesium and to contain some sulfate. As the water moves through the active-flow system, concentrations of sodium and bicarbonate increase, whereas concentrations of sulfate, calcium, and magnesium decrease. Water at the end of a long flow path or far downdip in the aquifer tends to be sodium- and bicarbonate-rich.

Areal Distribution of Chemical Constituents

Areal distribution patterns for dissolved solids, dissolved sodium, dissolved chloride, dissolved iron, and pH in the upper, middle, and lower aquifers of the Potomac-Raritan-Magothy aquifer system are shown in figures 20 through 34, respectively. Data illustrated were collected from 1980 through 1986 and represent the most recent data from wells sampled more than once during that period. Statistical summaries are included in the discussion of each constituent. These statistics might be spatially autocorrelated because well locations are biased toward cities and public-supply wells. In addition, because the data are not normally distributed, the median probably is a better representation of the central tendency than is the mean.

Dissolved Solids

The concentration of dissolved solids is used widely as a general indicator of the amount of soluble material, including inorganic salts, organic material, and other residue in water (Hem, 1985, p. 157). Concentrations of dissolved solids in ground water are affected by interactions with aquifer material, by chemical and biological processes, by the length of time the water is in the flow system, or by contamination from human activities. Commonly, the longer the water is in contact with the aquifer matrix and confining units, the higher the dissolved-solids concentration is. In general, elevated concentrations of dissolved solids resulting from local ground-water contamination are considerably different from regional background concentrations and are relatively easy to identify. The USEPA Secondary Maximum Contaminant Level (SMCL) for dissolved solids in drinking water is 500 mg/L (U.S. Environmental Protection Agency, 1986). The distribution of dissolved solids in each aquifer is shown in figures 20-22.

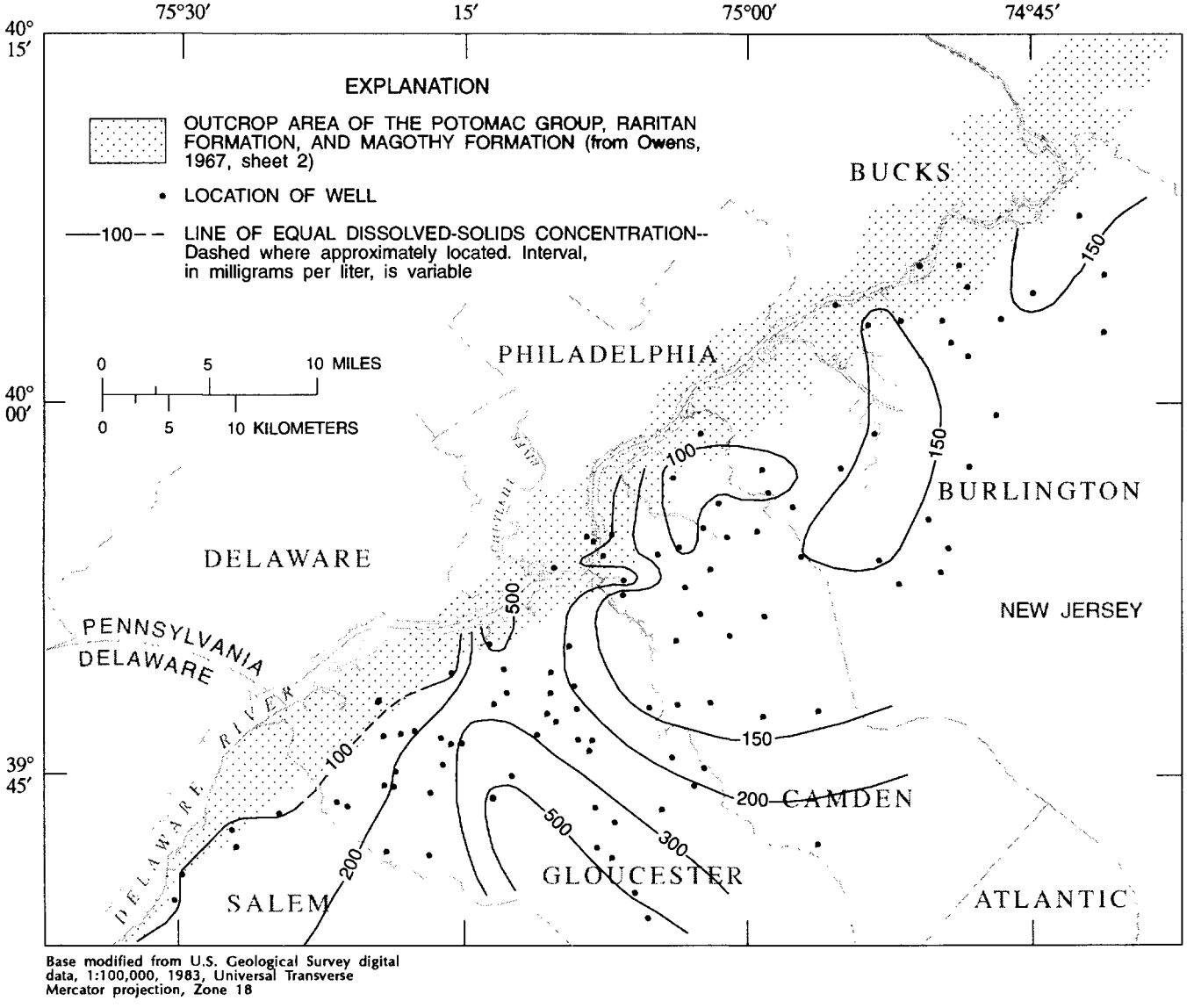


Figure 20.--Generalized distribution of dissolved solids in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

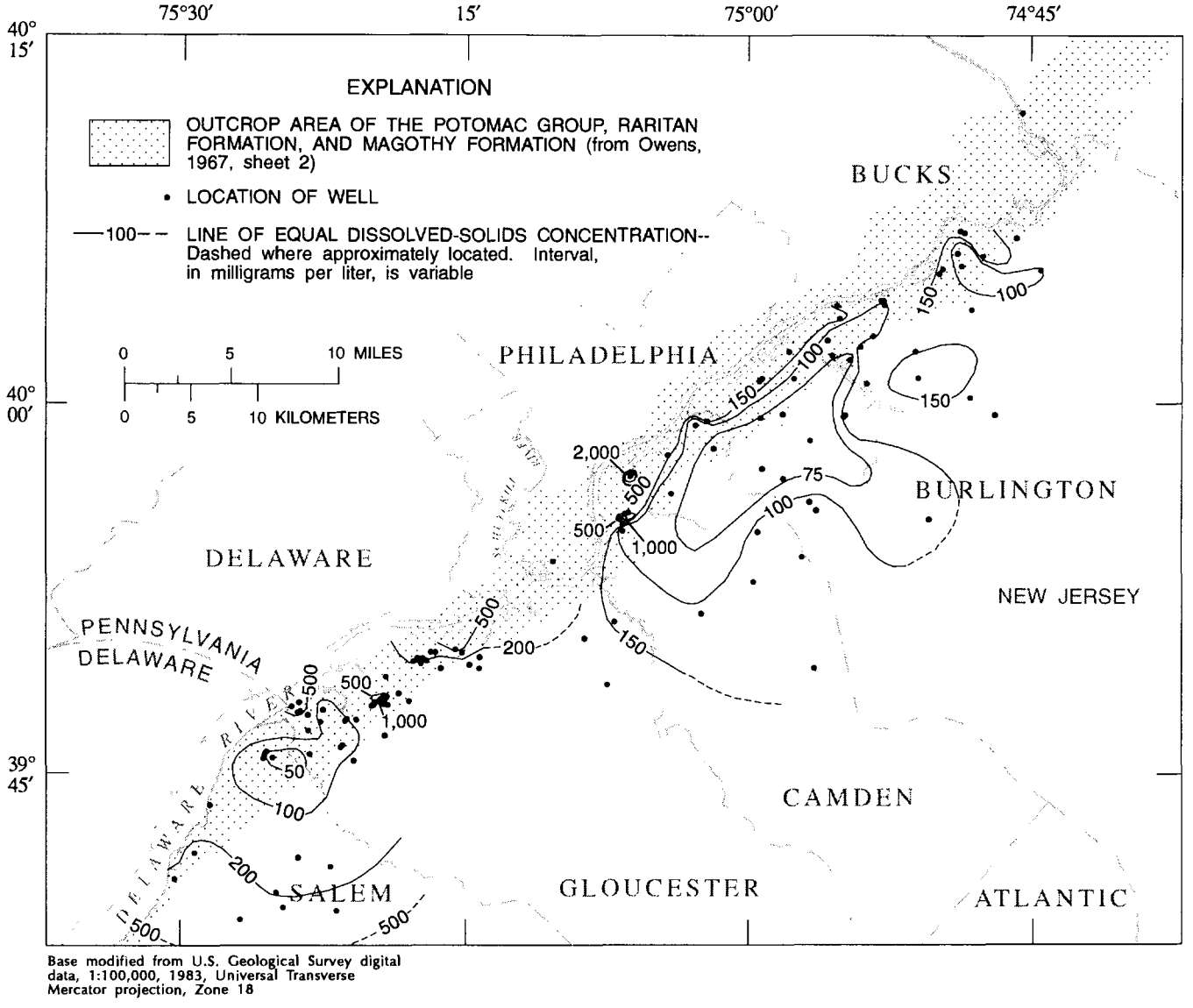


Figure 21.--Generalized distribution of dissolved solids in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

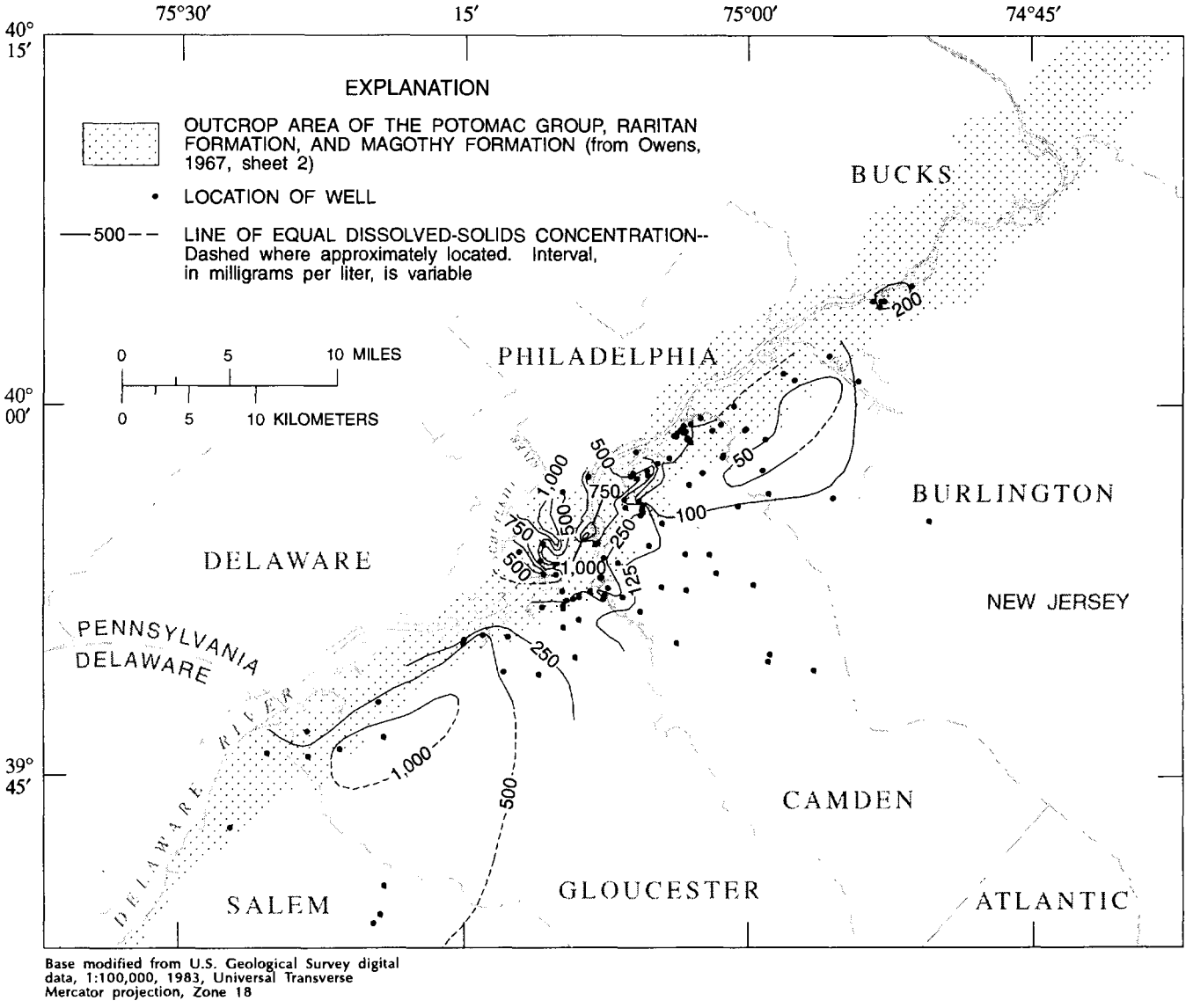
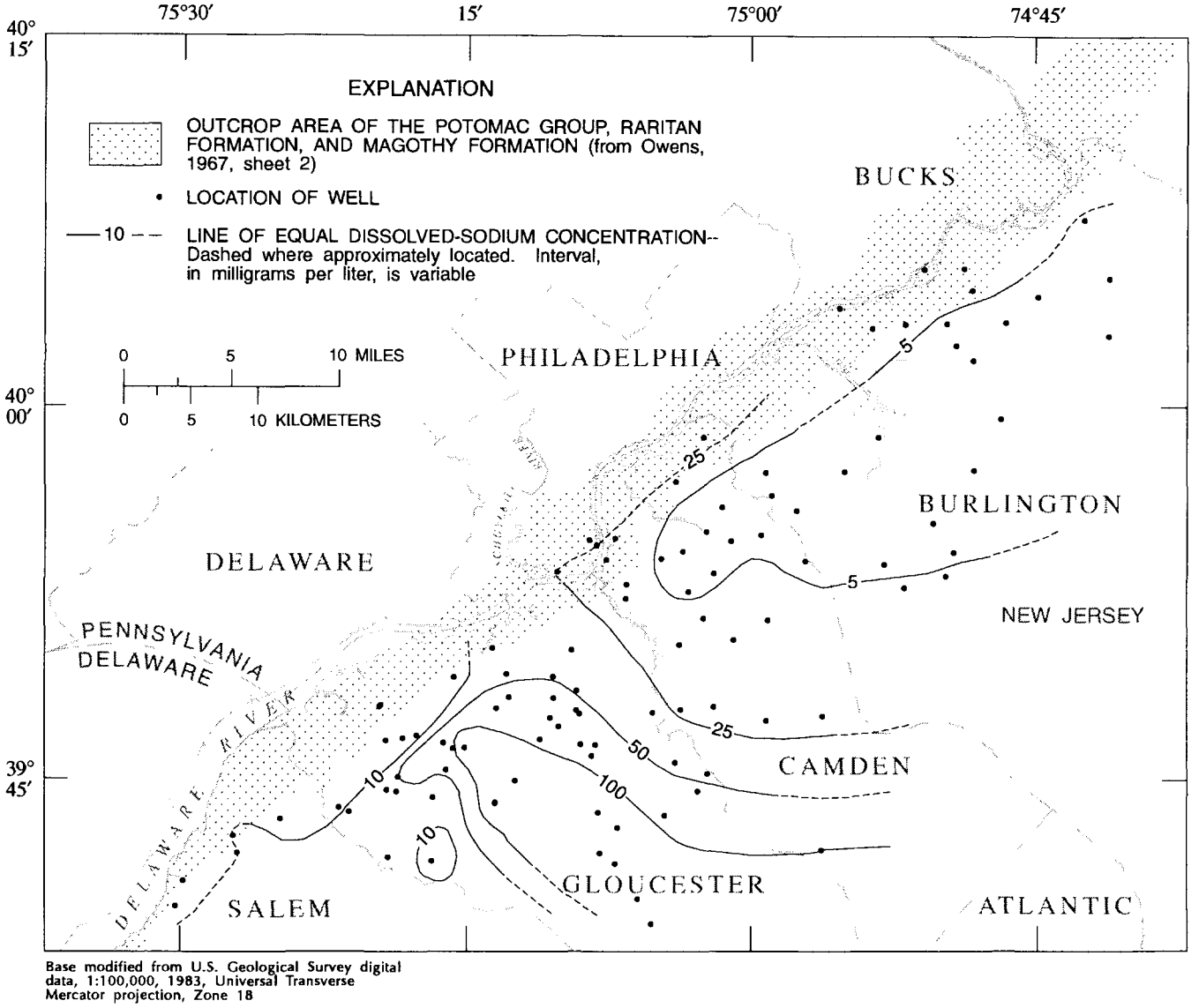


Figure 22.--Generalized distribution of dissolved solids in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 23.--Generalized distribution of dissolved sodium in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

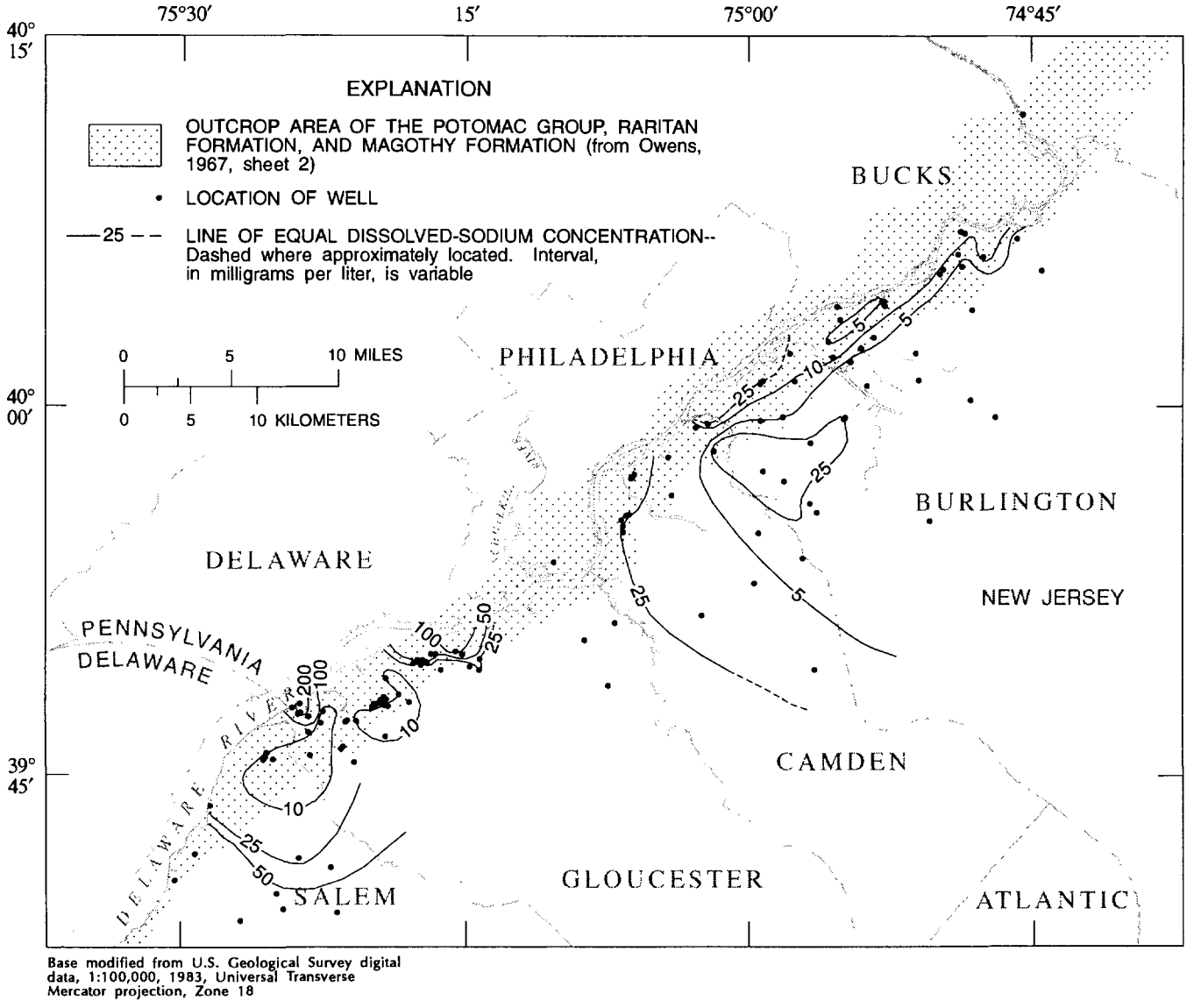


Figure 24.--Generalized distribution of dissolved sodium in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

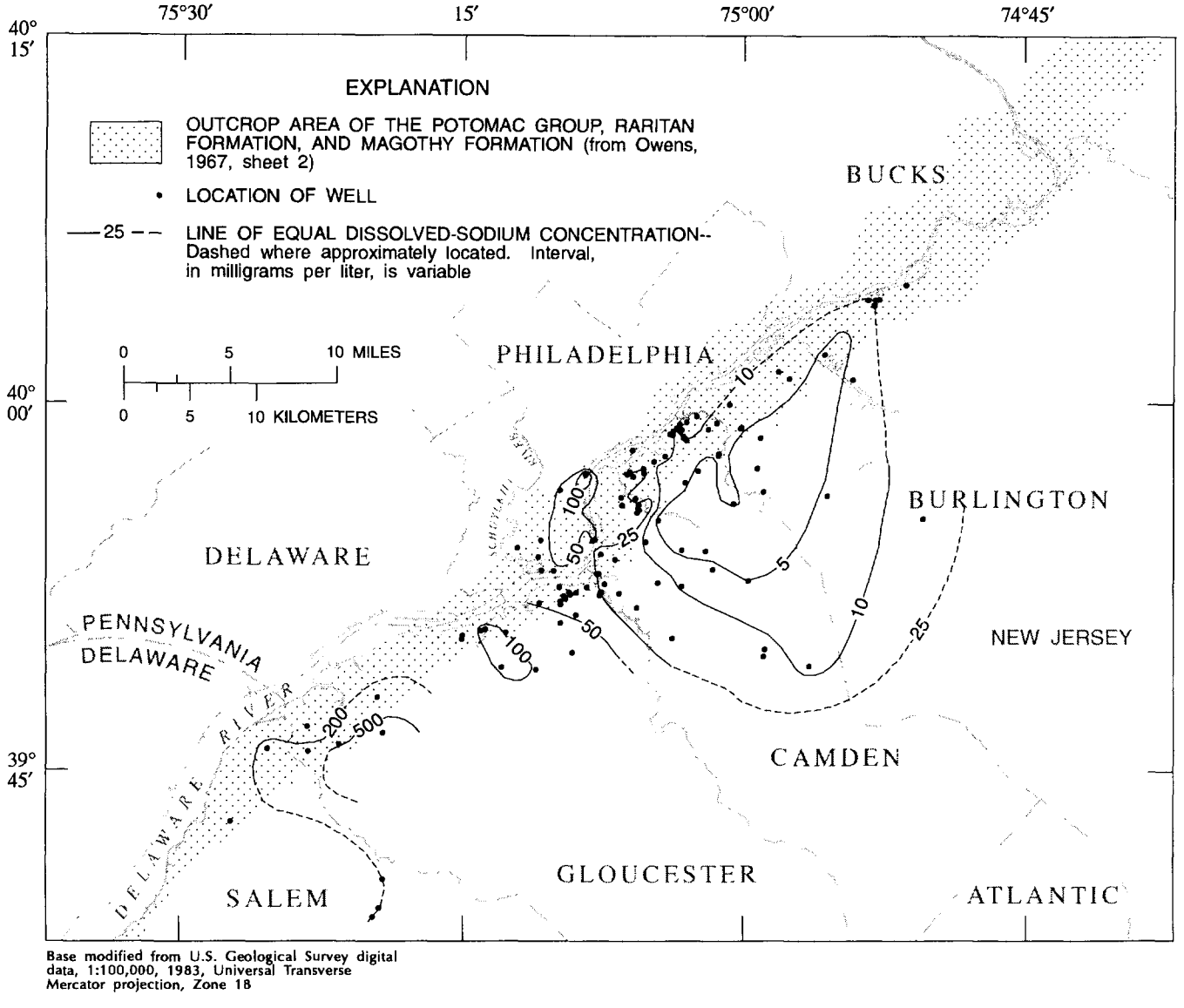
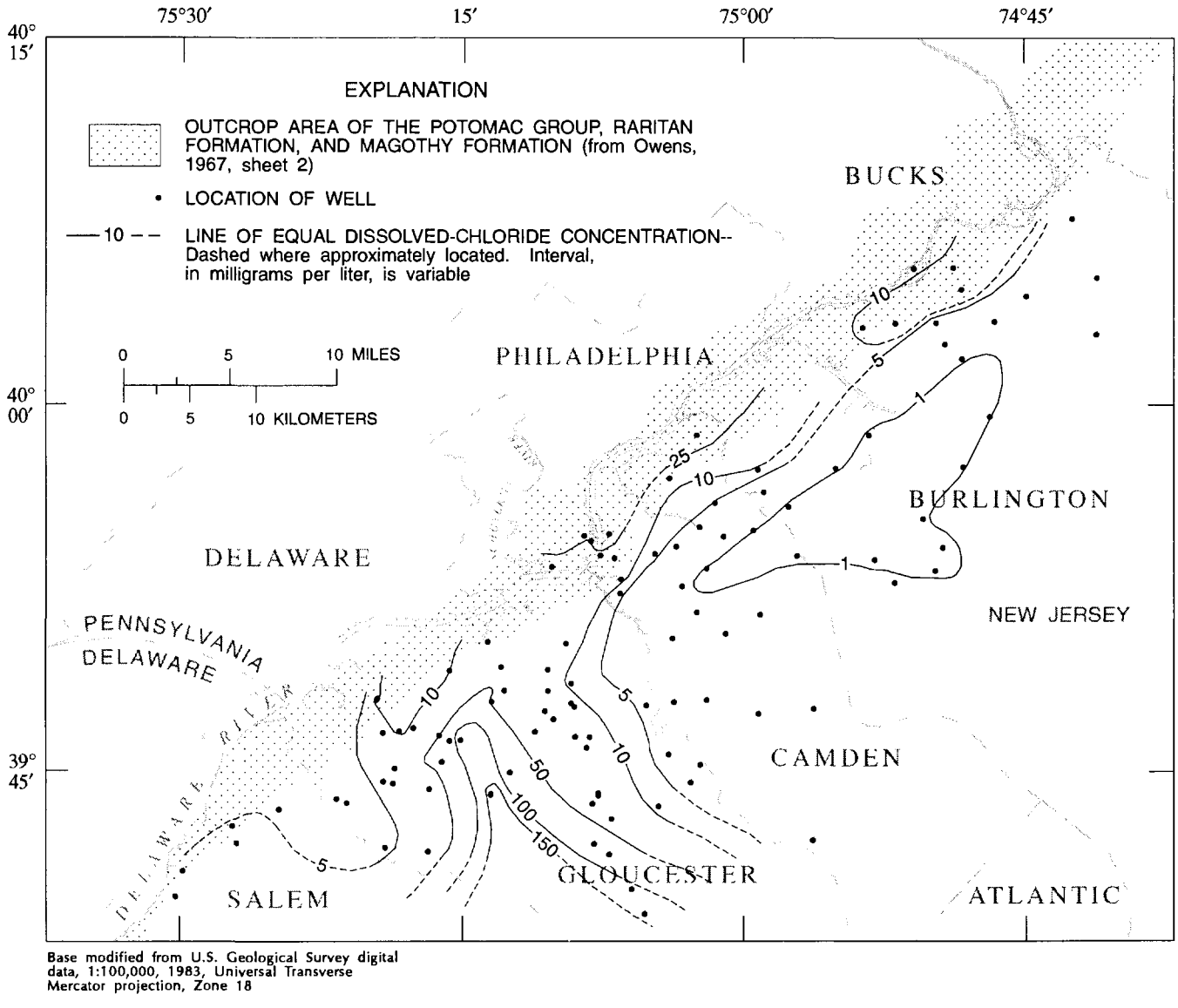


Figure 25.--Generalized distribution of dissolved sodium in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 26.--Generalized distribution of dissolved chloride in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

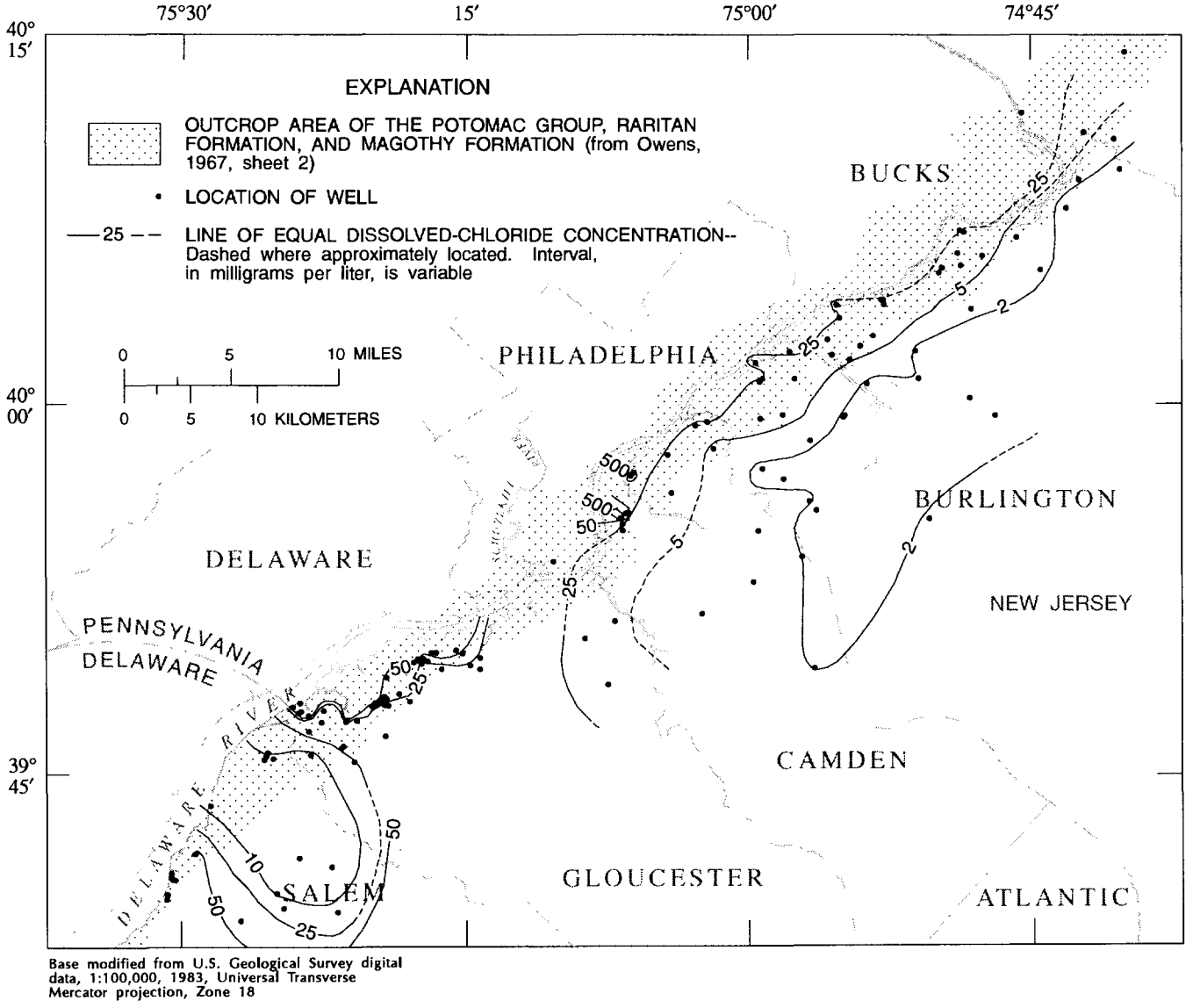
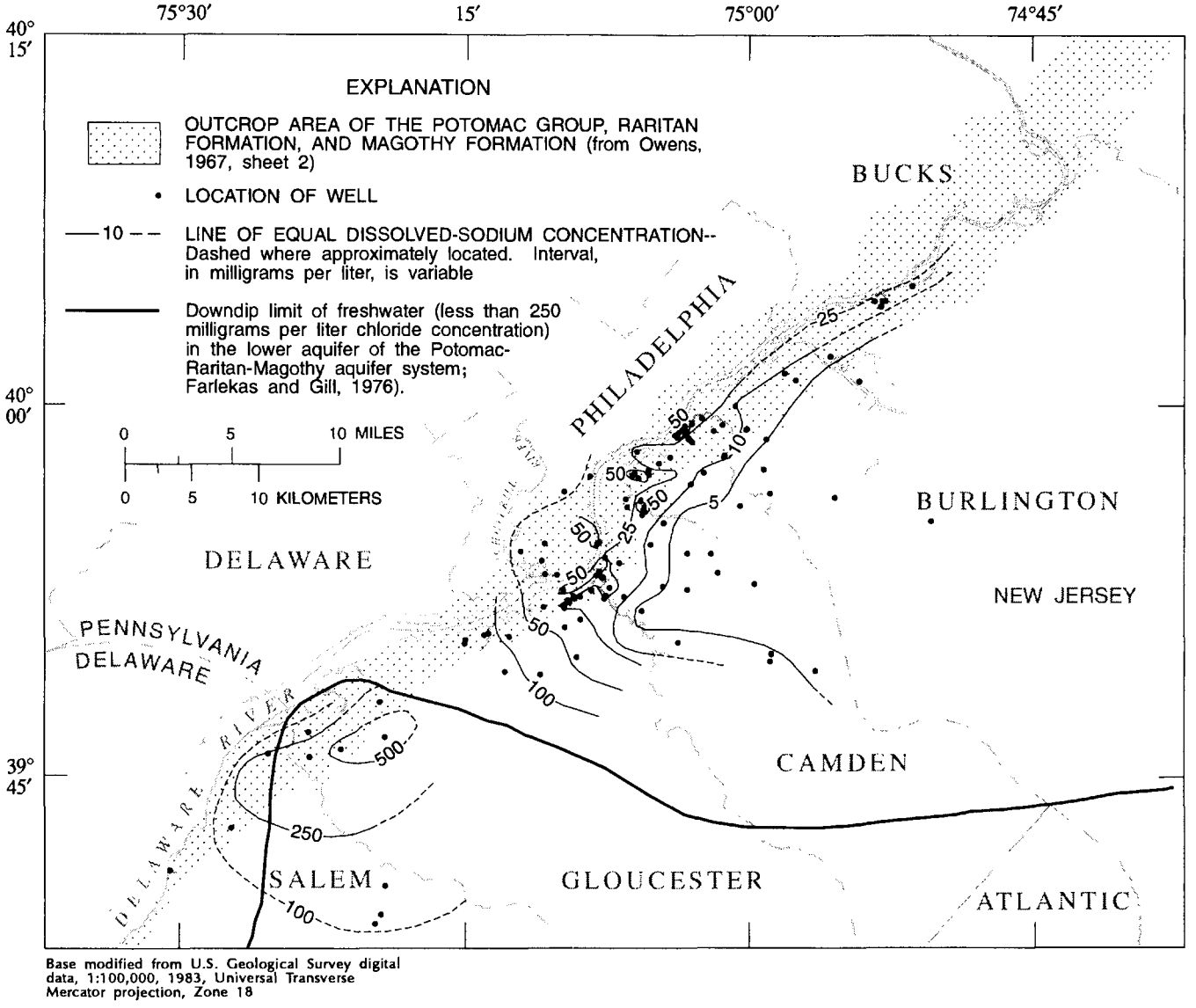


Figure 27.--Generalized distribution of dissolved chloride in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 28.--Generalized distribution of dissolved chloride in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

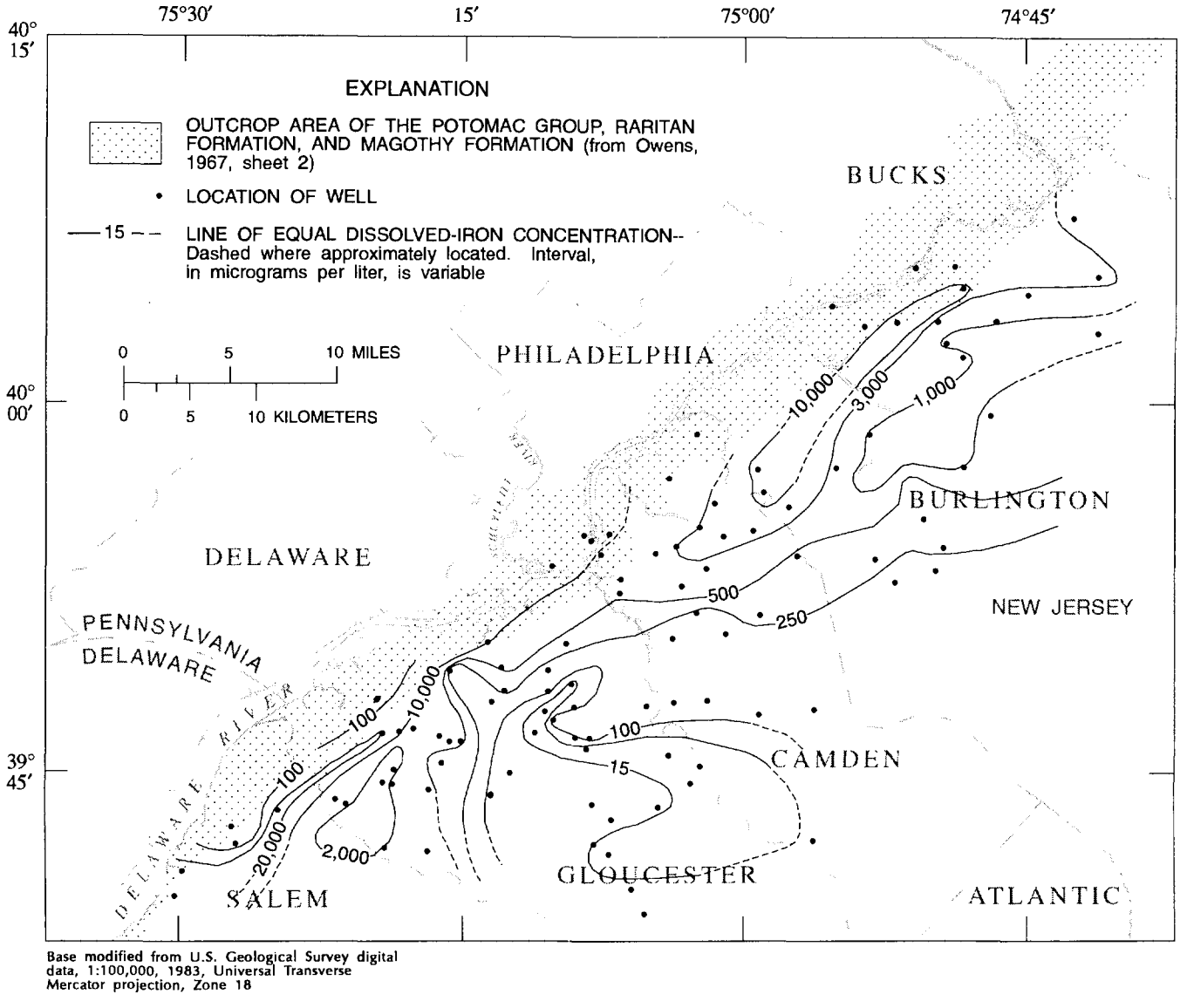


Figure 29.--Generalized distribution of dissolved iron in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

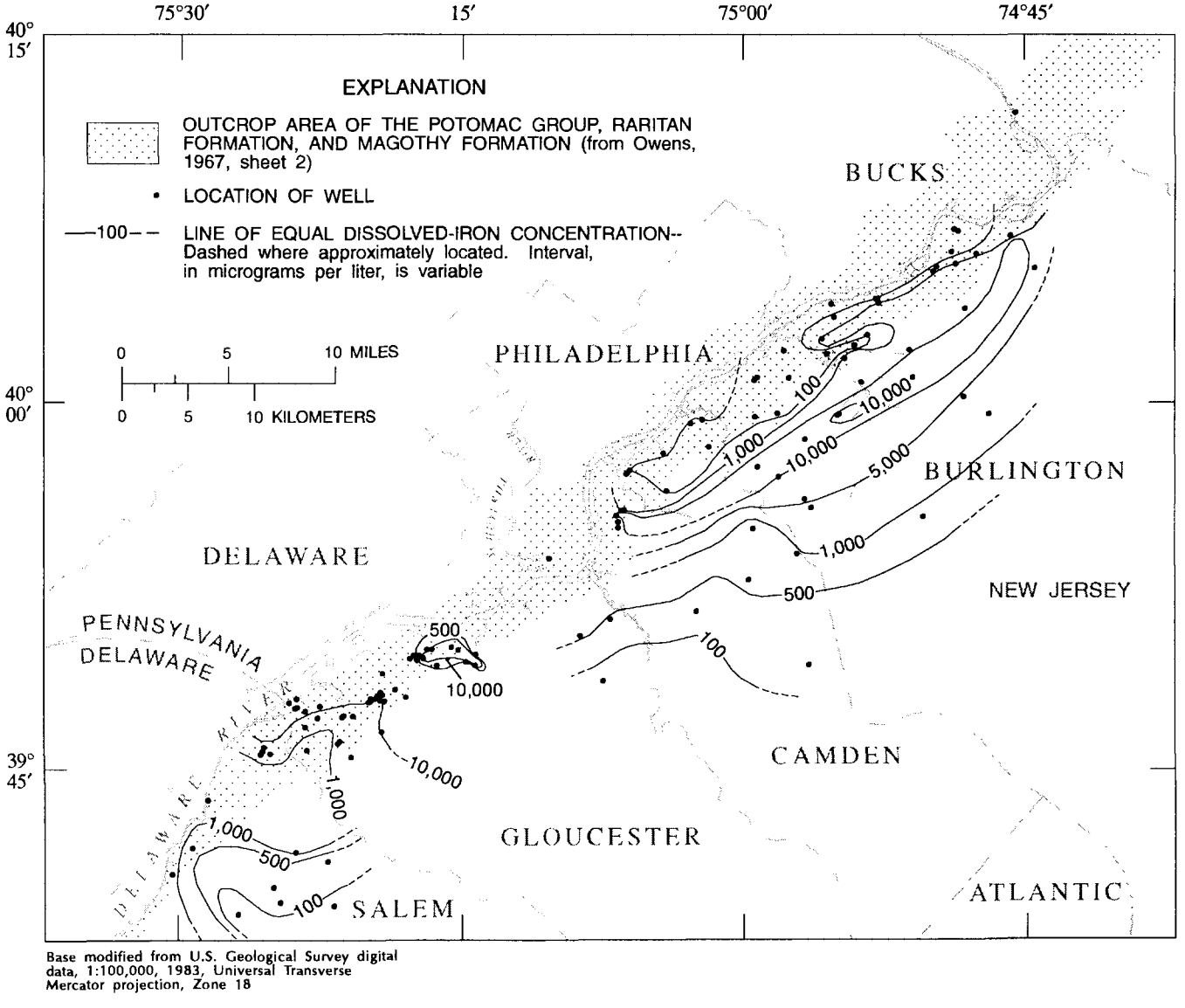


Figure 30.--Generalized distribution of dissolved iron in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

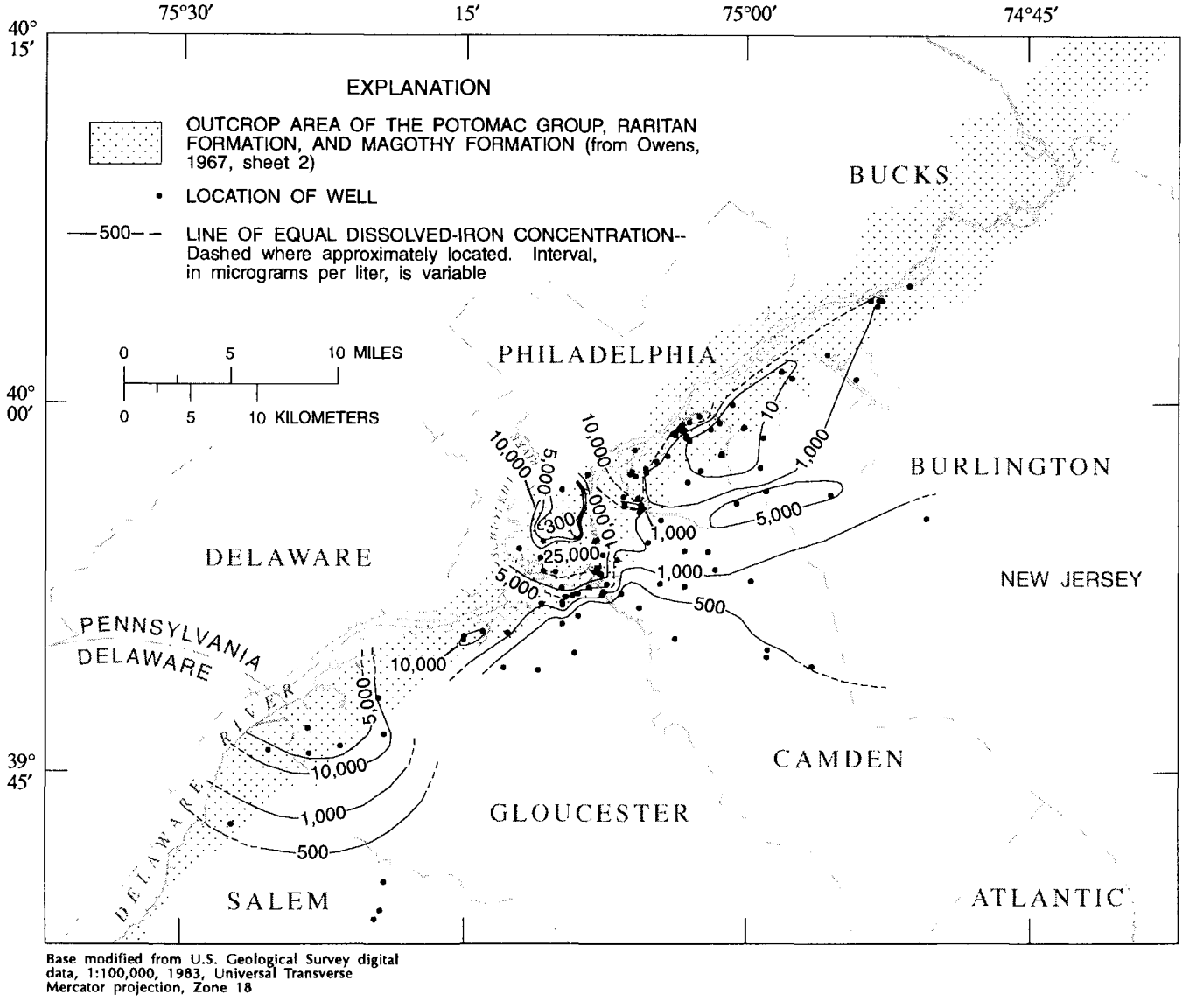


Figure 31.--Generalized distribution of dissolve iron in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

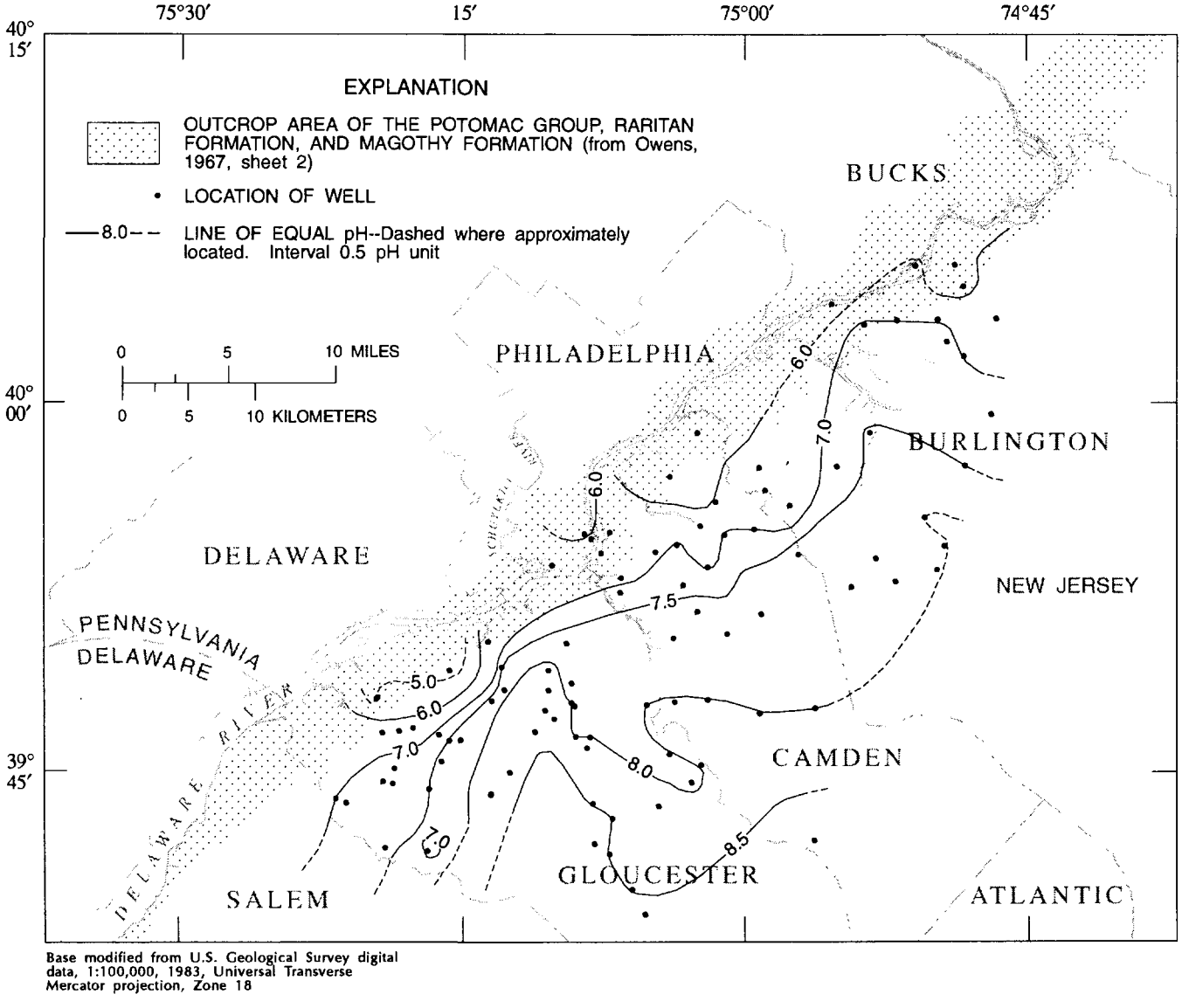
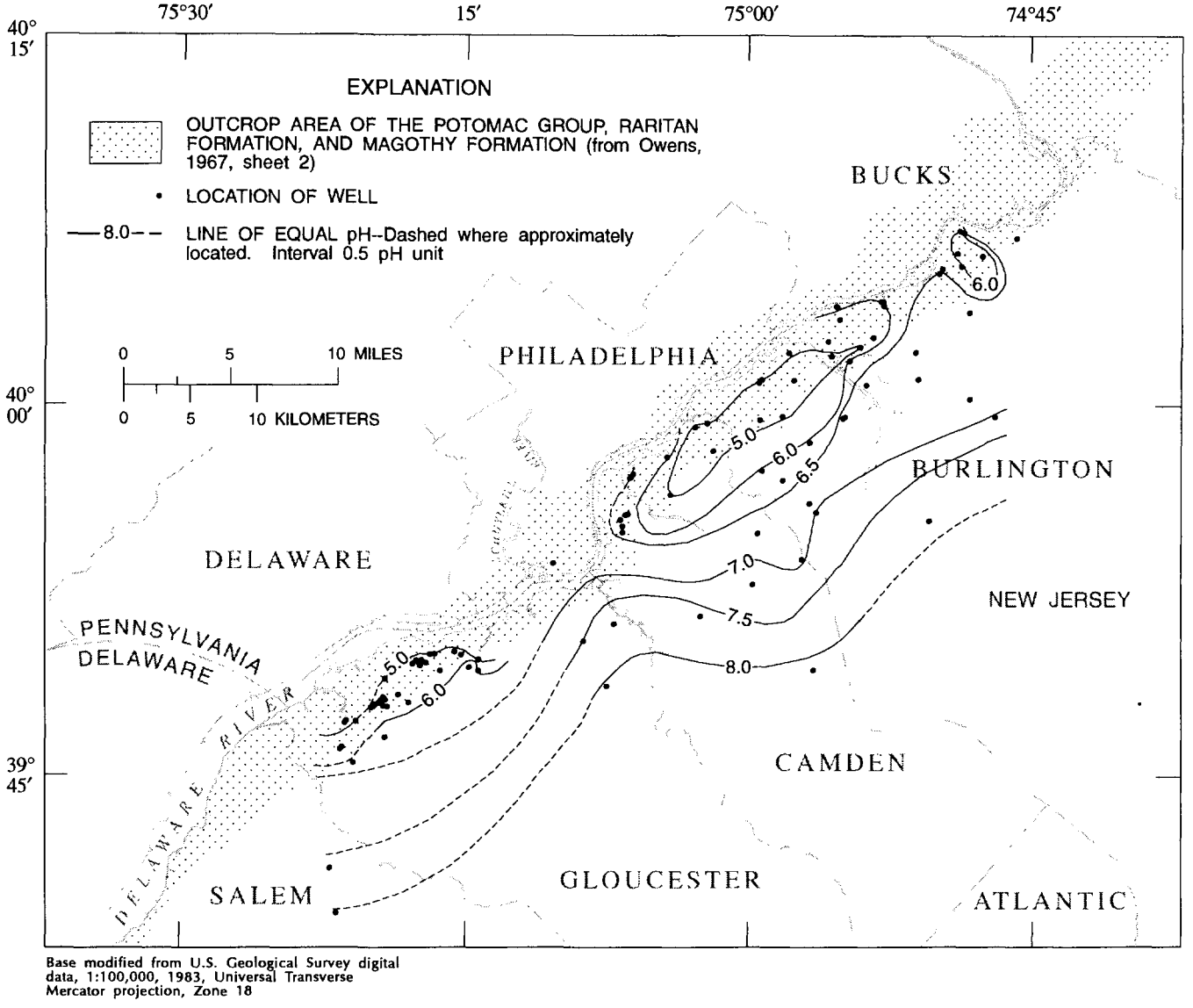
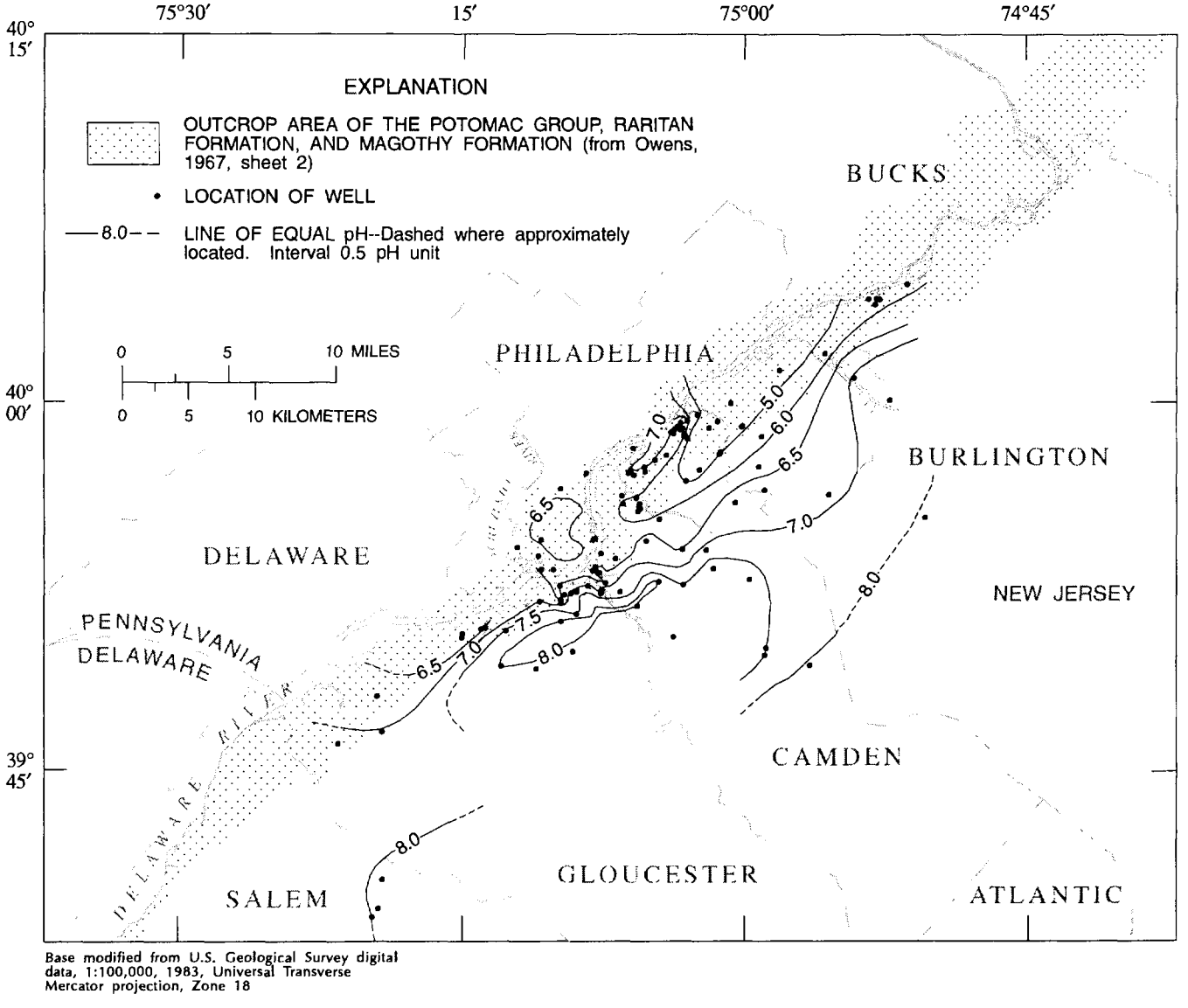


Figure 32.--Areal variations in pH of water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 33.--Areal variation in pH of water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.



Base modified from U.S. Geological Survey digital data, 1:100,000, 1983, Universal Transverse Mercator projection, Zone 18

Figure 34.--Areal variations in pH of water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

Water from wells in the upper aquifer of the Potomac-Raritan-Magothy aquifer system can contain greater than 500 mg/L dissolved solids. In general, dissolved-solids concentrations, which ranged from 100 to 150 mg/L in Burlington and Camden Counties, increased southwestward to 250 to 500 mg/L in Gloucester County. This pattern is largely the result of the direction of ground-water flow. Water from several wells in or near the outcrop area of the upper aquifer, particularly from wells 15-390 and 5-731, contained elevated concentrations of dissolved solids that probably result from contamination as a result of human activities.

The distribution pattern of dissolved solids in the middle aquifer of the Potomac-Raritan-Magothy aquifer system is similar to that in the upper aquifer; concentrations increased, in approximately the same ranges, from Burlington and Camden Counties southwestward to Gloucester County. Leakage from the upper aquifer to the middle aquifer could affect water quality in northern Camden and northwestern Burlington Counties in the area where dissolved-solids concentrations were less than 75 mg/L. Contamination from human activities could cause the elevated dissolved-solids concentrations at some wells (7-562, 7-564, 7-566) that tap the middle aquifer near the Delaware River that were anomalously high in relation to concentrations at surrounding wells. These anomalous concentrations were near a landfill in Camden, and in Logan Township, Gloucester County.

Concentrations of dissolved solids in the lower aquifer tended to increase from northeast to southwest in the study area, from 150 mg/L in Burlington County to greater than 500 mg/L in southwestern Gloucester and Salem Counties. Possible leakage from overlying aquifers could be the cause of an area of dissolved-solids concentrations less than 100 mg/L in northern Burlington County and northern Camden County. This area (fig. 22) directly underlies an area of relatively low dissolved-solids concentrations in the middle aquifer. In Gloucester and Salem Counties, near the Delaware River, areas affected by saline-water intrusion are characterized by dissolved-solids concentrations greater than 500 mg/L. It is unclear whether this area of high concentration is the result of intrusion of brackish water from the Delaware Estuary or flow of saline water from downdip in the aquifer.

A statistical summary of dissolved-solids-concentration data is presented below.

Aquifer	Number of analyses	Concentration of dissolved solids in milligrams per liter			
		Minimum	Mean	Maximum	Median
Upper	107	52	293	4,480	146
Middle	125	25	305	6,060	147
Lower	116	46	260	1,530	188

Of the 107 dissolved-solids concentrations determined for water from the upper aquifer, 5.6 percent exceeded the SMCL of the USEPA (1986) of 500 mg/L. For the upper aquifer, less than 1 percent of the samples contained concentrations greater than 1,000 mg/L. For the middle and lower aquifers, 13.6 percent and 12.9 percent of the samples, respectively, contained concentrations greater than 500 mg/L. For the middle and lower aquifers, concentrations in 4.8 percent and 1.7 percent of the samples, respectively, exceeded 1,000 mg/L.

Sodium

Sodium is a common dissolved constituent in ground waters. Natural sources of sodium are saltwater intrusion; ion exchange of calcium for sodium on clays; geologic sources, such as evaporite deposits; and weathering of rocks. Human-related inputs of sodium include road salt, septic-tank effluents, some industrial wastes, and some agricultural chemicals and wastes. A limit of 50 mg/L is recommended by the State of New Jersey (1982) as a secondary standard (NJGW2) for ground-water quality.

The distribution of dissolved sodium in each aquifer is shown in figures 23-25. Several patterns are evident in all three aquifers of the Potomac-Raritan-Magothy aquifer system. In Burlington County, dissolved-sodium concentrations were low, generally below 5 mg/L, in water from the confined part of the aquifer system. In Camden County, concentrations in water from the confined part of the system increased to 25 mg/L. In the outcrop areas of Burlington and Camden Counties, concentrations of dissolved sodium were higher than confined parts of the aquifer, possibly as a result of human activity or inflow from the Delaware River. For all aquifers in the Potomac-Raritan-Magothy aquifer system, the 25-mg/L equal-concentration line for dissolved sodium corresponded closely to the northern part of the Camden-Gloucester County line. Water from areas in all three aquifers was found to contain sodium concentrations that exceeded 50 mg/L.

In water from the upper aquifer in central Gloucester County, sodium concentrations ranged from 50 mg/L to greater than 100 mg/L; although variable, concentrations generally were less than 50 mg/L. In water from the middle aquifer, sodium concentrations in most of Salem County were greater than 50 mg/L, except in the northeastern corner of the county and in and near the outcrop area. Water from other areas of the middle aquifer generally contained sodium in concentrations less than 50 mg/L. Isolated areas of elevated sodium concentrations were apparent near wells 15-98 and 15-380 (fig. 24). In water from the lower aquifer, sodium concentrations greater than 50 mg/L appeared to be more extensive than in the other aquifers. Water from wells in the lower aquifer in Salem and Gloucester Counties contained sodium concentrations greater than 50 mg/L, with the exception of some wells in northeastern Gloucester County. Water from wells in the lower aquifer in the Philadelphia area also contained elevated concentrations of dissolved sodium, possibly related to contamination from human activity. A statistical summary of dissolved-sodium-concentration data shown in figures 23-25 is presented below.

Aquifer	Number of analyses	Concentration of dissolved sodium in milligrams per liter			
		Minimum	Mean	Maximum	Median
Upper aquifer	108	1.8	40	230	15
Middle aquifer	125	1.8	35.8	670	12
Lower aquifer	119	2.4	47.5	540.0	21.0

The percentages of water samples containing dissolved-sodium concentrations greater than 50 mg/L are 29.6, 20.8, and 19.3 percent for the upper, middle, and lower aquifers, respectively.

Chloride

Chloride is one of the major anions in ground water. Sources are similar to those for sodium and generally are natural; however, chloride in ground water can result from human activity such as sewage disposal and road salting. The SMCL of the USEPA (1986) for chloride is 250 mg/L (U.S. Environmental Protection Agency, 1986). The distribution of dissolved chloride in each aquifer is shown in figures 26-28. Chloride-distribution patterns generally are similar for all three aquifers in Burlington and Camden Counties. In the confined part of the aquifer system in these areas, chloride concentrations were low, typically less than 5 mg/L. In the outcrop areas, chloride concentrations were slightly higher than confined areas of the aquifer. The chloride distribution was variable among aquifers in Gloucester and Salem Counties, and in other areas where localized contamination is possible.

In the upper aquifer, dissolved-chloride concentrations did not exceed 250 mg/L anywhere within the study area. In the central part of Gloucester County, however, chloride concentrations in some water samples from the upper aquifer were greater than 100 mg/L. Concentrations in Salem County were less than 50 mg/L.

The water in the middle aquifer indicated possible contamination at several wells, notably well 7-562 and well 7-48 (in the City of Camden), both in Camden County; and well 15-163 in Logan Township, in Gloucester County. Water from these wells contained chloride in concentrations higher than those in the surrounding area. With the exception of these wells, chloride concentrations exceeded the SMCL of the USEPA (1986) in only a few places in the middle aquifer. An area of low chloride concentration (less than 10 mg/L) was evident in the upper and the middle aquifers in southwestern Gloucester County and northeastern Salem County. The low chloride concentrations could result from leakage between the upper and middle aquifers and (or) a localized, anomalously high rate of ground-water recharge. More rainfall may be infiltrating in this area. Rainwater, which generally ranges in chloride concentration from less than 1 to 10 mg/L (Feth, 1981, p. 11), may be causing a dilution effect in chloride concentrations relative to the more typical chloride range in that area of 10-50 mg/L.

In the lower aquifer, dissolved-chloride concentrations increased from northeast to the southwest in the study area and exceeded 100 mg/L in Gloucester and Salem Counties; however, chloride concentrations exceeded the SMCL of the USEPA (1986) in only one area in the southwestern corner of Gloucester County. Unlike the upper and middle aquifers, the lower aquifer is not characterized by an area of low chloride concentration (less than 10 mg/L) in or near the outcrop area in southwestern Gloucester County and northeastern Salem County.

A statistical summary of dissolved-chloride-concentration data for the aquifer system is presented below.

Aquifer	Number of analyses	Concentration of dissolved chloride in milligrams per liter			
		Minimum	Mean	Maximum	Median
Upper aquifer	110	0.7	22.8	170	10
Middle aquifer	141	.7	45.3	780	16
Lower aquifer	123	1.9	56.1	830	22

In the upper aquifer, none of the chloride concentrations in water from the wells sampled exceeded 250 mg/L. In the middle and lower aquifers, chloride concentrations in 3.5 and 4.1 percent of the samples, respectively, exceeded 250 mg/L.

Iron

The solubility of iron in ground water depends on the pH and the oxidation state of the water. Dissolved iron can be found in two oxidation states, ferrous (Fe^{+2}) or ferric (Fe^{+3}), but iron in ground water generally is in the reduced, ferrous state. Ferric iron commonly forms compounds of low solubility, whereas ferrous iron is soluble under ground-water conditions where the iron ion can gain orbital elections (a reduction reaction).

Elevated dissolved-iron concentrations are responsible for the most persistent water-quality problems associated with ground water from the Potomac-Raritan-Magothy aquifer system. Iron concentrations in ground water can be increased indirectly by contamination. Microbiological decomposition of organic wastes from sources, such as leaky sewers, septic systems, landfills, and municipal and industrial wastewater disposal, consumes oxygen (Langmuir, 1969, p. 21) and leads to reducing conditions in the ground water; under these conditions, dissolved iron concentrations can be as high as 1,000 mg/L. The decomposition process also can release hydrogen ions into the ground-water system, lowering the pH and thereby promoting the leaching of iron from iron-bearing minerals in the aquifer matrix. Dissolved-iron concentrations exceeding 0.3 mg/L also can be found in some outcrop areas where (1) normally oxygen-rich waters have been depleted in oxygen by the presence of clay layers and (or) (2) infiltration of oxygen-rich precipitation has been hindered by impervious surfaces, such as pavement and roads.

Confinement of ground water enhances the development of reducing conditions and the production of highly soluble ferrous ions (Paulachok, 1991). The USEPA (1986) SMCL for iron is 0.3 mg/L (U.S. Environmental Protection Agency, 1986).

The distribution of dissolved iron in water from each aquifer is shown in figures 29-31. Water from most outcrop areas of the three aquifers contained iron in concentrations greater than 0.3 mg/L. Many wells have been abandoned as a result of clogging screens and pumps by iron. Dissolved-iron concentrations less than 0.3 mg/L were found in water from the downdip, confined parts of the aquifers in Burlington, Camden, Gloucester, and Salem Counties.

In northwestern Burlington County and northeastern Camden County, concentrations of dissolved iron were lower in water from the unconfined parts of the middle and lower aquifers near the outcrop area than in water from other parts of the aquifer system. Water from the middle aquifer contained iron in concentrations less than 0.1 mg/L, mostly in the outcrop area. The concentration in water from the lower aquifer also was less than 0.1 mg/L, but these low concentrations extended farther downdip in the confined part of the system than in the middle aquifer. Few wells are screened in the upper aquifer in northeastern Camden and northwestern Burlington Counties, but several wells screened in the upper aquifer yielded water with lower concentrations of dissolved iron than wells screened in the rest of the aquifer.

The area of water with low concentrations of dissolved iron corresponds to an area of high concentrations of dissolved oxygen, low concentrations of dissolved solids, and low pH in the middle and lower aquifers (figs. 30 and 31). In water from the middle aquifer in this location, concentrations of dissolved oxygen ranged from 1.0 mg/L to 8.5 mg/L. In water from the lower aquifer, concentrations of dissolved oxygen were similar to concentrations in the middle aquifer, but were as high as 9.3 mg/L. Because dissolved-oxygen concentration is measured in the field and the samples are subject to oxygenation during pumping, dissolved-oxygen concentrations less than 0.5 mg/L associated with high iron concentrations are suspect.

Low iron concentrations in this area appear to result from the mixing of anoxic ground water containing high iron concentrations with oxygen-rich ground water leaking downward through confining units that are thin or otherwise ineffective barriers to ground-water flow, as discussed previously in "Hydrogeologic Setting." The oxidation of dissolved iron in ground water causes precipitation of iron oxides (such as $Fe(OH)_3$) and release of hydrogen ions, which results in a lowering of pH.

A statistical summary of dissolved-iron-concentration data for water from the aquifer system is presented below.

Aquifer	Number of analyses	Concentration of dissolved solids in milligrams per liter			
		Minimum	Mean	Maximum	Median
Upper aquifer	107	<0.003	6.3	220.0	0.3
Middle aquifer	125	<.003	15.5	360.0	.99
Lower aquifer	119	<.003	7.9	70.0	2.20

Dissolved-iron concentrations in 50 percent of the 107 water samples from the upper aquifer analyzed for iron exceeded the SMCL of the USEPA (1986). Concentrations in 64 and 70 percent, respectively, of the 125 and 119 water-quality samples from the middle and lower aquifers exceeded the SMCL of the USEPA (1986).

Manganese

The chemistry of manganese is similar to that of iron. In general, as the concentration of dissolved iron in ground water increases, the concentration of dissolved manganese increases. Manganese oxides and hydroxides commonly are present in sediments during deposition. The SMCL of the USEPA (1986) for dissolved manganese is 50 μg/L (U.S. Environmental Protection Agency, 1986).

Maps illustrating the distribution of dissolved manganese were not prepared for the entire study area, although a discussion of the manganese distribution in the Camden-Philadelphia area is presented in "Effects of human activities." Summary statistics for water-quality data for iron and manganese are presented below.

[Fe, dissolved iron; Mn, dissolved manganese; 300, U.S. Environmental Protection Agency (1986) Secondary Maximum Contaminant Level, in micrograms per liter, for dissolved iron; 50, U.S. Environmental Protection Agency (1986) Secondary Maximum Contaminant Level, in micrograms per liter, for dissolved manganese; >, greater than; <, less than]

Aquifer	Number of analyses	Number and percentage of ground-water samples in which concentrations of iron and manganese were above or below indicated concentrations							
		Fe >300 Mn >50		Fe >300 Mn <50		Fe <300 Mn >50		Fe <300 Mn <50	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Upper	98	26	26	26	26	5	5	41	42
Middle	127	70	55	12	9	24	19	21	16
Lower	125	73	58	16	12	18	14	18	14

Water samples from more than 50 percent of the sampled wells tapping the middle and lower aquifers contained concentrations of dissolved iron greater than the SMCL of the USEPA (1986) of 300 µg/L; water from these wells also contained dissolved manganese in concentrations greater than the SMCL of the USEPA (1986) of 50 µg/L. Although various processes affect the relation between these two chemical species, elevated concentrations of dissolved iron are found in conjunction with high concentrations of dissolved manganese in many instances.

Hydrogen-ion activity (pH)

pH is the negative base-10 logarithm of the hydrogen-ion activity, expressed as moles per liter (Hem, 1985, p. 61). In most natural ground waters, pH ranges from 6.0 to 8.5. The SMCL of the USEPA (1986) for pH is a range of 6.5 to 8.5 (U.S. Environmental Protection Agency, 1986). The chemical reaction of dissolved carbon dioxide with water is one of the principle reactions that affects pH. The atmosphere is a major source of carbon dioxide in ground water. Carbon dioxide reacts with water and hydrogen ions to produce carbonic acid, bicarbonate, and carbonate. Species produced from this reaction depend on the initial pH of the water and its buffering capacity (Stumm and Morgan, 1981, p. 558). Temperature also has a strong effect on hydrogen-ion activity: As temperature increases, pH decreases.

The distribution of pH in water from each aquifer is shown in figures 17-19. These maps illustrate field-measured pH values. Generally, pH increased with increasing distance downdip from the outcrop area. A pH of less than 6.5 was not found at distances greater than 2 mi downdip from the outcrop area in water from any of the three aquifers. Values of pH above and below the SMCL of the USEPA (1986) can be found in part of the outcrop area as a result of contamination from human activity.

A statistical summary of pH data for the aquifer system is presented below.

Aquifer	Number of analyses	pH		
		Minimum	Maximum	Median
Upper aquifer	100	4.2	9.3	7.5
Middle aquifer	103	3.9	8.2	6.0
Lower aquifer	118	4.1	8.9	6.6

The percentages of samples that exceeded the SMCL of the USEPA (1986) for pH are 14.5, 66.0, and 43.2 percent for water from the upper, middle, and lower aquifers, respectively. The median pH of water from the upper aquifer (7.5) indicates that water from the upper aquifer is more alkaline than waters from the other two aquifers. In addition, the median pH of water from the middle aquifer was more acidic than the lower limit of the SMCL of the USEPA (1986).

Trace elements

Trace elements commonly are present at concentrations of less than 1.0 mg/L in ground water, in contrast to the major ions, which commonly are present at higher concentrations. Contamination from human activity can account for elevated concentrations of trace elements. USEPA Maximum Contaminant Levels (MCL's) exist for some of these constituents.

Concentrations of trace elements in water from the aquifers of the Potomac-Raritan-Magothy aquifer system typically were less than the MCL of the USEPA (1986), as shown in table 9. The trace element that most frequently exceeded the MCL is cadmium. Percentages of samples from the upper, middle, and lower aquifers in which MCL's were exceeded, however, were small (1.1, 1.5, and 4.0 percent, respectively). Elevated concentrations could be related to localized contamination.

Nitrogen

The anionic forms of nitrogen are nitrite (NO_2^-) and nitrate (NO_3^-). The major cationic form of nitrogen is ammonium (NH_4^+). Chemical properties of the above species differ greatly. In ground water, nitrate is more stable than is nitrite; nitrate commonly is transported along with ground-water flow. Ammonium cations tend to sorb onto mineral surfaces and form strong soluble complexes with metal ions, which are common in wastewater.

Sources of nitrogen in ground water include precipitation, fossil-fuel-combustion products, fertilizers, and industrial and domestic wastewaters. Transformations among the nitrogen species in ground water commonly are mediated by microbial action. The MCL of USEPA (1986) for nitrate nitrogen is 10 mg/L (U.S. Environmental Protection Agency, 1986). Although no MCL or SMCL for ammonia in drinking-water supplies has been promulgated by the USEPA, the State of New Jersey (1982) set the secondary standard (NJGW2) for ammonia at 0.5 mg/L.

Table 9.--Trace elements in water from the Potomac-Raritan-Magothy aquifer system, 1980-86, in relation to laboratory detection limits and U.S. Environmental Protection Agency Maximum Contaminant Levels

[MCL, U.S. Environmental Protection Agency limits; μg/L, micrograms per liter]

Constituent	Laboratory detection limit	USEPA MCL	Total number of analyses	Number above laboratory detection limit	Number above USEPA MCL
Arsenic	1 μg/L	50 μg/L			
Upper aquifer			57	35	0
Middle aquifer			91	45	1
Lower aquifer			92	46	0
Barium	2 μg/L	1,000 μg/L			
Upper aquifer			83	83	0
Middle aquifer			98	98	0
Lower aquifer			85	84	0
Cadmium	1 μg/L	10 μg/L			
Upper aquifer			88	46	1
Middle aquifer			132	72	2
Lower aquifer			99	56	4
Chromium (hexavalent)	1 μg/L	50 μg/L			
Upper aquifer			51	3	0
Middle aquifer			81	12	2
Lower aquifer			80	11	1
Lead	10 μg/L	50 μg/L			
Upper aquifer			86	23	0
Middle aquifer			122	31	2
Lower aquifer			96	30	0

In water from the Potomac-Raritan-Magothy aquifer system, nitrate concentrations greater than the MCL of USEPA (1986) are uncommon, but concentrations of ammonia greater than the NJGW2 are common in and near the outcrop of the aquifer system, as shown in figures 35 through 37. The upper aquifer is tapped by the fewest wells at which nitrate and ammonia concentrations exceeded the MCL of USEPA (1986) and the NJGW2 standard, respectively (fig. 35). The percentages of nitrate concentrations in water from wells in the middle aquifer (fig. 36) that exceeded the MCL of USEPA (1986) were larger than those in water from wells in the other aquifers, especially in Gloucester County. Ammonia concentrations greater than 10 mg/L were found in water from wells near the City of Camden and in Gloucester County. Data for water from the lower aquifer (fig. 37) indicate no wells at which nitrate concentrations were greater than the MCL of USEPA (1986); ammonia concentrations greater than 10 mg/L in water from the lower aquifer generally were found in wells located in the outcrop area in Camden County and northeastern Gloucester County.

Presence of Saline Water

Saline water is introduced into the Potomac-Raritan-Magothy aquifer system by (1) migration of water containing high concentrations of dissolved solids from downdip in the aquifer system as a result of differences in recharge and changes in tidal fluctuations (Feth, 1981, p. 6) and as a result of pumping, and (2) induced infiltration of saline water from the Delaware River estuary. Schaefer (1983) identified four locations near the study area as areas where saline water has a significant effect on ground-water quality: Woodstown Borough and surrounding areas, Clayton Borough and surrounding areas, the area between Paulsboro and Gibbstown, and the area between Penns Grove and Salem City (fig. 1). Updip flow of saline water in response to changes in recharge rate and pumping stresses is the likely cause of the presence of saline ground water in Woodstown and Clayton Boroughs; intrusion of saline water from the Delaware River estuary is the cause in the other areas.

Downdip Saline Water

The interface between fresh and saline water is characterized by a broad transition zone in which chloride concentrations range from 250 to 18,000 mg/L. In the Coastal Plain of New Jersey, the transition zone is approximately 1,500 ft thick vertically, and extends, in map view, 10 to 15 mi from the 5,000-mg/L isochlor (line of equal chloride concentration) to the 18,000-mg/L isochlor (Meisler and others, 1984, p. 16). The location of the 250-mg/L isochlor in the southern Coastal Plain for the lower aquifer of the Potomac-Raritan-Magothy aquifer system is shown in figure 28. The interface is farther inland in the lower and middle aquifers than in the upper aquifer because the upper aquifer has been more thoroughly flushed with freshwater recharge than have the middle or lower aquifers (Meisler and others, 1984, p. 6).

Back (1966) presented several theories on the origin of the saline waters in the northern Atlantic Coastal Plain. In marine formations such as the Magothy Formation, which was deposited under nearshore conditions and corresponds to the upper aquifer of the Potomac-Raritan-Magothy aquifer system, incomplete flushing of the sediments by recharge water could produce

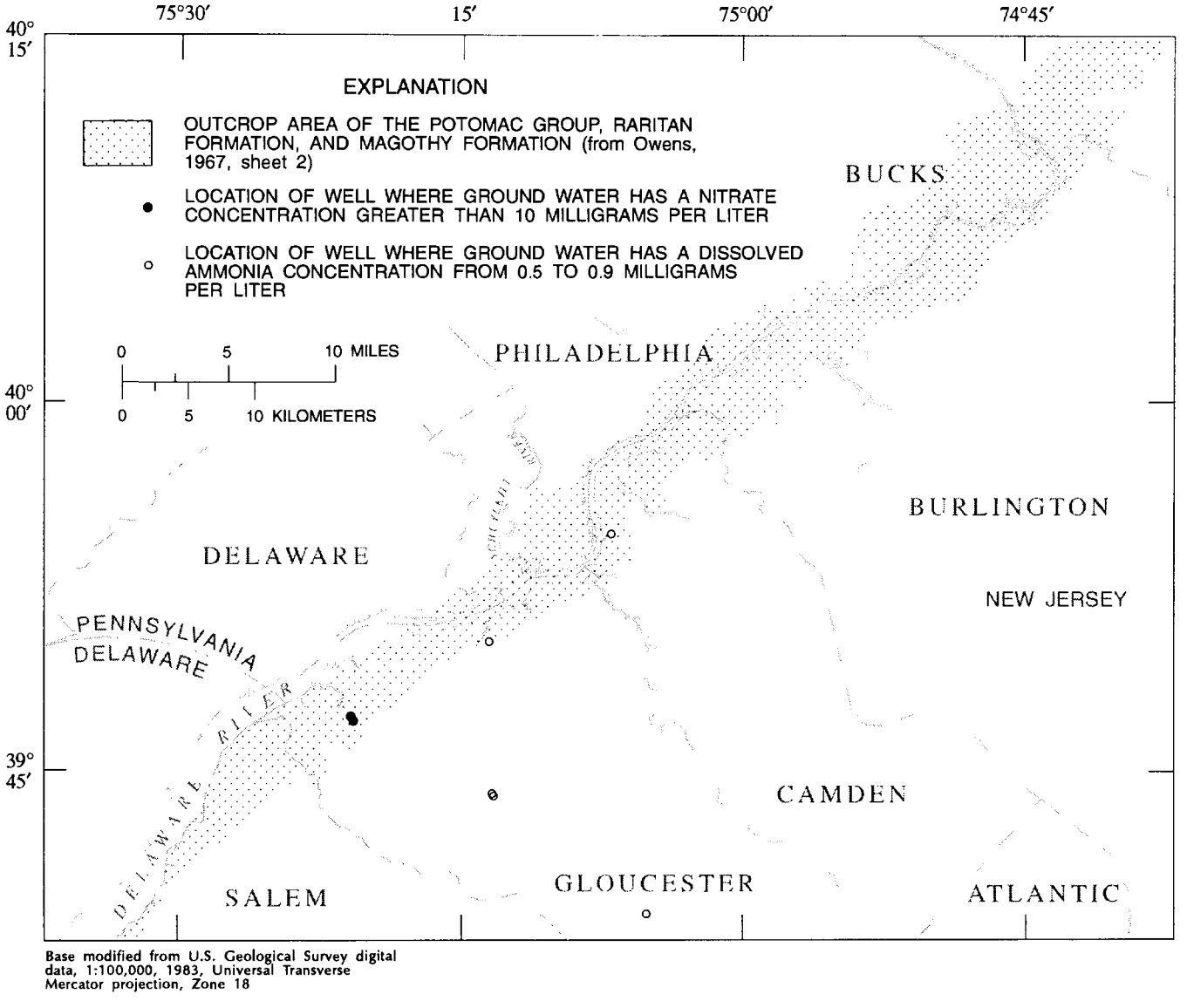


Figure 35.--Concentrations of dissolved ammonia and nitrate in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

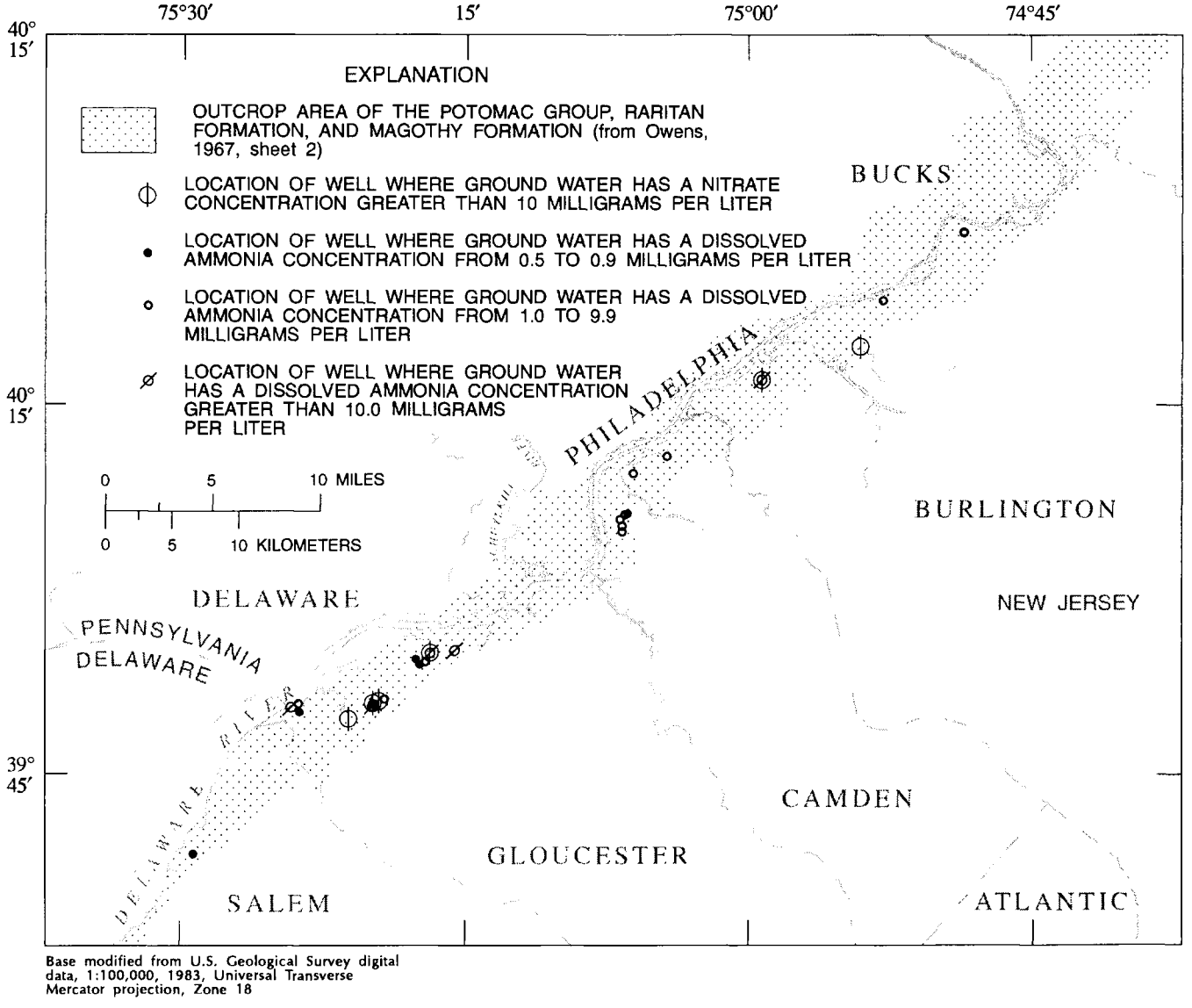


Figure 36.--Concentrations of dissolved ammonia and nitrate in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

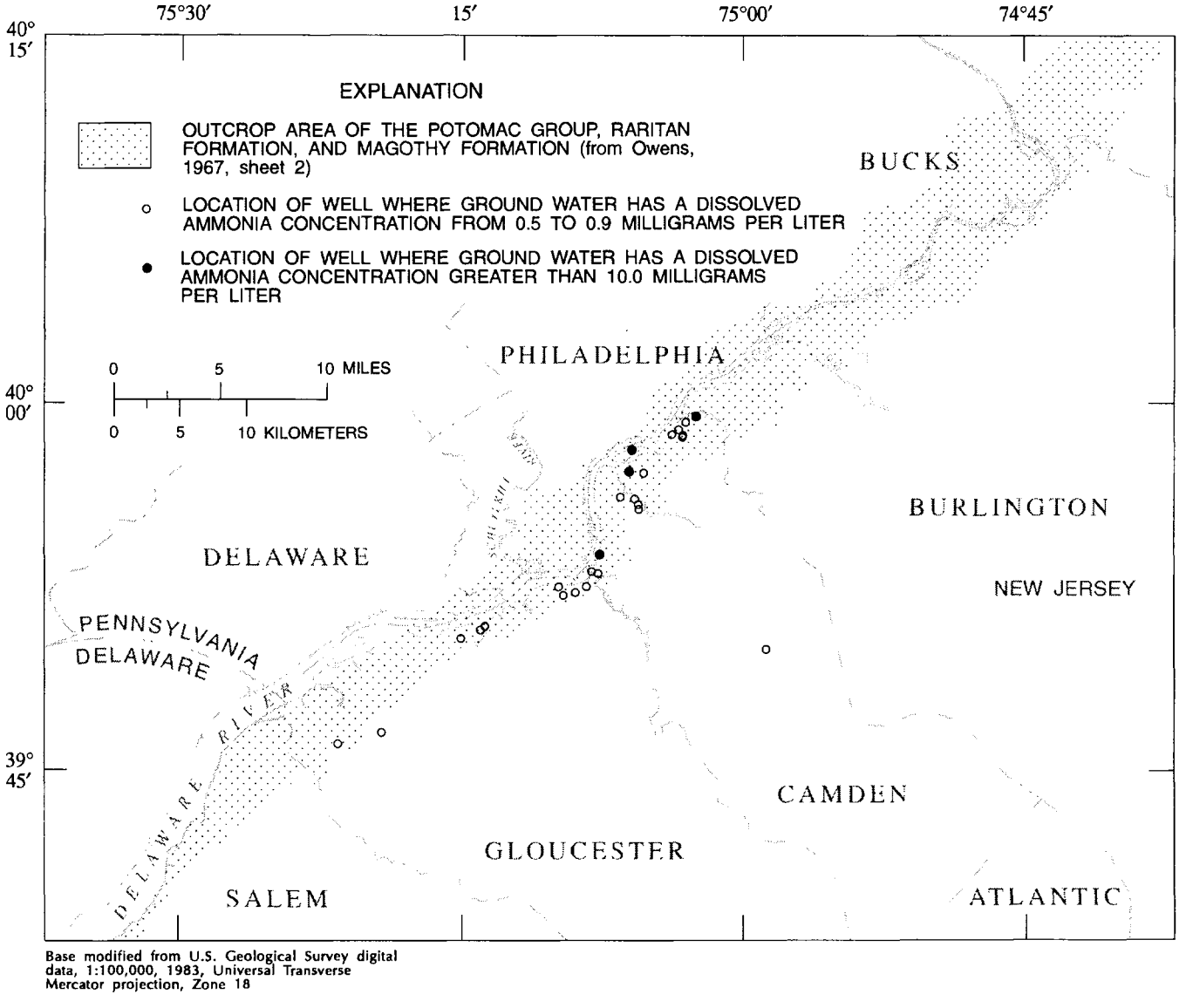


Figure 37.--Concentrations of dissolved ammonia in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

higher concentrations of dissolved solids downdip than are present in seawater. Other sources of saline water are mineral dissolution and ion concentration by clay filtration (Back, 1966, p. A9) and intrusion of saline water as a result of sea-level fluctuations (Back, 1966; Meisler and others, 1984).

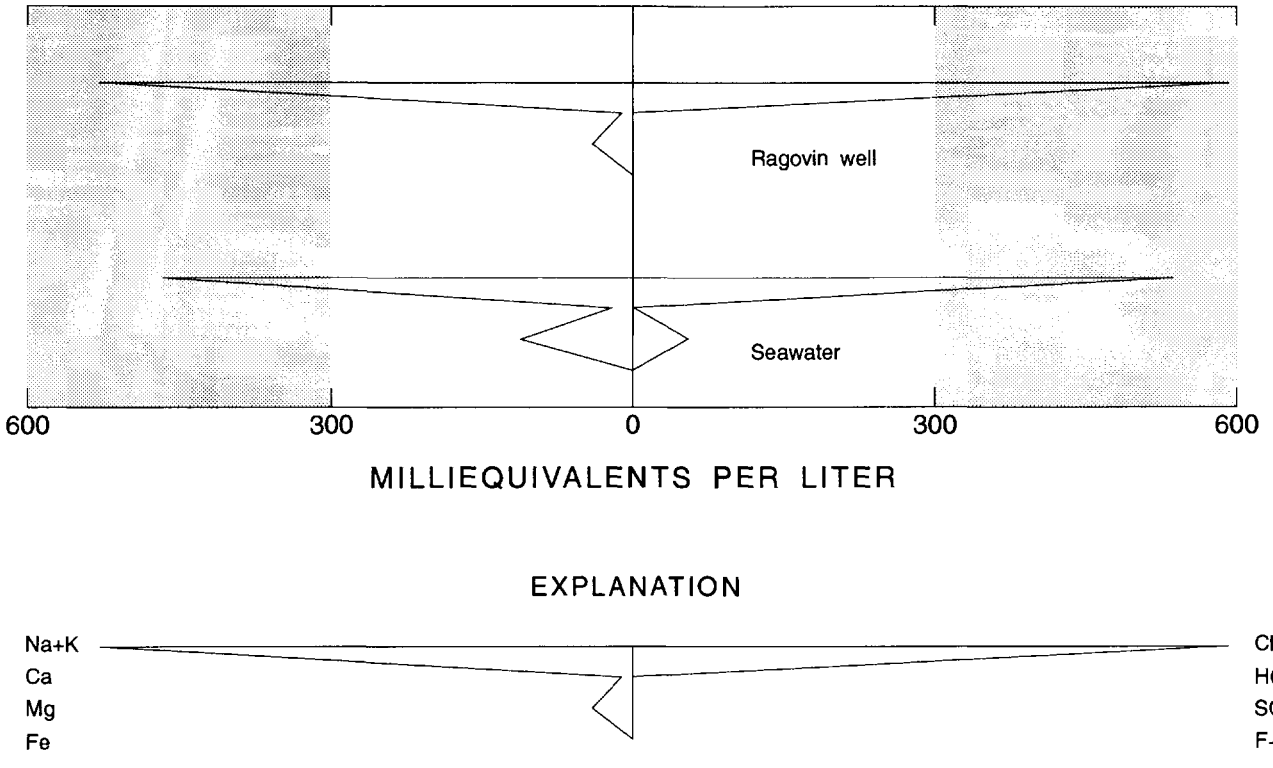
The composition of the downdip saline water is different from that of seawater. Meisler and others (1984, p. 22) noted that saline waters in the Northern Atlantic Coastal Plain contain much larger concentrations of calcium, sodium, and chloride and smaller concentrations of potassium, sulfate, and bicarbonate than does seawater. The chemistry of downdip saline water from the New Jersey part of the Coastal Plain is similar to that of water in the Northern Atlantic Coastal Plain, except that it contains less calcium.

Meisler and others (1984, p. 22) describe the waters that constitute the transition zone in the Coastal Plain from Virginia to New Jersey as a mixture of sodium bicarbonate-type freshwater, sodium calcium chloride brine, and seawater. Deviation from mixing curves, in which chloride concentration is plotted as a function of various major ions, indicates that the third source could be seawater (Meisler and others, 1984, p.22). Ion exchange also might affect the chemistry of water in the transition zone.

Facies maps of the study area (figs. 14-19) illustrate, as previously mentioned, a downdip zone of little flow. Water in this zone in the upper aquifer (fig. 14) is characterized by the sodium- and potassium-cation facies and the bicarbonate-anion facies. Wells in the lower aquifer are near the freshwater/saline-water interface because of the shape of the interface, and the quality of water from some of these wells indicates an increased contribution from saline water. The concentration of dissolved chloride was greater than that of bicarbonate in water from wells 15-283 and 33-183 (fig. 16). In contrast, bicarbonate predominated over dissolved chloride in water from well 15-131 in the upper aquifer (fig. 14) in Harrison Township, Gloucester County. These data indicate that the downdip water could be mixing with saline water to form a transition zone in this area. Stiff diagrams for the Ragovin well, which is located outside the study area in Cumberland County (fig. 1), and for seawater are shown in figure 38. In water collected from the Potomac-Raritan-Magothy aquifer system from this multiple-screen well, sodium, potassium, and chloride were the dominant ions, but some magnesium also was present. Concentrations of sodium, potassium, and chloride were greater than those in seawater. Water samples from the Ragovin well contained less calcium than the sodium calcium chloride brine described by Meisler and others (1984) as one end member of waters in the transition zone.

Intrusion of Saline Water From the Delaware River Estuary

In many estuaries, freshwater floats on the saline water, which forms a blunt wedge thinning toward the upstream part of the estuary as a result of density differences. In the Delaware River estuary, however, waters are fairly well mixed by tides and by ship propellers, and a blunt wedge-shaped front probably does not exist (Parker and others, 1964). Differences in salinity of only 5 to 10 percent between the surface and the bottom waters of the estuary are common.



STIFF DIAGRAM--Shows distribution of major-ion concentrations, in milliequivalents per liter.

Figure 38.--Stiff diagrams showing ionic composition of water from the Ragovin well, Cumberland County, New Jersey, and of seawater.

Freshwater contributions--from reservoirs and flow control on the upper Delaware River and input from streams--keep the saltwater front, which is defined as the 250-mg/L isochlor by the Delaware River Basin Commission (1983), near the Pennsylvania-Delaware State line most of the time. Under drought conditions in November 1964, the 250-mg/L isochlor encroached as far upstream as the Cities of Camden and Philadelphia (Anderson and others, 1972). During this time, saline water was adjacent to aquifer recharge areas and appears to have entered the Potomac-Raritan-Magothy aquifer system. Although no long-term effect on the City of Camden's water supply was noted, this episode is indicative of the vulnerability of the aquifer system to the intrusion of saline water from the estuary. One objective of the Delaware River Basin Commission is to maintain a sufficiently high freshwater flow in the Delaware River estuary so that the maximum 30-day average salinity of the river does not exceed 180 mg/L at river mile 98.0 (Delaware River Basin Commission, 1983). River mile 98.0 is about 6 miles upstream from the confluence with the Schuylkill River. Results of flow simulation (Luzier, 1980; Vowinkel and Foster, 1981) indicate that the Delaware River is recharging the Potomac-Raritan-Magothy aquifer system along some reaches. If regulation of freshwater flows on the upper Delaware River during drought or rising sea level is insufficient to maintain the saltwater front at its current position, ground-water contamination by saline-water intrusion could result where aquifer recharge areas are adjacent to the river.

Major factors affecting the position of the saltwater front in the Delaware River estuary are surface-water withdrawals, sea-level changes, tides, wind conditions, and the geometry of the river channel. A postulated sea level rise of 1.25 to 1.7 ft by the year 2075 (Hoffman and others, 1983) also could cause the position of the saltwater front to move upriver.

Effects of Human Activities

The effects of human activities on the water quality of the Potomac-Raritan-Magothy aquifer system have been caused by changes to the ground-water-flow system resulting from pumpage (previously discussed) and the introduction of contaminants to the aquifers from point and nonpoint sources. Areas of local contamination are in the outcrop area (H.E. Gill and G.M. Farlekas, U.S. Geological Survey, written commun., 1969) and near pumping centers where cones of depression are well-developed. Elevated concentrations of dissolved solids, sodium, chloride, trace elements, and nitrogen in the three aquifers, inferred to be the result of contamination from human activity, were discussed in the section on "Dissolved Constituents."

Effect of Ground-Water Pumpage on the Migration of Contaminants from the Pennsylvania Side of the Aquifer System

Ground-water withdrawals from the Potomac-Raritan-Magothy aquifer system have not only created large, regional cones of depression in all three aquifers, but also have caused the reversal of flow directions adjacent to the Delaware River. In the late 1950's, Barksdale and others (1958, p. 121) predicted that contaminated ground water would move under the Delaware River to New Jersey if pumping ceased at the U.S. Naval Base in Philadelphia (fig. 1). Farlekas and others (1976, p. 48) noted that, in 1966, the U.S. Naval

Base substantially decreased withdrawals from the Potomac-Raritan-Magothy aquifer system, and the direction of flow changed. At present (1988), ground water in the Potomac-Raritan-Magothy aquifer system flows southeast from Philadelphia toward New Jersey (Eckel and Walker, 1986).

Predevelopment water quality in the wells at the U.S. Naval Base in Philadelphia and well 15-323 in New Jersey was similar. Over time, however, water on the Philadelphia side of the Delaware River became progressively more contaminated from industrial sources, as noted by Greenman and others (1961, p. 74). At the Naval Base, the concentration of dissolved sulfate in water from well PH-6 decreased by 30 percent during 1956-67, but increased substantially downdip in the aquifer system, possibly because of the development of the cones of depression and reversal of flow directions in the aquifer system in New Jersey. Results of recent (1980-86) water-quality analyses indicate that concentrations of some chemical constituents--in particular, sulfate and iron--have increased in water from wells in New Jersey near the Delaware River. Paulachok (1991) attributes a 30-percent increase in the average iron concentration in water from the lower aquifer of the Potomac-Raritan-Magothy aquifer system in Philadelphia from 1945-58 to 1979-80 to ongoing ground-water contamination.

The distributions of concentrations of dissolved solids, dissolved iron, dissolved manganese, dissolved sulfate, and pH in water from the lower aquifer of the Potomac-Raritan-Magothy aquifer system in the Philadelphia-Camden area for 1980-86 are illustrated in figures 39-43, respectively. These maps are more detailed than the corresponding maps in figures 20-34 and include additional water-quality data from wells in the Philadelphia area. Most of the data for wells in the Philadelphia area are from Paulachok (1991) for the period 1979-80.

The distribution map of dissolved sulfate (fig. 43) shows that the 25-mg/L sulfate-concentration line extends downdip from the generalized outcrop area of the Potomac-Raritan-Magothy aquifer system in New Jersey. Farlekas and others (1976) place the 25-mg/L sulfate-concentration contour line just slightly into New Jersey on the basis of data collected from 1966 through 1971. Trends in constituent concentration over time for water from well 15-323 (fig. 1) are shown in figure 44. This well is in New Jersey, directly across the Delaware River from the U.S. Naval Base in Philadelphia; the period of water-quality record for this well is one of the longest for wells in the area. The graphs show that concentrations of all dissolved constituents have increased substantially; pH has decreased slightly.

In addition to the migration of contaminants from the Philadelphia side of the aquifer, increases in constituent concentrations could be partly a result of downward leakage of contaminated water through the outcrop area on the New Jersey side of the aquifer system.

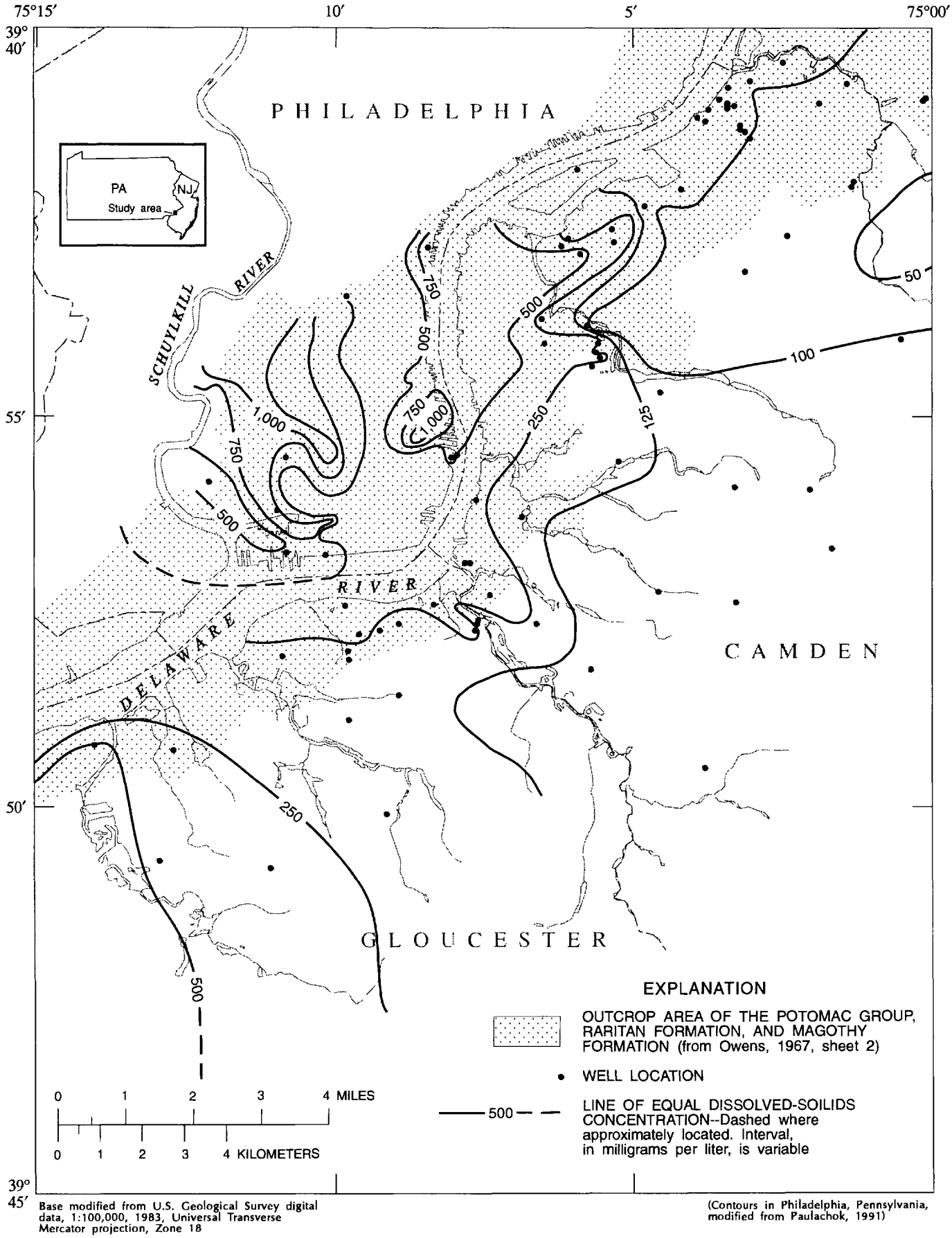


Figure 39.--Concentrations of dissolved solids in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, Philadelphia-Camden area, 1980-86.

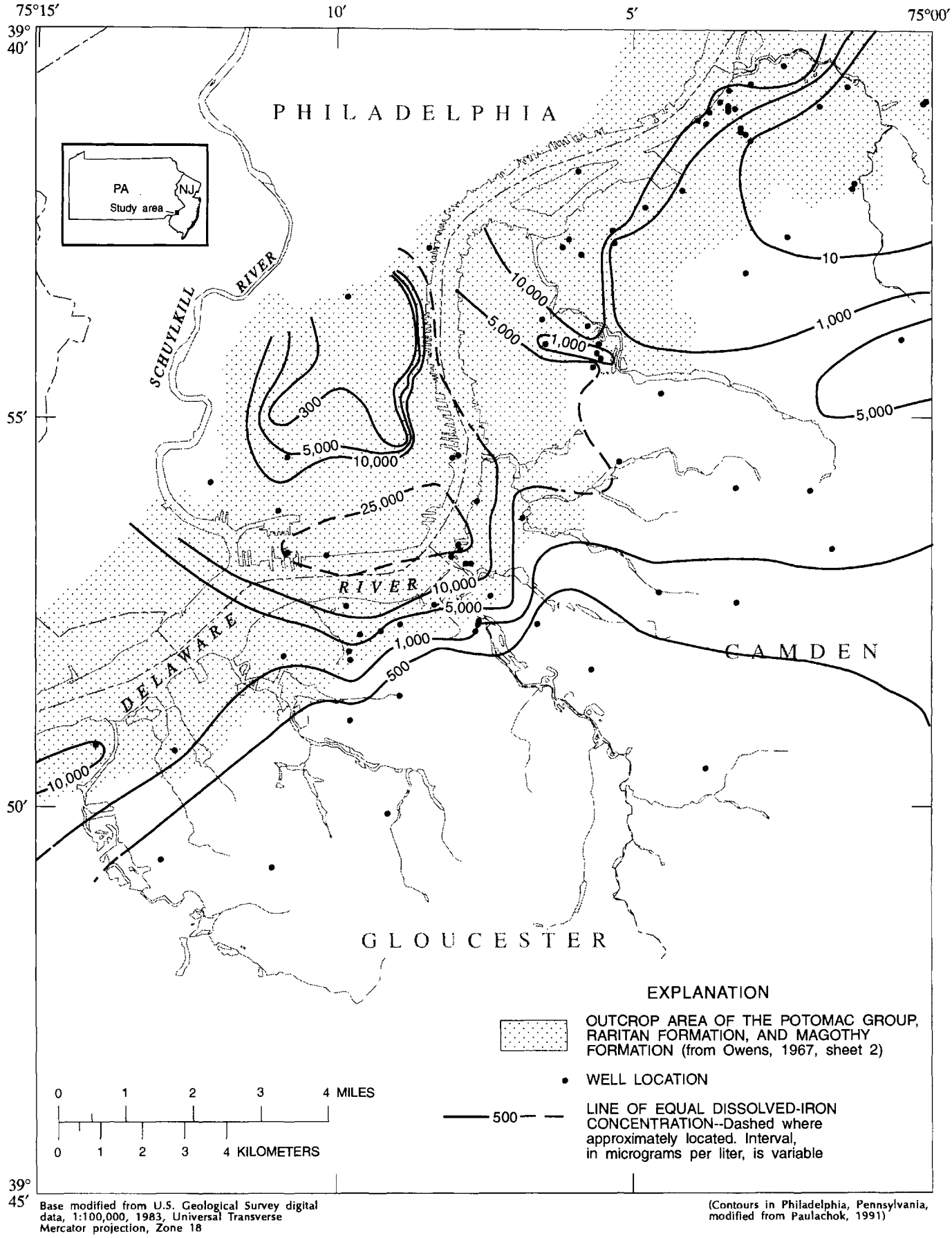


Figure 40.--Concentrations of dissolved iron in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, Philadelphia-Camden area, 1980-86.

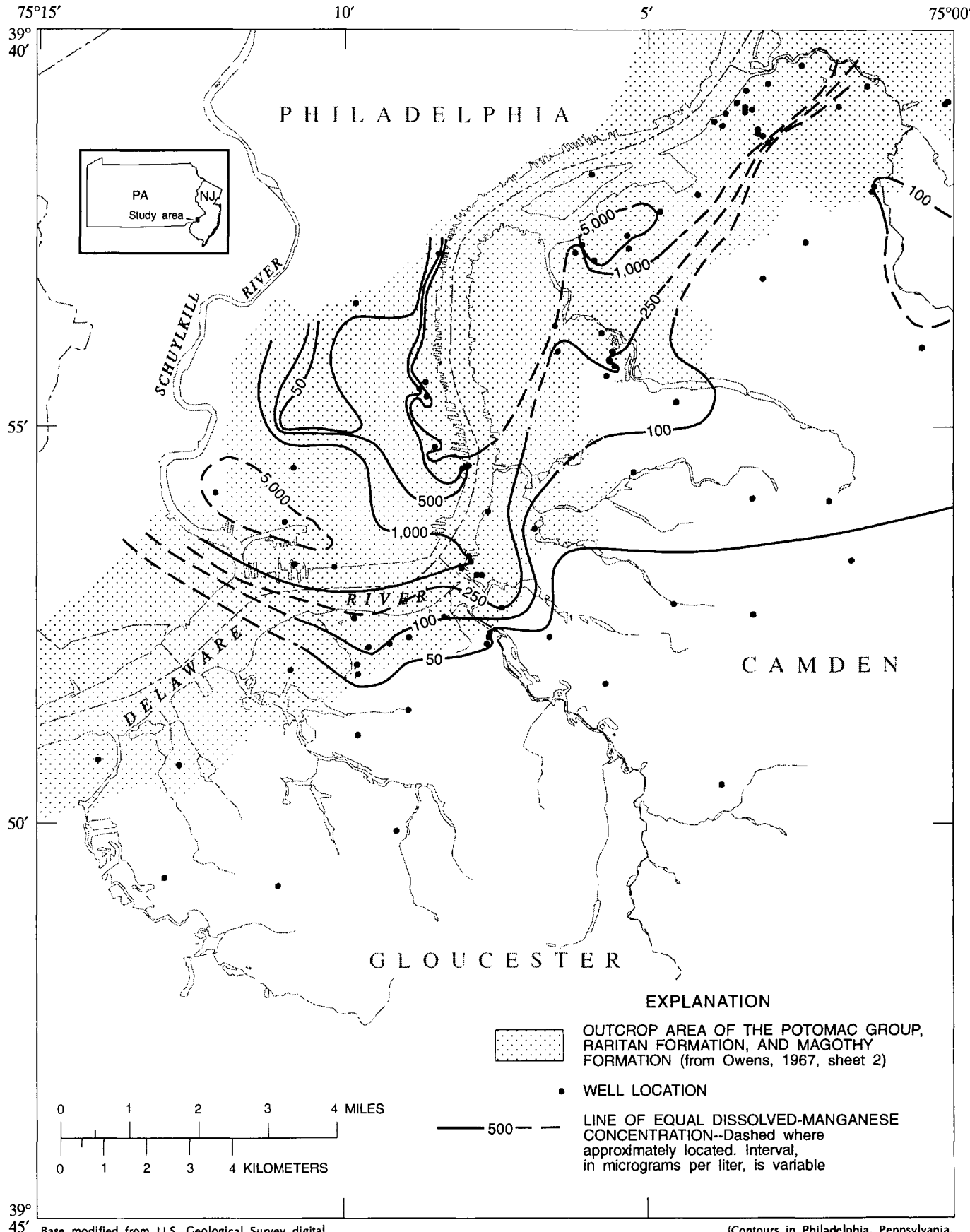


Figure 41.--Concentrations of dissolved manganese in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, Philadelphia-Camden area, 1980-86.

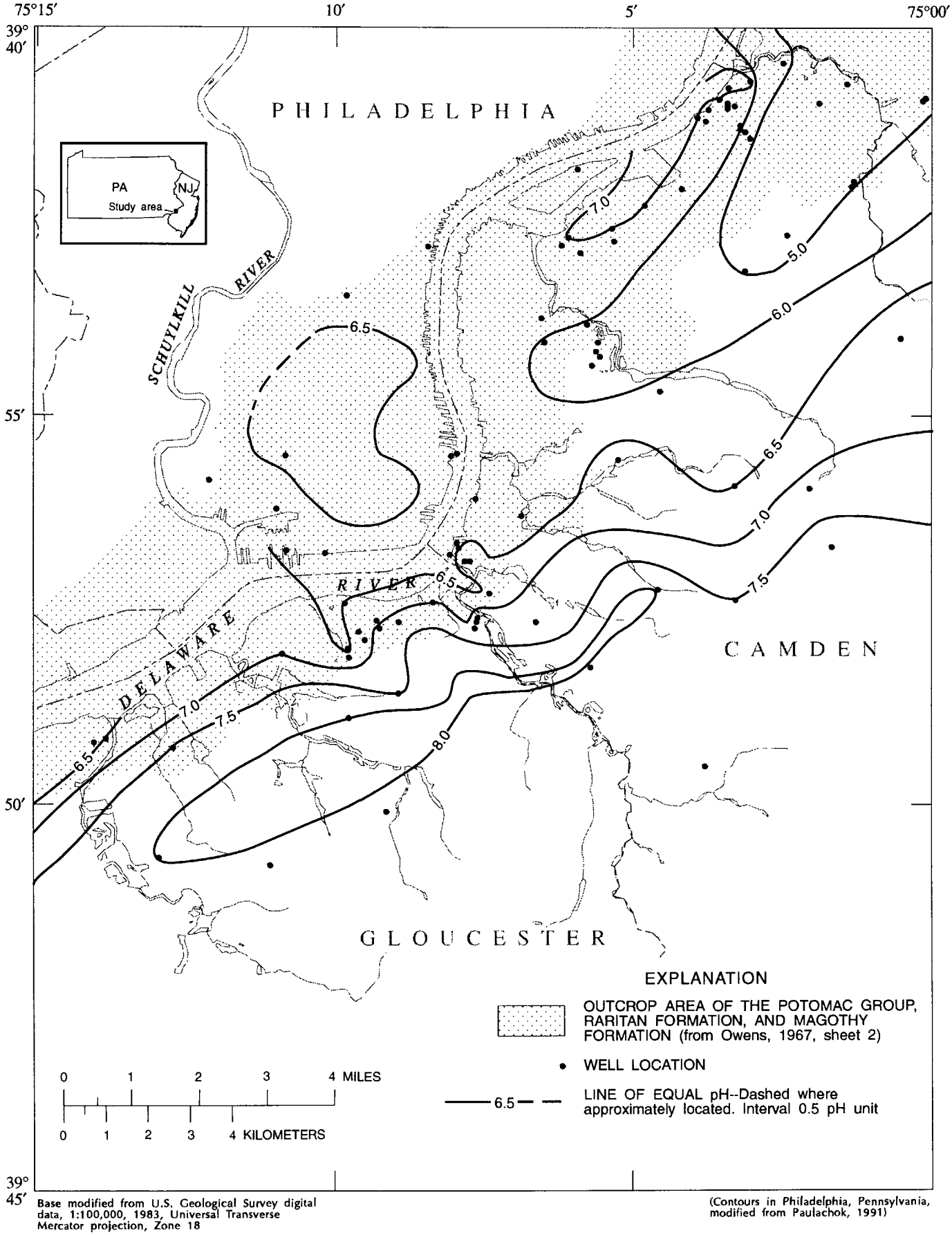


Figure 42.-- Areal variations in pH of water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, Philadelphia-Camden area, 1980-86.

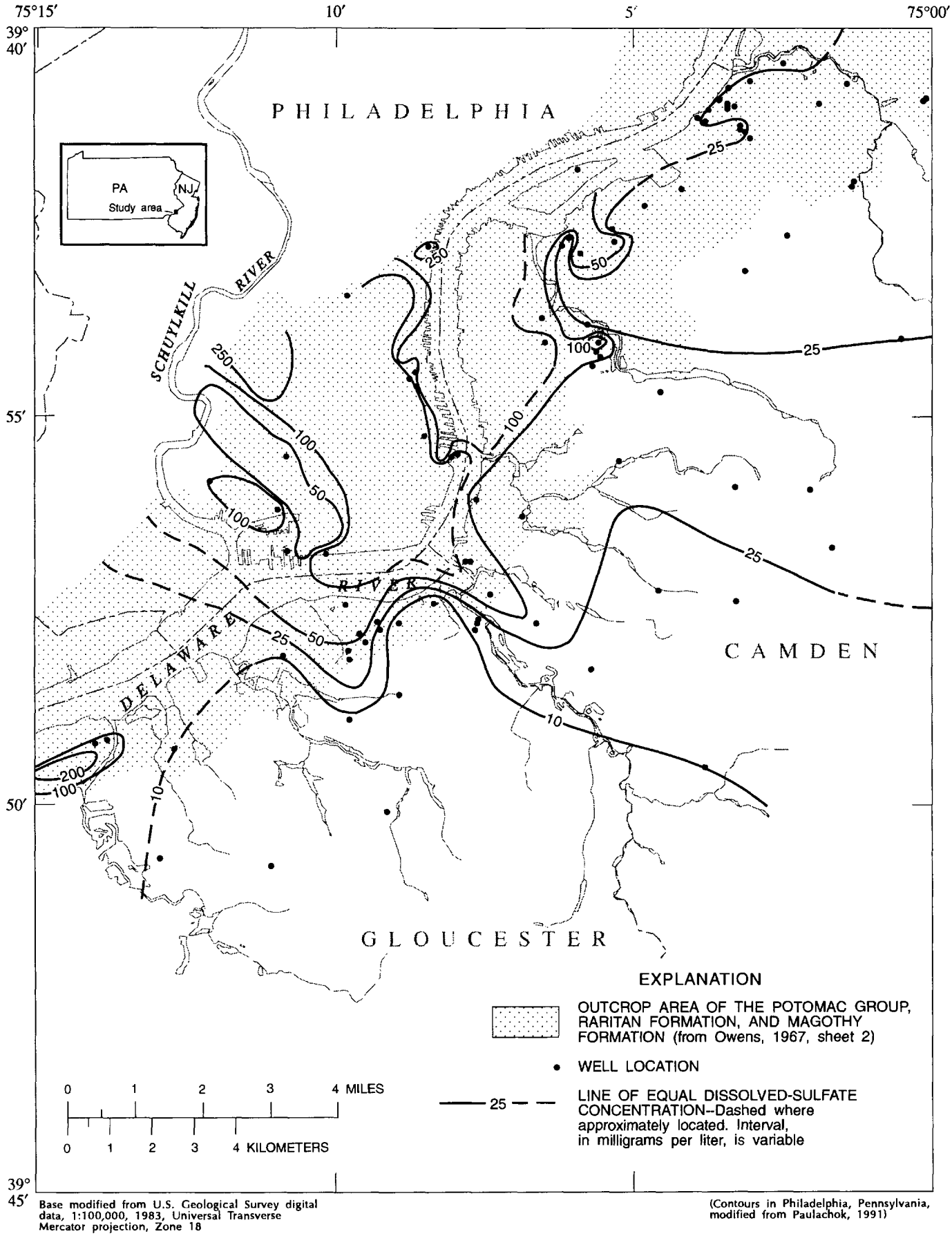


Figure 43.--Concentrations of dissolved sulfate in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, Philadelphia-Camden area, 1980-86.

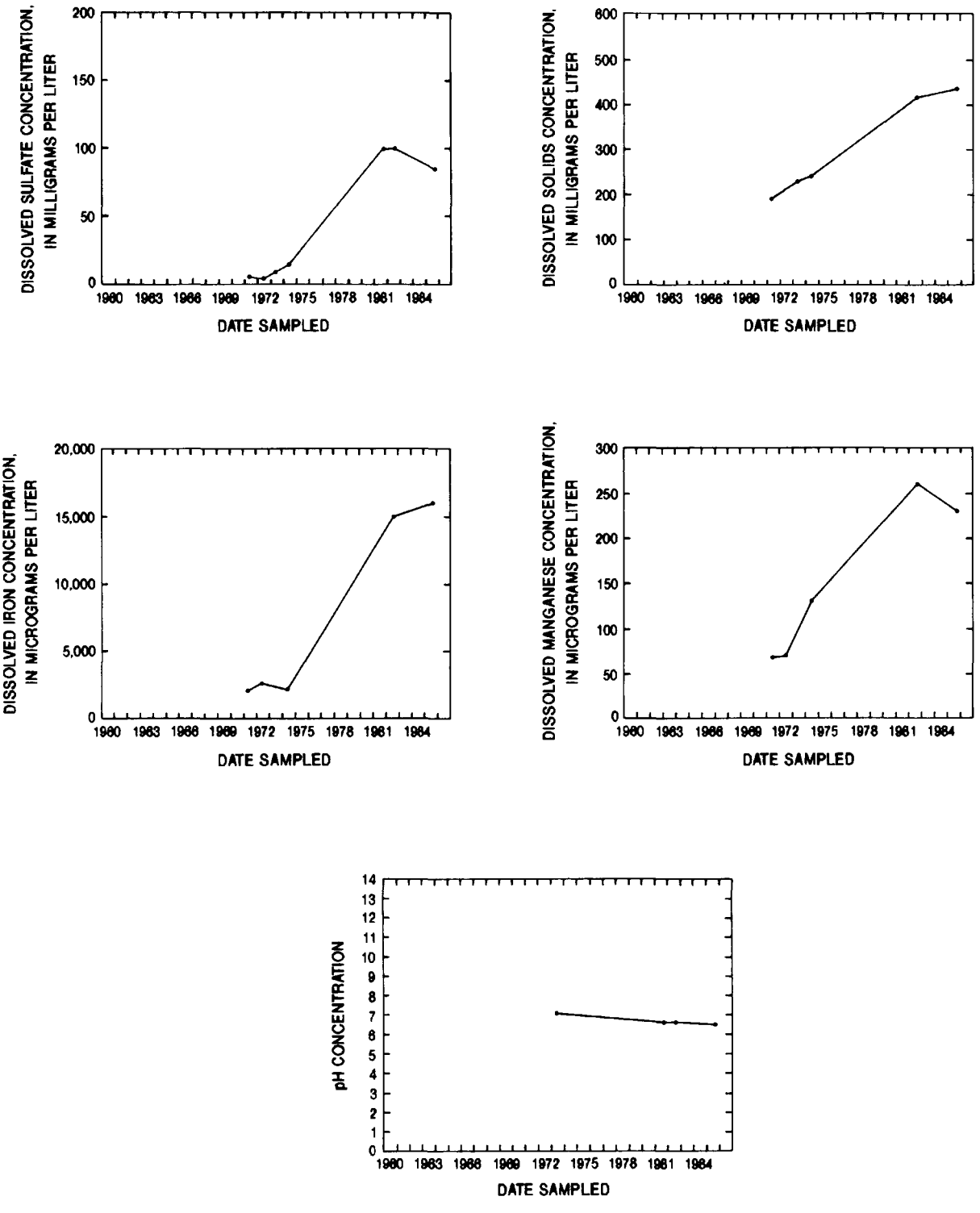


Figure 44.--Temporal change in selected water-quality characteristics of water from well 15-323. (Location of well shown in fig. 10.)

Presence of Purgeable Organic Compounds and Locations of Hazardous-Waste Sites

POC's are an operationally defined subset of compounds on the USEPA priority pollutant list (Keith and Telliard, 1979) that can be isolated and concentrated by purge and trap devices. Sources of POC's to ground water in the study area include surface spills of hazardous materials, waste lagoons, storage-tank leaks, landfills, ground-water recharge from contaminated surface water, and overland runoff. Data on POC's in ground water are presented on an aquiferwide basis in this report. Site-specific incidences of contamination are not examined; rather, an overview of the general distribution of POC's in the aquifer system is provided.

Wells in the Potomac-Raritan-Magothy aquifer system were sampled by the USGS for POC's in 1980, 1982, 1985, and 1986. Fusillo and others (1985) describe the distribution of these compounds in the aquifers in relation to the outcrop area of the aquifer system for the period 1980-82. The distribution of POC's was found to be limited mainly to water from the outcrop area of the aquifer system. Twenty percent of the water samples collected from 315 wells during 1980-82 contained detectable concentrations of POC's. The highest percentage of detections among the aquifers, 28 percent, was found in the lower aquifer. Detectable concentrations of POC's were found in 22 percent of the water samples from the middle aquifer and in 10 percent of the water samples from the upper aquifer. Concentrations of POC's greater than 100 μg/L in water from the lower aquifer were attributed to the aquifer's position beneath the most heavily urbanized part of the outcrop area. In addition, contaminants are contributed through leakage from the middle aquifer, as indicated by superposition of concentrations greater than 100 μg/L in the lower and middle aquifers. The outcrop of the upper aquifer is the least urbanized; and water samples from this area contained little or no contamination.

Water from 27 wells of the 103 wells sampled during 1985-86 contained detectable concentrations of POC's. Results similar to those found by Fusillo and others (1985) were obtained when these data were subdivided by aquifer. Detectable concentrations of POC's were found in water samples from 13 wells screened in the lower aquifer, 9 wells screened in the middle aquifer, and 5 wells screened in the upper aquifer. Distribution of total POC's in water from each aquifer in 1980-86 are shown in figures 45-47. Few samples from the middle and lower aquifers in which POC's were detected were from outside the outcrop area, whereas four samples from the the upper aquifer in which POC's were detected were from the downdip, confined part of the system. Distributions of trihalomethanes, aromatic organic compounds, and chlorinated solvents in water from the upper, middle, and lower aquifers are shown in figures 48-52.

A summary of data on POC's for 1980-86 is given in table 10. Compounds detected in water samples are trichloroethylene, chlorobenzene, benzene, and ethyl benzene. By comparison, Fusillo and others (1985) found that trichloroethylene, tetrachloroethylene, and benzene were the most frequently detected compounds in water from wells sampled during 1980-82. Differences in the spatial distribution of the data sets might account for variations in the most commonly found POC's. Sampling in 1980-82 was concentrated in and near

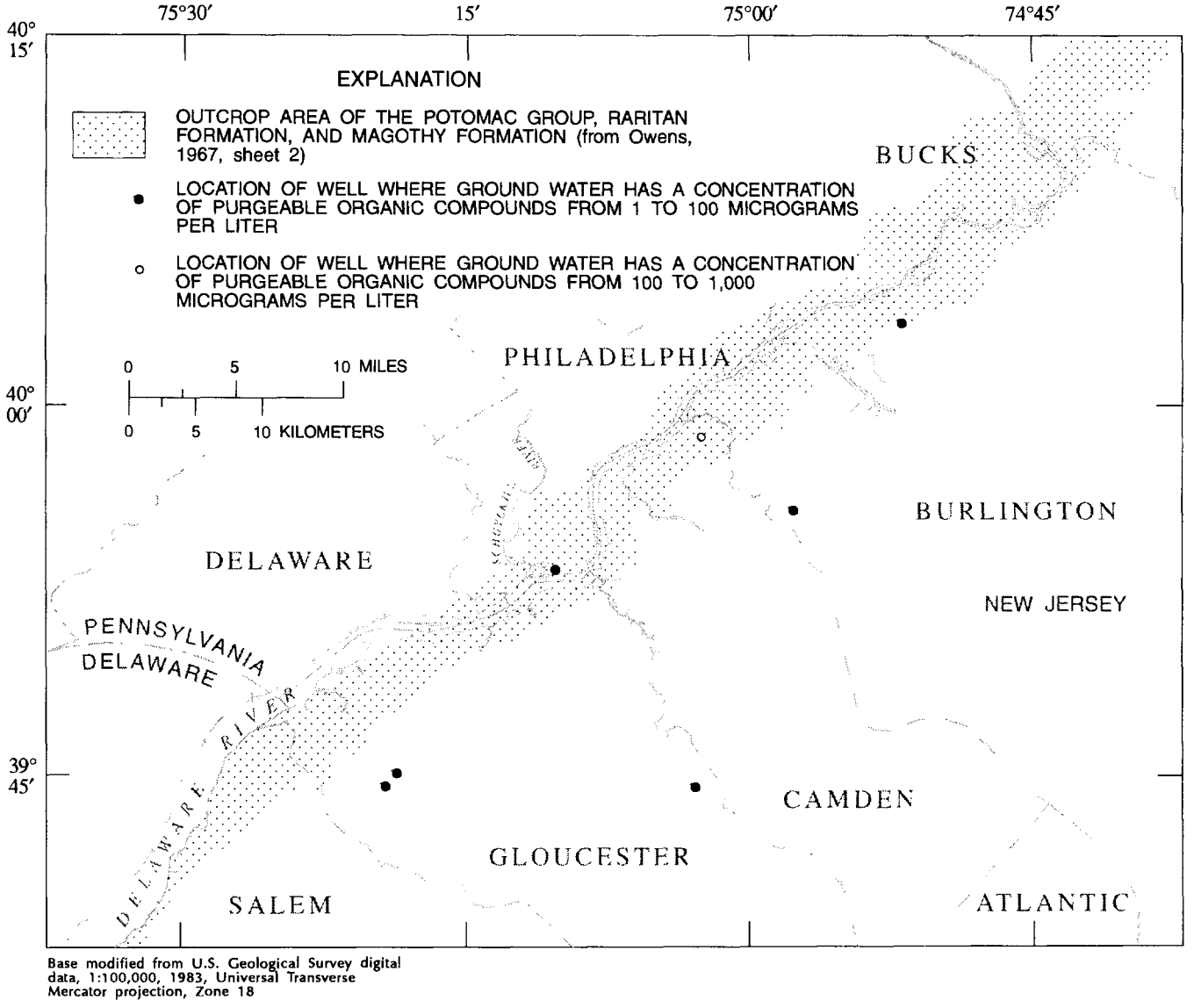


Figure 45.--Concentrations of total purgeable organic compounds in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

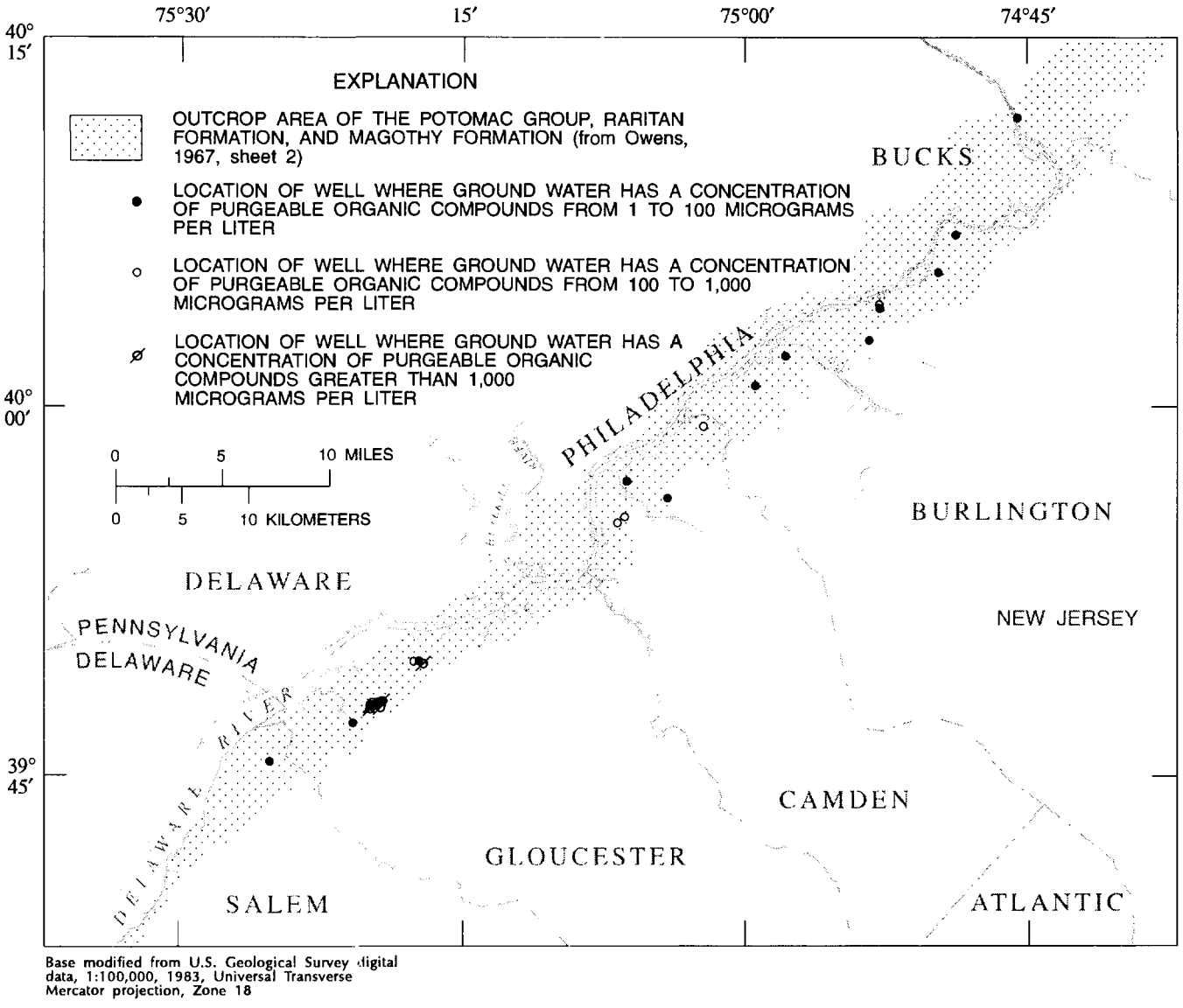


Figure 46.--Concentrations of total purgeable organic compounds in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

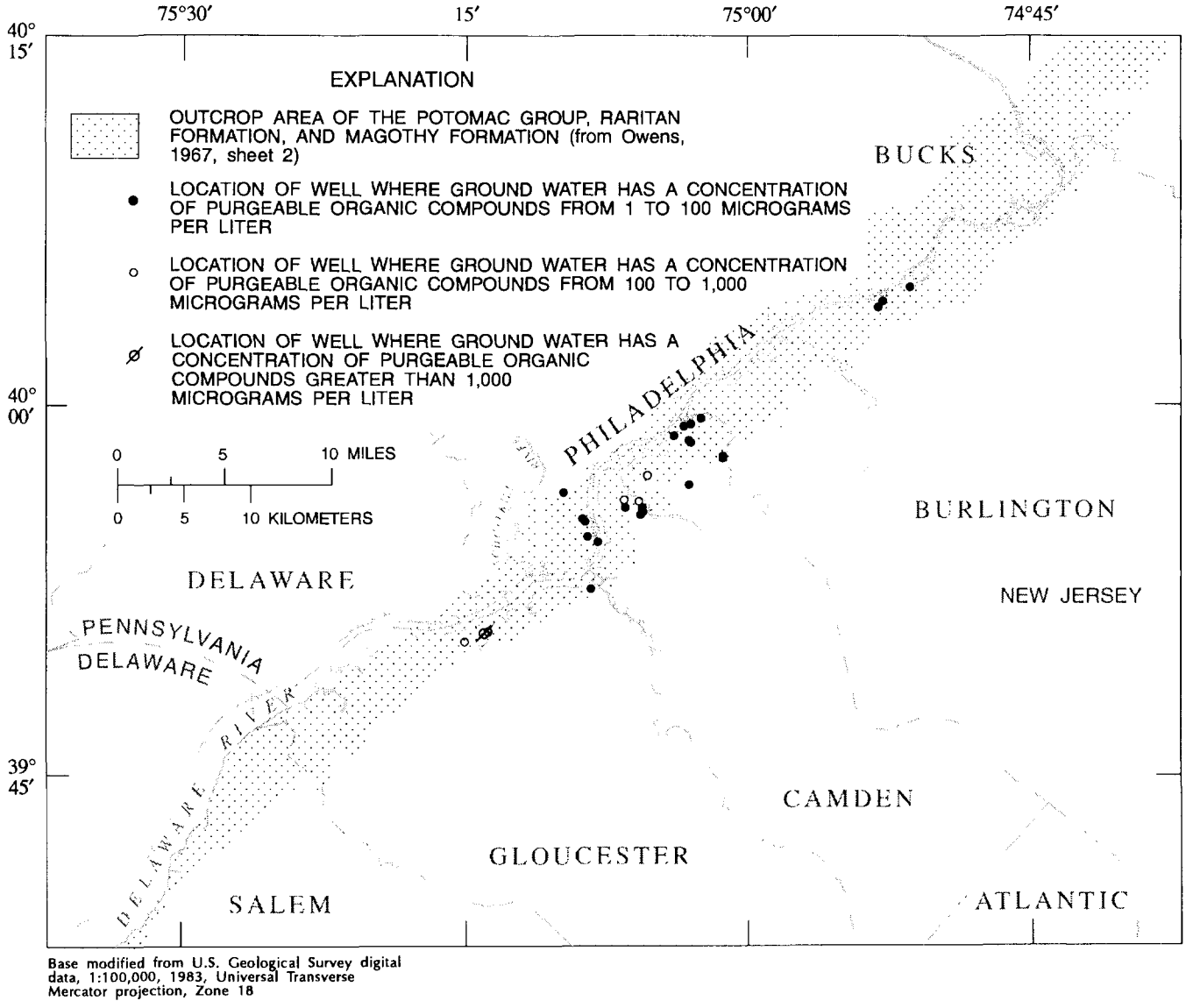


Figure 47.--Concentrations of total purgeable organic compounds in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

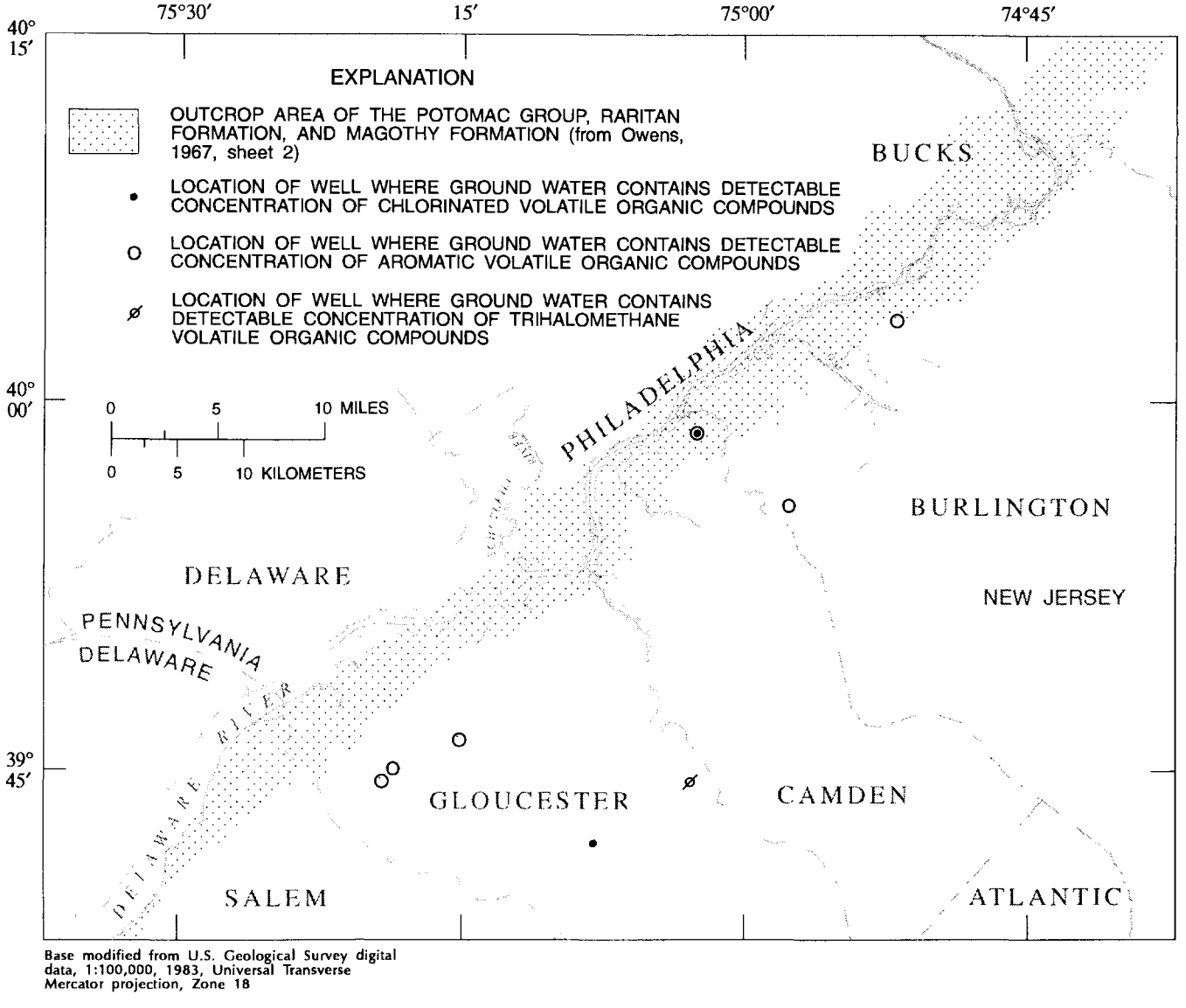


Figure 48.--Chlorinated solvents, aromatic organic compounds, and trihalomethanes in water from the upper aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

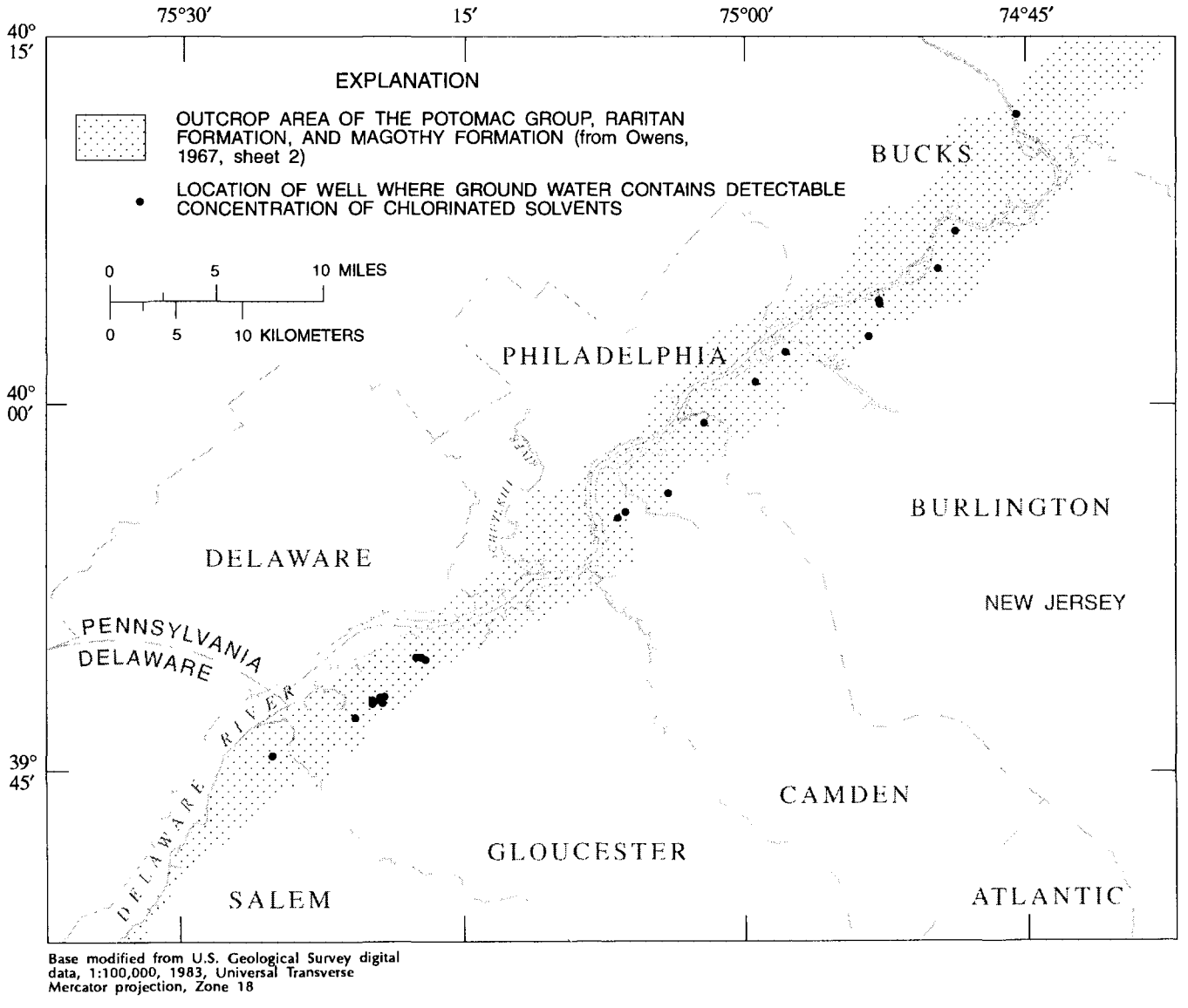


Figure 49.--Chlorinated solvents in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

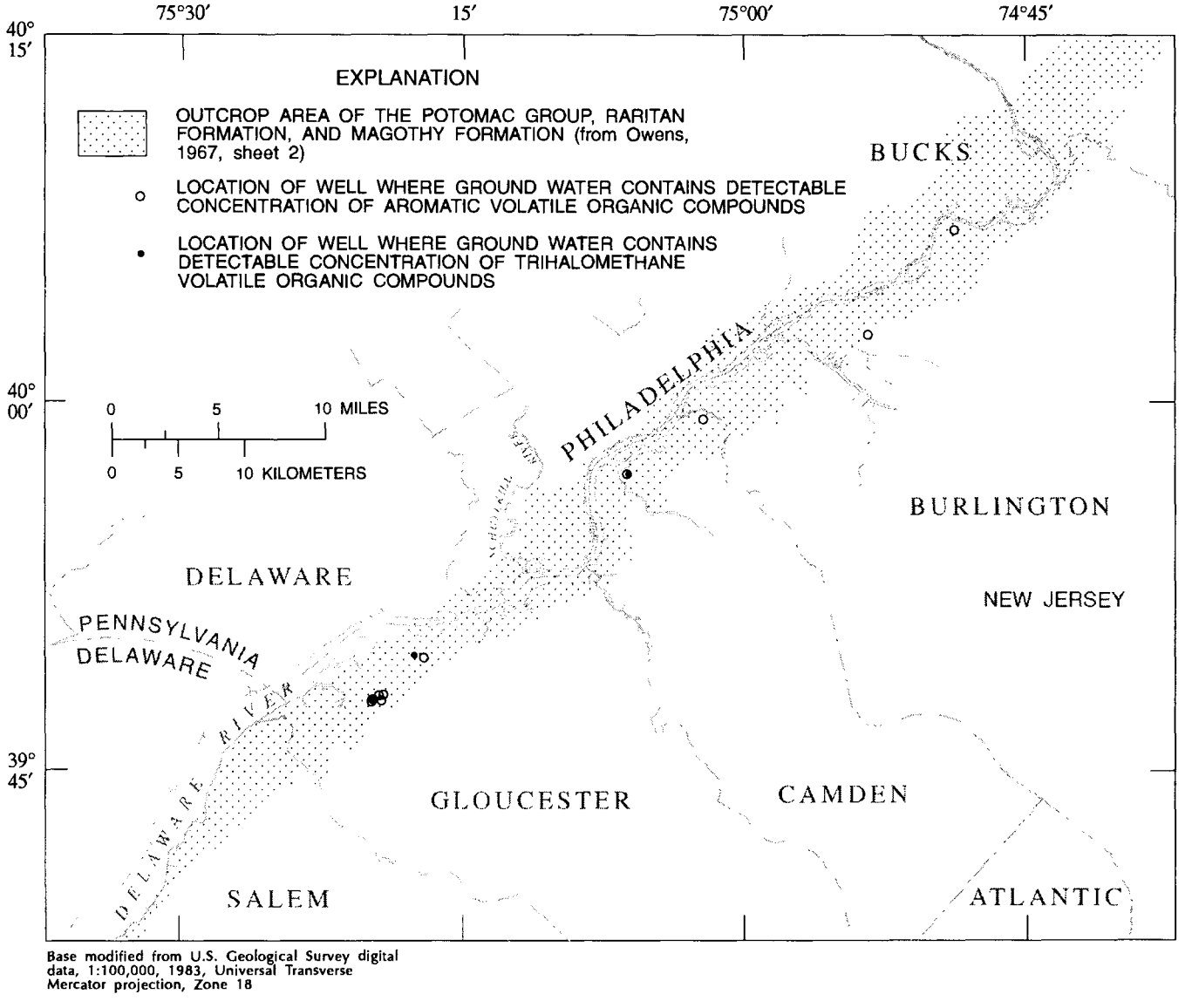


Figure 50.--Aromatic organic compounds and trihalomethanes in water from the middle aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

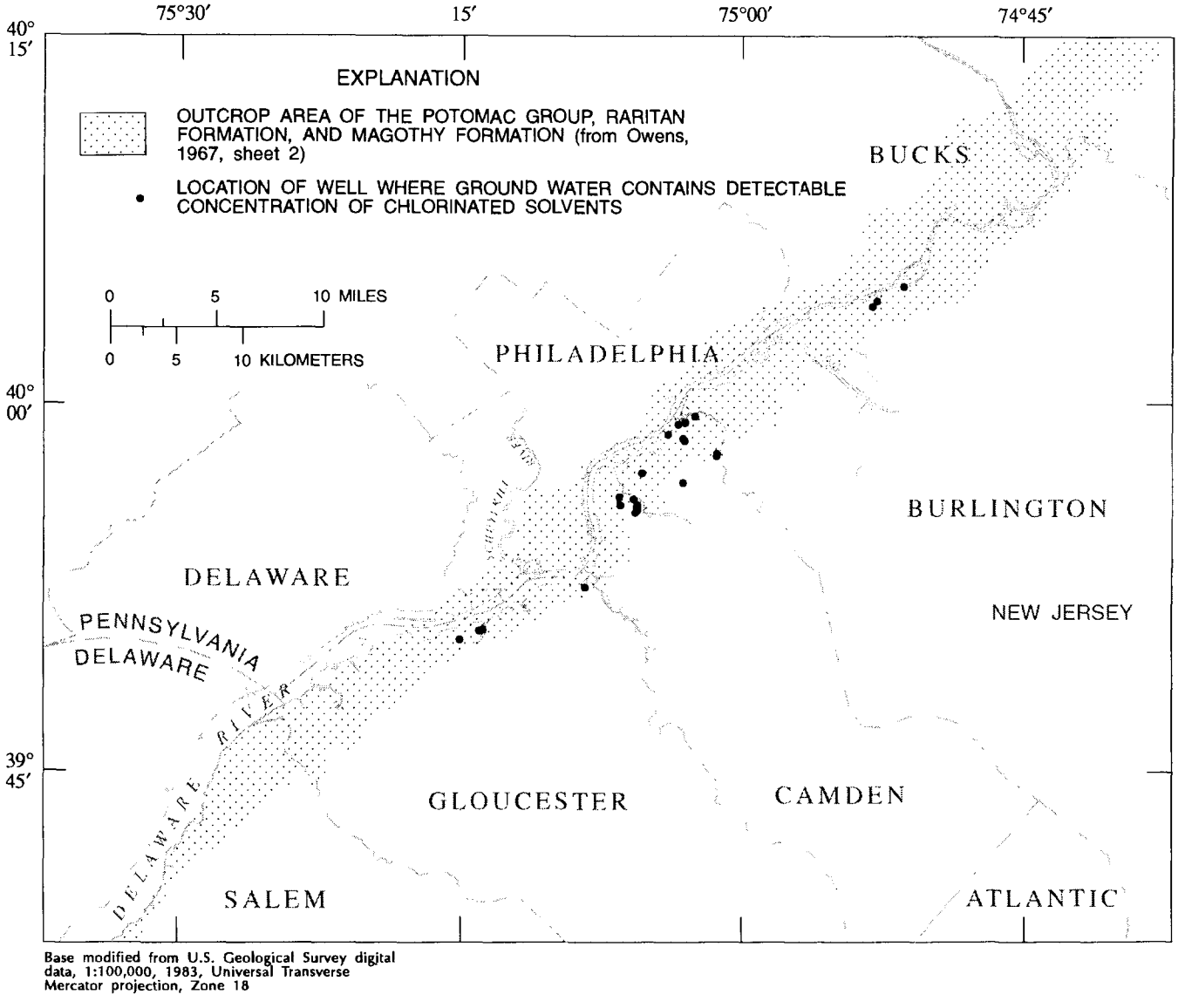


Figure 51.--Chlorinated solvents in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

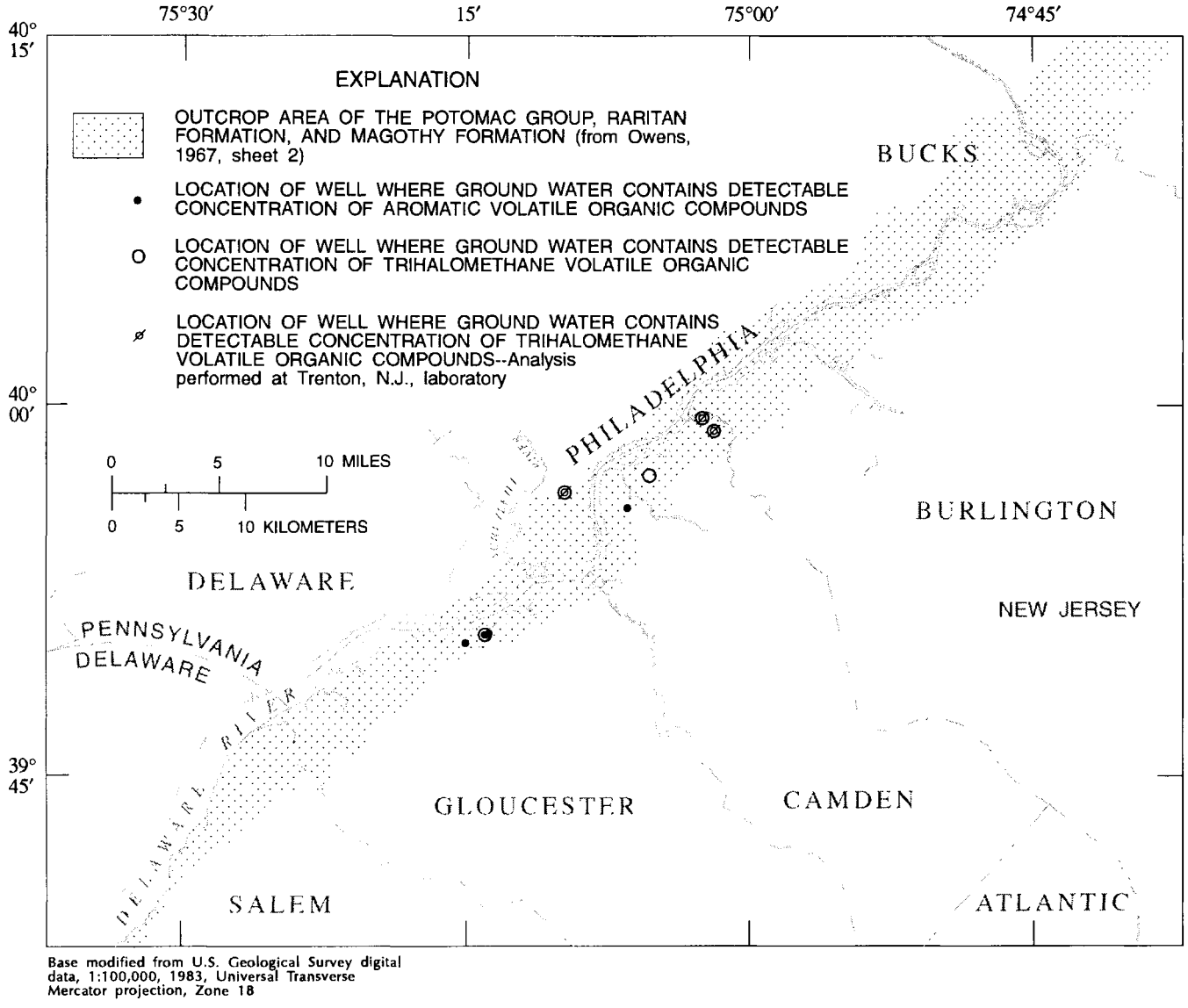


Figure 52.--Aromatic organic compounds and trihalomethanes in water from the lower aquifer, Potomac-Raritan-Magothy aquifer system, 1980-86.

Table 10.--Summary of data on purgeable organic compounds in water from the Potomac-Raritan-Magothy aquifer system, 1980-86

[POC, purgeable organic compound; detection limit is 3 micrograms per liter; μg/L, micrograms per liter]

Compound name	Total number of samples	Samples containing POC concentrations greater than detection limit		POC concentration, in micrograms per liter	
		Number	Percentage	Median	Maximum
Benzene	356	31	8.7	57.0	43,000
Carbon Tetrachloride	355	4	1.1	145	380
Chlorobenzene	198	19	9.6	19	620
Chloroethane	178	1	<1	<3	7
Chloroform	354	17	4.8	8.4	2,700
Dichlorobromomethane	355	2	<1	6.8	8.8
Ethlybenzene	199	17	8.5	43	680
Methylenechloride	355	21	5.9	27	3,800
Tetrachloroethylene	355	29	8.2	12	820
Toluene	356	25	7.0	18	12,000
Trichloroethylene	355	46	13	26	5,040
Trichlorofluoromethane	198	2	1	14	25
Vinyl Chloride	178	13	7.3	21	393
1,1-Dichloroethylene	198	10	5.0	10.5	120
1,1-Dichloroethane	355	16	4.5	23	200
1,1,1-Trichloroethane	355	15	4.2	19	1,600
1,2-Dichloroethane	355	24	6.8	29.5	1,200
1,2-Dichloropropane	198	4	2	19.5	30
1,2-Dichloroethylene	355	30	8.4	30.5	5,480

the outcrop area of the Potomac-Raritan-Magothy aquifer system, whereas sampling in 1985-86 extended farther downdip. The six most prevalent POC's in ground water in the Philadelphia area, in descending order of concentration, are 1,1,1-trichloroethane, chloroform, tetrachloroethylene, trichloroethylene, 1,2-dichloroethane, and 1,2-dichloropropane (Paulachok, 1991).

The most extensively industrialized part of the study area overlies the outcrop of the Potomac-Raritan-Magothy aquifer system along the Delaware River. Aquifers beneath the outcrop area are among the most vulnerable to contamination in the aquifer system, because confining beds are thin or absent (Zapecza, 1984) and because potentiometric-head gradients are generally downward into the confined parts of the aquifers (Eckel and Walker, 1986).

The locations of seven National Priority List (NPL) sites, also known as Superfund sites, are shown in figure 53. Also shown are 105 additional hazardous-waste sites documented in New Jersey State files as of 1986 (Britton, 1984). Additional sites of potential ground-water contamination exist in the study area; the sites shown, however, have the potential for the greatest effect on the quality of water in the aquifers of the Potomac-Raritan-Magothy aquifer system because of their location in or near the outcrop area. Potential sites of ground-water contamination in Pennsylvania are not shown in figure 53; however, any such sites located in the outcrop area on the Pennsylvania side of the Delaware River also could potentially affect the quality of water in the aquifer system in New Jersey.

SUMMARY AND CONCLUSIONS

This report describes the regional ground-water quality in the upper, middle, and lower aquifers of the Cretaceous Potomac-Raritan-Magothy aquifer system in west-central New Jersey and documents vertical differences in water quality in the three aquifers.

Five types of ground-water zones were located by use of Back's (1966) concept of hydrochemical facies: zones of ground-water recharge, zones of active ground-water flow, zones of ground-water discharge, zones of salt-water intrusion, and a zone of little flow. These zones are related to the regional flow patterns in the Potomac-Raritan-Magothy aquifer system.

Distribution of selected chemical constituents (dissolved solids, dissolved sodium, dissolved chloride, dissolved iron) and pH in water from each aquifer were examined areally. In general, the water in the aquifer system was found to be suitable for human consumption and most other uses, except in areas where contamination is localized and in areas where dissolved-iron concentrations in and near the outcrops are elevated.

The distribution of sodium in water from the Potomac-Raritan-Magothy aquifer system indicates increasing concentrations toward the southwestern part of the study area. Water from wells in Burlington and Camden Counties generally contained low concentrations of sodium (<25 mg/L), although some samples from the outcrop area contained higher concentrations, indicating possible contamination and (or) saltwater intrusion. Areas in which concentrations exceeded the NJGW2 standard of 50 mg/L include parts of Gloucester County, Salem County, and Philadelphia. The largest extent of sodium concentrations greater than 50 mg/L was found in the lower aquifer.

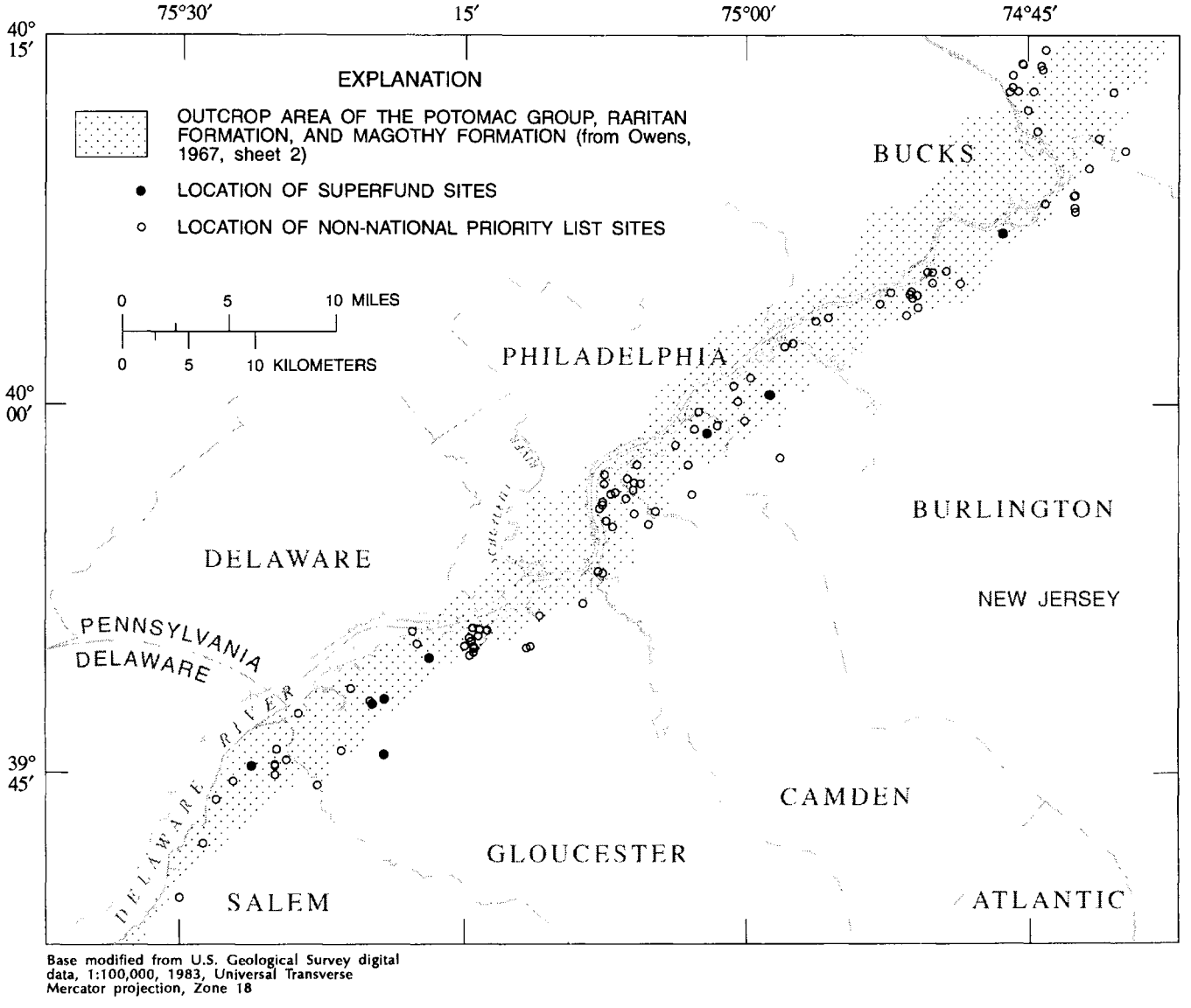


Figure 53.--National Priority List sites and other hazardous-waste sites within 1 mile of the Potomac-Raritan-Magothy outcrop area in New Jersey.

Chloride and dissolved-solids concentrations in a few samples in the study area exceeded the SMCL of the USEPA (1986) of 250 and 500 mg/L, respectively. Like concentrations of dissolved sodium, chloride and dissolved solids concentrations were elevated in water from wells in Gloucester and Salem Counties and in areas of possible contamination and (or) saltwater intrusion.

Dissolved-iron concentrations exceeded the SMCL of the USEPA (1986) of 300 µg/L in many of the water samples from the Potomac-Raritan-Magothy aquifer system, particularly those from the outcrop area. These high iron concentrations are a major ground-water-quality problem, and many wells have been abandoned in affected areas because screens or pumps have become clogged by iron. In general, dissolved-iron concentrations greater than 300 µg/L also indicate high dissolved-manganese concentrations in the water from the confined parts of the Potomac-Raritan-Magothy aquifer system. This relation holds true for the middle and lower aquifers.

The areal distribution of pH in water from the Potomac-Raritan-Magothy aquifer system shows that, in general, pH increases with increasing distance downdip from the outcrop area. Water in the upper aquifer is more alkaline than the water in the other aquifers and has fewer samples outside the SMCL of the USEPA (1986) range of 6.5 to 8.5. The pH of the majority of water samples from the middle and lower aquifers is less than 6.5 and, therefore, is outside the SMCL of the USEPA (1986) range.

Examination and interpretation of ground-water chemistry, ground-water-flow, and potentiometric-head relations reveals an anomalous area in the middle and lower aquifers in northeastern Camden County and northwestern Burlington County, where water is characterized by low dissolved-solids concentrations, low pH, high dissolved-oxygen concentrations, and low dissolved-iron concentrations. Vertical leakage of oxygen-rich ground water through the confining unit in the ground-water-flow system appears to be greater in this location than elsewhere in the study area. This oxygen-rich ground water probably is mixing with anoxic ground water and causing the precipitation of iron.

Examination of trace-element concentrations in water from the Potomac-Raritan-Magothy aquifer system indicates that these elements generally were present in concentrations less than MCL of USEPA (1986)'s. The most common trace-element contaminant was cadmium; however, the number of wells at which cadmium concentrations exceeded the MCL of USEPA (1986) was less than 5.

Nitrate concentrations greater than the MCL of USEPA (1986) of 10 mg/L were not common in water from the Potomac-Raritan-Magothy aquifer system; however, ammonia concentrations greater than 10 mg/L were common in samples. Most of the samples that contained ammonia concentrations greater than 10 mg/L are in or near the outcrop of the Potomac-Raritan-Magothy aquifer system and are indicative of localized contamination.

Elevated concentrations of dissolved manganese, dissolved iron, dissolved sulfate, and dissolved solids, and decreased pH values were found in water from the lower aquifer near Red Bank and Gloucester City, N.J., across the Delaware River from the U.S. Naval Base in Philadelphia. Poor-quality water could be migrating from the Philadelphia area under the Delaware River to the

New Jersey parts of the aquifers in response to changes in potentiometric head distribution, although the exact origin of the elevated concentrations is unknown. Other possible sources of elevated concentrations of dissolved manganese, dissolved iron, and dissolved solids include leaching of constituents from the aquifer matrix by ground water containing low concentrations of dissolved oxygen and low pH values and (or) downward migration of chemical constituents in ground water in the Potomac-Raritan-Magothy aquifer system outcrop.

Results of analyses for POC's in water from the Potomac-Raritan-Magothy aquifer system indicate that most samples in which POC's were detected were from wells in or near the outcrop of the aquifer system. Water samples from the lower aquifer had a higher incidence of POC with concentrations greater than 100 μg/L than did samples from the other aquifers. This contamination is a result of the location of the outcrop of the aquifer beneath the most extensively urbanized section of the area, and leakage from the upper and middle aquifers through discontinuous confining units. Seven NPL sites are located in or within 1 mile of the generalized Potomac-Raritan-Magothy aquifer system outcrop.

Potential threats to the quality of the ground water in the Potomac-Raritan-Magothy aquifer system in the study area include (1) the flow of saline, downdip water toward production wells as a result of pumping; (2) the intrusion of saline water from the Delaware River estuary in response to drought or rising sea level; (3) the possible migration of poor-quality water underneath the Delaware River from Philadelphia in response to the regional cone of depression and changes in potentiometric-head relations; and (4) continued contamination of ground water in and near the outcrop as a result of human activities.

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Table 2.--Records of wells sampled, Potomac-Raritan-Magothy aquifer system, 1985-86

Well number	Local well identifier	Municipality	Lati-tude	Longi-tude	Altitude of land surface (feet)	Screened interval[1] (feet)	Year drilled	Aqui-fer[2] unit	Use of[3] site	Use of[4] water
5- 39	NJ WC-DEL VALLEY WC 15	BEVERLY CITY	400404	745520	12	47 - 57	1951	MRPAU	W	P
5- 40	NJ WC-DEL VALLEY WC 16	BEVERLY CITY	400405	745517	18	39 - 51	1910	MRPAM	W	P
5- 60	BURLINGTON CITY WC 2	BURLINGTON CITY	400538	745053	21	33 - 49	1952	MRPAU	W	P
5- 76	HEAL, CHARLES	BURLINGTON TWP	400324	745152	50	59 - 80	1955	MRPAU	W	I
5- 89	TENNECO CHEM 7	BURLINGTON TWP	400409	745247	10	100 - 130	1971	MRPAM	W	N
5- 91	TENNECO CHEM 4	BURLINGTON TWP	400418	745250	14	82 - 112	1964	MRPAM	W	N
5- 97	HERCULES POWDER 1	BURLINGTON TWP	400524	744951	22	105 - 135	1946	MRPAM	W	N
5-100	HERCULES POWDER 2	BURLINGTON TWP	400535	744941	22	105 - 135	1946	MRPAM	W	N
5-124	NJ WC-DEL VALLEY WC-STPHEN	CINNAMINSON TWP	395906	750006	30	221 - 267	1970	MRPAL	W	P
5-125	NJ WC-DEL VALLEY WC 11	CINNAMINSON TWP	395929	745922	79	239 - 281	1959	MRPAM	W	P
5-167	EVESHAM MUA 5	EVESHAM TWP	395247	745157	50	458 - 548	1973	MRPAU	W	P
5-187	FLORENCE TWP WD 4	FLORENCE TWP	400703	744832	30	119 - 134	1948	MRPAM	W	P
5-261	USGS-MEDFORD 5 OBS	MEDFORD TWP	395525	745025	72	740 - 750	1967	MRPAM	O	U
5-284	MOORESTOWN TWP WD 4	MOORESTOWN TWP	395936	745452	59	298 - 338	1959	MRPAM	W	P
5-393	RIVERSIDE INDUSTRY 39	RIVERSIDE TWP	400212	745748	15	54 - 67	1952	MRPAM	W	N
5-658	WILLINGBORO MUA 7	WILLINGBORO TWP	400201	745308	19	179 - 255*	1958	MRPAM	W	P
5-667	WILLINGBORO MUA 5	WILLINGBORO TWP	400250	745321	39	230 - 256	1958	MRPAM	W	P
5-758	TENNECO CHEM 10	BURLINGTON TWP	400418	745255	10	114**		MRPAM	W	N
5-780	WASTE RESOURCE OBS 6	CINNAMINSON TWP	400106	745915	40	30 - 50	1978	MRPAM	O	U
5-822	MT LAURAL MUA 3	MOUNT LAUREL TWP	395620	745529	35	592 - 642	1974	MRPAL	W	P
5-823	MT LAURAL MUA 4	MOUNT LAUREL TWP	395615	745512	35	590 - 640	1974	MRPAL	W	P
7- 8	BELMAWR BORO WD 1	BELLMAWR BORO	395146	750542	75	380 - 557*	1966	MRPAL	W	P
7- 12	BELMAWR BORO WD 3	BELLMAWR BORO	395221	750637	35	331 - 359	1956	MRPAL	W	P
7- 18	BERLIN BORO WD 9	BERLIN BORO	394738	7456141	45	650 - 713	1955	MRPAU	W	P
7- 30	SJ PORT COMM NY SHIP 5A	CAMDEN CITY	395447	750711	11	87 - 104	1940	MRPAU	O	U
7- 46	CAMDEN CITY WD-CITY 11	CAMDEN CITY	395512	750640	13	124 - 154	1942	MRPAM	W	P
7- 64	CAMDEN CITY WD-CITY 17	CAMDEN CITY	395546	750533	34	230 - 265	1954	MRPAL	W	P
7- 98	NEW JERSEY WC-CAMDEN 52	CAMDEN CITY	395715	750519	18	147 - 198	1965	MRPAL	W	P
7-122	NEW JERSEY WC-BROWN 44	CHERRY HILL TWP	395252	745943	80	684 - 741*	1974	MRPAL	W	P
7-124	NEW JERSEY WC-BROWN 45	CHERRY HILL TWP	395252	745943	77	483 - 626*	1973	MRPAM	W	P
7-134	NEW JERSEY WC-OLD ORCH 37	CHERRY HILL TWP	395353	745708	68	454 - 488	1968	MRPAM	W	P
7-143	NEW JERSEY WC-ELLISBG 16	CHERRY HILL TWP	395441	750104	40	187 - 220	1957	MRPAU	W	P
7-147	NEW JERSEY WC-KINGSTN 25	CHERRY HILL TWP	395455	745929	44	309 - 367	1961	MRPAM	W	P
7-183	NEW JERSEY WC-GIBBSBO 43	GIBBSBORO BORO	394945	745855	70	923 -1011	1972	MRPAL	W	P
7-189	NEW JERSEY WC-GIBBSBO 41	GIBBSBORO BORO	395003	745851	65	1022 -1097	1972	MRPAL	W	P
7-221	USGS-GLOUC CTY CG BASE 1	GLOUCESTER CITY	395356	750738	11	162 - 170	1966	MRPAL	O	U
7-249	GARDEN ST WC-BLACKWOOD 3	GLOUCESTER TWP	394754	750343	81	426 - 447	1956	MRPAU	W	P
7-273	NEW JERSEY WC-OTTERBK 29	GLOUCESTER TWP	395030	750347	60	612 - 712	1965	MRPAL	W	P
7-274	NEW JERSEY WC-OTTERBK 39	GLOUCESTER TWP	395030	750347	60	269 - 349	1968	MRPAU	W	P
7-278	NEW JERSEY WC-HADDON 15	HADDON HGTS BORO	395238	750316	65	452 - 594	1956	MRPAL	W	P
7-283	NEW JERSEY WC-EGBERT OBS	HADDON HGTS BORO	395246	750434	23	445 - 455	1962	MRPAL	O	U
7-302	HADDONFLD BORO WD-RULON	HADDONFIELD BORO	395319	750140	25	523 - 572	1956	MRPAL	W	P
7-304	HADDONFLD BORO WD-LAKE ST	HADDONFIELD BORO	395404	750202	50	307 - 372*	1967	MRPAL	W	P
7-315	NEW JERSEY WC-MAGNOLIA 16	MAGNOLIA BORO	395134	750229	78	428 - 510	1964	MRPAM	W	P
7-329	MERCH-PENN WCOM-BROWN 2A	PENNSAUKEN TWP	395628	750406	16	110 - 140	1965	MRPAM	W	P
7-341	MERCH-PENN WCOM-DEL GN 2	PENNSAUKEN TWP	395800	750417	39	115 - 145	1954	MRPAM	W	P
7-345	MERCH-PENN WCOM-PARK 5	PENNSAUKEN TWP	395758	750120	20	248 - 288	1948	MRPAL	W	P
7-350	MERCH-PENN WCOM-PARK 2	PENNSAUKEN TWP	395802	750118	12	232 - 257	1943	MRPAL	W	P
7-354	PETTY ISLAND OBS	PENNSAUKEN TWP	395811	750556	11	78**	1949	MRPAL	O	U
7-367	CAMDEN CITY WD-PUCHACK	PENNSAUKEN TWP	395840	750307	10	127 - 175	1924	MRPAL	W	P
7-369	CAMDEN CITY WD-DELAIR 2	PENNSAUKEN TWP	395851	750355	5	109 - 144	1930	MRPAL	W	P
7-372	MERCH-PENN WCOM-NAT HWY 1	PENNSAUKEN TWP	395902	750153	40	195 - 230*	1967	MRPAL	W	P
7-379	CAMDEN CITY WD-MORRIS 10	PENNSAUKEN TWP	395919	750302	16	75 - 115	1960	MRPAL	W	P
7-386	CAMDEN CITY WD-MORRIS 3A	PENNSAUKEN TWP	395933	750229	10	73 - 103	1953	MRPAL	W	P
7-412	NEW JERSEY WC-ELM TREE 2	VOORHEES TWP	394922	7456301	48	1082 -1092	1963	MRPAL	O	U
7-477	USGS-NEW BROOKLYN PK 2 OBS	WINSLOW TWP	394215	7456171	11	829 - 839	1961	MRPAU	O	U
7-527	CAMDEN CITY WD-CITY 18	CAMDEN CITY	395550	750537	40	258 - 288	1976	MRPAL	W	P
7-528	CAMDEN CITY WD-PUCHACK 7	PENNSAUKEN TWP	395835	750302	20	140 - 180	1975	MRPAL	W	P
7-545	CAMDEN CITY WD-MORRIS 11	PENNSAUKEN TWP	395900	750325	10	102 - 144	1979	MRPAL	W	P
7-555	PENLER ANODIZING CO 1	CAMDEN CITY	395850	750230	50	75 - 80	1968	MRPAU	W	N
7-566	NJDEP-HARRISON AVE 6	CAMDEN CITY	395718	750605	15	20 - 40	1980	MRPAM	O	U
7-567	NJDEP-HARRISON AVE 7	CAMDEN CITY	395718	750605	15	102 - 122	1980	MRPAL	O	U
7-571	PENNSAUKN LANDFILL MON 4	PENNSAUKEN TWP	395912	750248	21	47 - 48	1979	MRPAM	O	U
7-586	CAMDEN CITY WD-MORRIS 12	PENNSAUKEN TWP	395914	750324	10	86 - 117*	1981	MRPAL	W	P
7-602	MERCH-PENN WCOM HWY 2	PENNSAUKEN TWP	395917	750125	25	182 - 206	1982	MRPAL	W	P

Table 2.--Records of wells sampled, Potomac-Raritan-Magothy aquifer system, 1985-86--Continued

Well number	Local well identifier	Municipality	Latitude	Longitude	Altitude of land surface (feet)	Screened interval[1] (feet)	Year drilled	Aquifer[2] unit	Use of[3] site	Use of[4] water
15- 1	CLAYTON BORO WD 3	CLAYTON BORO	393913	750517	133	746 - 800*	1956	MRPAU	W	P
15- 24	DEPTFORD TWP MUA 4	DEPTFORD TWP	395115	750706	40	282 - 345	1971	MRPAM	W	P
15- 28	E GREENWICH TWP WD 2	E GREENWICH TWP	394755	751327	70	191 - 216	1956	MRPAU	W	P
15- 63	GLASSBORO BORO WD 4	GLASSBORO BORO	394308	750702	150	549 - 599	1961	MRPAU	W	P
15- 69	GREENWICH TWP WD 3	GREENWICH TWP	394920	751619	10	108 - 168	1959	MRPAM	W	P
15- 79	EI DUPONT REPAUNO 6	GREENWICH TWP	394944	751734	10	84 - 109	1967	MRPAM	W	N
15- 97	HERCULES CHEM GIBB 8 OBS	GREENWICH TWP	395000	751636	5	102 - 107	1954	MRPAM	O	U
15-109	MOBIL OIL-GREENWICH 40	GREENWICH TWP	395027	751503	20	226 - 259	1946	MRPAL	W	N
15-118	MOBIL OIL-GREENWICH 47	GREENWICH TWP	395036	751501	20	220 - 240	1953	MRPAL	W	N
15-130	SO JERSEY WC 3	HARRISON TWP	394408	751330	35	234 - 265	1953	MRPAU	W	P
15-192	MANTUA MUA 5	MANTUA TWP	394641	751109	88	315 - 337	1957	MRPAU	W	P
15-210	PAULSBORO WD 6-1973	PAULSBORO BORO	394921	751417	15	185 - 227*	1973	MRPAM	W	P
15-253	WASHINGTON TWP MUA 6-64	WASHINGTON TWP	394437	750249	152	584 - 652	1964	MRPAU	W	P
15-276	W DEPTFORD TWP WD 4	WEST DEPTFORD TWP	394821	751026	60	242 - 288	1963	MRPAU	W	P
15-282	W DEPTFORD TWP 5	WEST DEPTFORD TWP	394913	751105	55	388 - 450	1973	MRPAL	W	P
15-283	SHELL CHEM CO 3	WEST DEPTFORD TWP	394919	751256	30	358 - 383	1962	MRPAL	W	N
15-308	PENWALT CORP TW 8	WEST DEPTFORD TWP	395044	751242	10	231 - 271	1969	MRPAL	T	U
15-312	W DEPTFORD TWP WD 6	WEST DEPTFORD TWP	395107	750946	20	322 - 372	1973	MRPAL	W	P
15-314	TEXACO EAGLE PT 6-PROD	WEST DEPTFORD TWP	395153	750946	15	280 - 318	1949	MRPAL	W	N
15-323	TEXACO EAGLE PT 3-OBS	WEST DEPTFORD TWP	395235	750950	20	255 - 275	1948	MRPAL	O	U
15-331	WOODBURY WD RAILROAD 5	WOODBURY CITY	394955	750908	35	405 - 457	1960	MRPAL	W	P
15-342	DEL MONTE CORP 10	WOOLWICH TWP	394438	751914	60	192 - 279	1967	MRPAU	W	F
15-347	GREENWICH TWP WD 5	GREENWICH TWP	394932	751722	20	82 - 117	1977	MRPAM	W	P
15-348	GREENWICH TWP WD 6	E GREENWICH TWP	394910	751541	20	105 - 135	1978	MRPAU	W	P
15-374	DEPTFORD TWP MUA 6	DEPTFORD TWP	394843	750728	50	430 - 486	1979	MRPAM	W	P
15-385	PITMAN WD 4	PITMAN BORO	394345	750804	125	520**	1980	MRPAU	W	P
15-390	GLOUCESTER CO SEW AUTH 1	WEST DEPTFORD TWP	395020	751340	10	91 - 106	1971	MRPAU	W	N
15-417	S&S AUCTION HOUSE 1 1978	LOGAN TWP	394820	751833	10	61 - 71	1978	MRPAM	W	N
15-431	WOODBURY CITY WD 6-81	WOODBURY CITY	395034	750842	30	211 - 305	1980	MRPAM	W	P
15-439	ESSEX CHEM-OLIN 2-1970	PAULSBORO BORO	395048	751401	10	215 - 235	1970	MRPAL	W	N
33-187	USGS-POINT AIRY OBS	PILESGROVE TWP	394037	751914	72	664 - 672	1958	MRPAL	W	R
PH- 6	US NAVY 6	PHILADELPHIA	395348	751059	10	138 - 163	1942	MRPAL	U	U
PH -12	US NAVY 12	PHILADELPHIA	395342	751021	8	101	1944	MRPAM	O	U
PH -15	US NAVY 15	PHILADELPHIA	395326	751015	10	59 - 69	1945	MRPAU	T	U
PH -19	US NAVY 19	PHILADELPHIA	395314	751010	8	242 - 247	1946	MRPAL	T	U
PH- 86	US NAVAL HOSPITAL	PHILADELPHIA	395429	751050	8	117 - 142	1942	MRPAL	U	U
H -820	DEL VAL FISH CO INC	PHILADELPHIA	395633	750949	35	35 - 55	1979	MRPAL	W	Q

[1] Screened interval
* Multiple screens in well.
** Well depth, screened interval unknown.

[2] Aquifer unit
MRPAU, Potomac-Raritan-Magothy aquifer system--upper aquifer.
MRPAM, Potomac-Raritan-Magothy aquifer system--middle aquifer.
MRPAL, Potomac-Raritan-Magothy aquifer system--lower aquifer.

[3] Use of site
W, withdrawal
O, observation
T, test
U, unused

[4] Use of water
P, public supply
I, irrigation
N, industrial
U, unused
F, fire Protection
R, recreation
Q, aquaculture

Table 3.--Changes in Potomac-Raritan-Magothy aquifer codes since 1984 for selected wells

Well number	Local well identifier	Municipality	Latitude	Longitude	Altitude of land surface (feet)	Screened interval[1] (feet)	Year drilled	Old aquifer[2] unit	Updated aquifer[2] unit
5-130	NJ WC-DEL VALLEY WC 13	CINNAMINSON TWP	400002	750044	70	167- 198	1963	MRPA-M	MRPA-L
5-139	HOLIDAY LAKE WORTHINGTON	DELANCO TWP	400204	745541	25	188- 198	1958	MRPA-M	MRPA-L
5-143	NJ WC-DEL VALLEY WC 23	DELRAN TWP	400105	745734	36	118- 168	1964	MRPA-M	MRPA-L
5-274	CAMPBELL SOUP 1 OBS	MOORESTOWN TWP	395841	745905	40	241- 262	1958	MRPA-M	MRPA-L
5-330	US ARMY-FT DIX 4	NEW HANOVER TWP	395949	743655	140	1056- 1086	1943	MRPA-L	MRPA
5-332	US ARMY-FT DIX 5	NEW HANOVER TWP	400106	743720	150	1064- 1104	1969	MRPA-L	MRPA
5-333	US ARMY-FT DIX 2	NEW HANOVER TWP	400129	743656	131	1030- 1051	1941	MRPA-L	MRPA
5-335	US AIR FORCE-MCGUIRE D	NEW HANOVER TWP	400141	743525	110	1012- 1075	1953	MRPA-L	MRPA
5-336	US AIR FORCE-MCGUIRE C	NEW HANOVER TWP	400150	743428	102	1036- 1089	1953	MRPA-L	MRPA
5-337	US AIR FORCE-MCGUIRE A	NEW HANOVER TWP	400216	743607	122	992- 1055	1953	MRPA-L	MRPA
5-344	HOFFMAN-LA ROCHE CO 1974	NORTH HANOVER TWP	400546	743446	136	783- 814*	1974	MRPA-M	MRPA
5-388	US ARMY-FT DIX 6	PEMBERTON TWP	395939	743742	160	1090- 1140	1970	MRPA-L	MRPA-U
5-392	RIVERSIDE PUB SCHOOL 1	RIVERSIDE TWP	400158	745710	20	90- 100	1965	MRPA-M	MRPA-2
5-651	WILLINGBORO MUA 3	WILLINGBORO TWP	400139	745325	28	203- 304*	1959	MRPA	MRPA-M
5-653	WILLINGBORO MUA 4	WILLINGBORO TWP	400152	745435	28	177- 280	1958	MRPA	MRPA-M
5-777	HOLIDAY LK ICE CREAM STD	EDGEWATER PK TWP	400203	745532	40	40- 50	1978	MRPA	MRPA-M
5-780	WASTE RESOURCE OBS 6	CINNAMINSON TWP	400106	745915	40	30- 50	1978	MRPA	MRPA-M
5-781	WASTE RESOURCE OBS 5	CINNAMINSON TWP	400059	745924	37	30- 50	1978	MRPA	MRPA-M
5-788	C R ENGLAND CO	BURLINGTON TWP	400540	744847	45	45- 53	1972	MRPA	MRPA-U
7- 8	BELLMAWR BORO WD 4	BELLMAWR BORO	395146	750542	75	380- 557*	1966	MRPA	MRPA-L
7-211	GLOUCESTER CITY WD 2	GLOUCESTER CITY	395345	750653	11	141- 171	1929	MRPA-U	MRPA-M
7-304	HADDONFLD BORO WD-LAKE ST	HADDONFIELD BORO	395404	750202	50	307- 372*	1967	MRPA-M	MRPA-L
7-323	STEVENS AND STEVENS 1	PENNSAUKEN TWP	395608	750438	18	74- 84	1956	MRPA-U	MRPA-2
7-326	MERCH-PENN WCOM-BROWN 1	PENNSAUKEN TWP	395627	750404	25	107- 137	1959	MRPA-L	MRPA-M
7-339	PREDCO PREC PANELS	PENNSAUKEN TWP	395743	750448	32	108**	1962	MRPA-M	MRPA-L
7-340	MERCH-PENN WCOM-DEL GN 1	PENNSAUKEN TWP	395752	750411	50	97- 123	1955	MRPA-M	MRPA-L
7-520	BROOKLAWN BORO WD 3-61	BROOKLAWN BORO	395251	750732	10	307- 327	1961	MRPA-U	MRPA-L
7-559	MEADOWBROOK SWIM CLUB	PENNSAUKEN TWP	395815	750150	50	97- 107	1963	MRPA-U	MRPA-M
7-560	MERCH-PENN WCOM-WDBINE 2	MRCHNTVILLE BORO	395652	750307	50	196- 226	1979	MRPA-M	MRPA-L
7-562	NJDEP-HARRISON AVE 2	CAMDEN CITY	395709	750615	15	26- 46	1980	MRPA	MRPA-M
7-566	NJDEP-HARRISON AVE 6	CAMDEN CITY	395718	750605	15	20- 40	1980	MRPA	MRPA-M
7-568	PENNSAUKEN LANDFILL MON 1	PENNSAUKEN TWP	395921	750210	26	59- 60	1979	MRPA	MRPA-M
7-571	PENNSAUKEN LANDFILL MON 4	PENNSAUKEN TWP	395912	750248	21	47- 48	1979	MRPA	MRPA-M
15-102	EI DUPONT REPAUNO 20	GREENWICH TWP	395016	751738	3	73- 103	1940	MRPA-M	MRPA-L
15-103	EI DUPONT REPAUNO H	GREENWICH TWP	395021	751730	2	83- 103	1945	MRPA-M	MRPA-L
15-107	EI DUPONT REPAUNO C	GREENWICH TWP	395025	751757	2	75- 105	1945	MRPA-M	MRPA-L
15-357	EI DUPONT REPAUNO 7 OBS	GREENWICH TWP	394957	751737	4	105**	1945	MRPA-M	MRPA-L
15-395	REPAUPO FIRE CO 30-1972	GREENWICH TWP	394801	751759	20	93- 113	1979	MRPA-U	MRPA-M
15-417	S&S AUCTION HOUSE 1 1978	LOGAN TWP	394820	751833	10	61- 71	1978	MRPA-U	MRPA-M
15-439	ESSEX CHEM-OLIN 2-1970	PAULSBORO BORO	395048	751401	10	215- 235	1970	MRPA	MRPA-L
21- 92	CHAMPALE INC-YARDSIDE	TRENTON CITY	401152	744528	27	70- 80	1961	MRPA	MRPA-M
21- 93	ROEBLING & SONS	TRENTON CITY	401156	744506	30	125- 147	1940	MRPA	MRPA-M
21-147	PUB SERV E-G-DUCK ISL 1	HAMILTON TWP	401026	744344	10	43- 63	1977	MRPA	MRPA-M
21-202	HAMILTON SQUARE WC 6	HAMILTON TWP	401353	743953	100	228**	1950	MRPA	MRPA-M
21-203	CHAMPALE INC-OLD WELL	TRENTON CITY	401153	744527	27	90**	1950	MRPA	MRPA-M
21-207	HAND WILLIAM 1-1930	WEST WINDSOR TWP	401607	743553	100	90- 95	1930	MRPA	MRPA-M

[1] Screened interval
* Multiple screens in well.
** Well depth, screened interval unknown.

[2] Aquifer units
MRPA, Potomac-Raritan-Magothy aquifer system--undifferentiated.
MRPA-U, Potomac-Raritan-Magothy aquifer system--upper aquifer.
MRPA-M, Potomac-Raritan-Magothy aquifer system--middle aquifer.
MRPA-L, Potomac-Raritan-Magothy aquifer system--lower aquifer.
MRPA-2, Indicates well screened in more than one unit of the Potomac-Raritan-Magothy aquifer system.

Table 5.--Results of analyses of ground-water samples for common constituents and physical characteristics, 1985-86

[°C, degrees Celsius; dashes indicate missing data; μS/cm, microsiemens per centimeter at 25 degrees Celsius; concentrations in milligrams per liter, except as noted; <, less than; μg/L, micrograms per liter]

Well number	Local well identifier	Date of sample collection (yr-mo-dy)	Temperature (°C)	Specific conductance (μS/cm)		pH (units)		Alkalinity (as $CaCO_3$)		Dissolved oxygen	Hardness (as $CaCO_3$)	
				Field	Lab	Field	Lab	Field	Lab		Total	Noncarbonate
5- 39	NJ WC-DEL VALLEY WC 15	19850814	14.5	212	210	5.60	5.90	16	14	3.6	66	50
5- 40	NJ WC-DEL VALLEY WC 16	19850814	16.5	242	246	6.30	6.50	53	52	2.2	89	36
5- 60	BURLINGTON CITY WC 2	19850909	13.0	192	205	6.90	6.80	70	63	--	76	6
5- 76	HEAL, CHARLES	19850904	13.0	252	219	6.40	5.50	37	<1.0	.6	31	<1
5- 76	HEAL, CHARLES	19850904	13.0	252	214	6.40	5.10	37	<1.0	.6	31	<1
5- 89	TENNECO CHEM 7	19850910	14.5	170	170	4.50	4.50	0	<1.0	0	47	47
5- 91	TENNECO CHEM 4	19850910	14.0	340	380	6.00	6.00	62	61	2.2	120	58
5- 97	HERCULES POWDER 1	19850702	14.0	211	174	6.50	5.30	27	6.0	.2	50	24
5-100	HERCULES POWDER 2	19850702	14.0	135	168	6.10	6.00	7	8.0	2.8	49	42
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	14.0	96	95	4.90	5.00	3	2.0	--	25	22
5-125	NJ WC-DEL VALLEY WC 10	19850814	14.0	84	79	5.00	5.10	2	2.0	8.5	19	17
5-167	EVESHAM MUA 5	19850815	19.0	222	223	7.80	7.50	91	85	.2	90	<1
5-167	EVESHAM MUA 5	19850815	19.0	222	225	7.80	7.50	91	86	.2	90	<1
5-167	EVESHAM MUA 5	19850815	18.0	200	225	7.50	7.30	91	86	.2	90	<1
5-187	FLORENCE TWP WD 4	19850702	14.5	244	292	6.50	6.60	88	70	1.2	110	19
5-261	USGS-MEDFORD 5 OBS	19851002	16.0	174	162	7.80	7.30	71	64	0	63	<1
5-261	USGS-MEDFORD 5 OBS	19851002	16.0	174	163	7.80	7.40	71	64	0	63	<1
5-284	MOORESTOWN TWP WD 4	19850816	14.5	172	153	6.60	6.50	85	59	.2	64	<1
5-284	MOORESTOWN TWP WD 4	19850816	14.5	172	153	6.60	6.60	85	59	.2	64	<1
5-284	MOORESTOWN TWP WD 4	19850816	15.0	172	151	6.60	6.50	85	59	.2	64	<1
5-393	RIVERSIDE INDUSTRY 39	19850816	16.5	278	295	5.20	5.50	6	9.0	3.9	73	67
5-658	WILLINGBORO MUA 7	19850703	14.0	96	58	6.70	6.20	40	16	.4	18	<1
5-667	WILLINGBORO MUA 5	19850703	14.0	142	138	5.70	5.20	2	2.0	3.9	37	35
5-758	TENNECO CHEM 10	19850910	13.0	--	232	5.20	5.40	3	5.0	8.7	85	82
5-780	WASTE RESOURCE OBS 6	19851008	15.5	1,100	1,080	6.90	6.60	145	111	3.5	190	42
5-822	MT LAURAL MUA 3	19850903	17.5	--	175	6.70	6.70	59	56	.3	65	6
5-823	MT LAURAL MUA 4	19850903	16.5	--	174	6.80	6.70	67	57	.3	66	<1
7- 8	BELMAWR BORO WD 4	19850715	16.5	204	184	7.90	7.70	64	68	.2	56	<1
7- 12	BELMAWR BORO WD 3	19850715	16.5	370	355	7.70	7.20	148	128	.4	130	<1
7- 18	BERLIN BORO WD 9	19850815	20.0	212	212	7.70	7.70	93	87	.3	56	<1
7- 30	SJ PORT COMM NY SHIP 5A	19851015	16.0	--	347	7.30	7.60	215	133	.2	95	<1
7- 46	CAMDEN CITY WD-CITY 11	19850829	15.5	--	533	6.20	6.30	125	124	.4	190	60
7- 46	CAMDEN CITY WD-CITY 11	19850829	15.5	--	525	6.20	6.20	125	102	.4	190	60
7- 46	CAMDEN CITY WD-CITY 11	19850829	15.5	--	535	6.20	6.20	125	124	.4	190	60
7- 64	CAMDEN CITY WD-CITY 17	19850829	15.0	--	500	5.80	6.00	60	58	--	140	75
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	14.5	520	529	6.20	6.30	121	94	.3	140	24
7-122	NEW JERSEY WC-BROWN 44	19850808	17.0	178	224	7.60	7.10	85	79	.2	86	1
7-124	NEW JERSEY WC-BROWN 45	19850808	16.5	234	190	7.20	7.40	82	70	.2	65	<1
7-134	NEW JERSEY WC-OLD ORCH 37	19850808	17.0	237	236	6.90	7.30	86	85	.3	99	13
7-143	NEW JERSEY WC-ELLISBG 16	19850813	15.0	212	203	7.10	6.60	81	76	.3	85	4
7-147	NEW JERSEY WC-KINGSTN 25	19850813	16.0	212	211	6.90	6.50	66	70	.4	88	22
7-183	NEW JERSEY WC-GIBBSBO 43	19850711	22.0	174	163	7.50	7.10	67	67	.2	42	<1
7-189	NEW JERSEY WC-GIBBSBO 41	19850711	22.0	211	201	7.50	7.40	73	70	.3	42	<1
7-221	USGS-GLOUC CTY CG BASE 1	19850918	15.5	575	490	7.20	6.80	229	215	.1	160	<1
7-249	GARDEN ST WC-BLACKWOOD 3	19850815	16.5	194	198	8.10	7.70	91	83	.3	44	<1
7-273	NEW JERSEY WC-OTTERBK 29	19850809	17.5	178	189	7.80	7.50	65	69	.2	39	<1
7-274	NEW JERSEY WC-OTTERBK 39	19850809	16.0	176	177	7.90	7.40	75	69	.2	56	<1
7-278	NEW JERSEY WC-HADDON 15	19850807	16.0	185	191	7.50	7.20	65	67	.2	62	<1
7-283	NEW JERSEY WC-EGBERT OBS	19851001	15.0	198	185	8.00	7.20	--	65	.1	50	<1
7-302	HADDONFLD BORO WD-RULON	19850716	17.0	225	210	7.60	7.10	94	75	.2	75	<1
7-304	HADDONFLD BORO WD-LAKE ST	19850716	16.0	223	200	7.20	6.70	--	64	.4	82	18
7-315	NEW JERSEY WC-MAGNOLIA 16	19850809	16.0	186	190	7.60	7.30	65	67	.3	63	<1
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	14.5	120	117	5.00	5.40	1	2.0	4.6	26	25
7-341	MERCH-PENN WCOM-DEL GN 2	19850710	15.5	310	304	7.20	6.90	117	113	3.2	110	<1
7-345	MERCH-PENN WCOM-PARK 5	19850731	16.0	104	104	5.40	5.30	3	4.0	3.8	27	24
7-350	MERCH-PENN WCOM-PARK 2	19850731	15.0	118	110	5.00	5.10	3	3.0	1.8	28	25
7-354	PETTY ISLAND OBS	19851112	14.5	560	518	6.60	6.80	259	238	.1	130	<1
7-367	CAMDEN CITY WD-PUCHACK	19850806	14.5	295	186	5.60	5.80	22	21	1.7	50	28
7-369	CAMDEN CITY WD-DELAIR 2	19850717	16.0	322	268	7.10	6.70	80	66	.2	70	<1
7-372	MERCH-PENN WCOM-NAT HWY 1	19850801	15.0	135	134	4.80	4.90	--	3.0	3.5	33	30
7-379	CAMDEN CITY WD-MORRIS 10	19850717	15.0	398	289	7.00	6.50	176	114	.5	84	<1
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	14.5	775	639	6.40	6.30	296	220	.4	210	<1
7-412	NEW JERSEY WC-ELM TREE 2	19850919	19.5	162	151	8.10	7.50	63	63	.1	44	<1
7-477	USGS-NEW BROOKLYN PK 2 OBS	19850923	20.0	432	434	9.30	9.00	--	231	.1	15	<1
7-527	CAMDEN CITY WD-CITY 18	19850829	14.5	--	427	5.70	5.80	54	54	.5	120	66

Table 5.--Results of analyses of ground-water samples for common constituents and physical characteristics, 1985-86--Continued

Well number	Local well identifier	Date of sample collection (yr-mo-dy)	Dissolved sodium	Dissolved potassium	Dissolved calcium	Dissolved magnesium	Dissolved silica	Dissolved chloride	Dissolved sulfate	Dissolved fluoride
5- 39	NJ WC-DEL VALLEY WC 15	19850814	11	4.2	10	10	12	14	42	<0.1
5- 40	NJ WC-DEL VALLEY WC 16	19850814	12	3.9	20	9.5	8.3	12	50	<.1
5- 60	BURLINGTON CITY WC 2	19850909	8.3	2.0	20	6.2	6.2	7.9	22	.1
5- 76	HEAL, CHARLES	19850904	6.4	1.4	7.1	3.1	13	13	67	1.3
5- 76	HEAL, CHARLES	19850904	6.4	1.4	7.2	3.2	13	14	67	<.1
5- 89	TENNECO CHEM 7	19850910	7.0	2.2	9.9	5.3	9.0	15	38	<.1
5- 91	TENNECO CHEM 4	19850910	21	3.9	25	14	7.1	32	81	<.1
5- 97	HERCULES POWDER 1	19850702	8.8	1.9	12	4.9	11	11	76	<.1
5-100	HERCULES POWDER 2	19850702	8.2	1.9	10	5.9	11	15	37	<.1
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	4.8	2.0	5.5	2.6	8.0	11	11	<.1
5-125	NJ WC-DEL VALLEY WC 10	19850814	4.4	1.8	4.6	1.8	7.4	8.6	1.8	<.1
5-167	EVESHAM MUA 5	19850815	5.7	9.2	25	6.5	8.2	2.2	24	<.1
5-167	EVESHAM MUA 5	19850815	5.8	9.1	25	6.5	8.2	2.0	23	.2
5-167	EVESHAM MUA 5	19850815	5.9	9.2	25	6.5	8.2	1.9	23	.2
5-187	FLORENCE TWP WD 4	19850702	11	2.7	23	12	8.2	20	27	<.1
5-261	USGS-MEDFORD 5 OBS	19851002	3.9	6.6	19	3.5	7.8	2.4	12	.2
5-261	USGS-MEDFORD 5 OBS	19851002	3.9	6.7	19	3.5	7.9	2.3	12	.2
5-284	MOORESTOWN TWP WD 4	19850816	2.9	4.0	18	4.5	11	2.9	30	<.1
5-284	MOORESTOWN TWP WD 4	19850816	2.8	3.8	18	4.6	11	3.1	29	.2
5-284	MOORESTOWN TWP WD 4	19850816	2.8	3.9	18	4.5	11	2.9	30	.2
5-393	RIVERSIDE INDUSTRY 39	19850816	23	4.3	14	9.3	7.1	32	47	<.1
5-658	WILLINGBORO MUA 7	19850703	2.5	1.3	4.6	1.6	10	5.7	28	<.1
5-667	WILLINGBORO MUA 5	19850703	7.2	1.7	8.5	3.7	9.7	15	15	.1
5-758	TENNECO CHEM 10	19850910	5.1	3.1	14	12	8.4	12	58	<.1
5-780	WASTE RESOURCE OBS 6	19851008	96	29	37	23	7.3	95	160	<.1
5-822	MT LAURAL MUA 3	19850903	5.9	5.6	20	3.4	9.3	3.6	21	<.1
5-823	MT LAURAL MUA 4	19850903	5.6	5.6	20	3.5	9.5	3.1	23	<.1
7- 8	BELMAWR BORO WD 4	19850715	13	7.8	16	3.6	7.5	3.0	20	.2
7- 12	BELMAWR BORO WD 3	19850715	17	9.7	36	8.6	9.3	12	32	.3
7- 18	BERLIN BORO WD 9	19850815	19	8.9	14	5.1	8.8	1.3	19	.3
7- 30	SJ PORT COMM NY SHIP 5A	19851015	18	4.2	24	8.5	7.3	29	81	.3
7- 46	CAMDEN CITY WD-CITY 11	19850829	22	6.1	46	17	1.5	26	96	<.1
7- 46	CAMDEN CITY WD-CITY 11	19850829	21	6.1	46	17	1.5	27	96	<.1
7- 46	CAMDEN CITY WD-CITY 11	19850829	21	6.1	46	17	1.5	26	96	<.1
7- 64	CAMDEN CITY WD-CITY 17	19850829	40	6.0	34	12	11	45	99	<.1
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	27	5.4	33	15	7.6	43	58	.3
7-122	NEW JERSEY WC-BROWN 44	19850808	5.0	9.9	25	5.3	7.9	2.0	27	.2
7-124	NEW JERSEY WC-BROWN 45	19850808	7.9	8.3	19	4.0	8.8	3.8	18	.1
7-134	NEW JERSEY WC-OLD ORCH 37	19850808	3.7	9.1	29	6.1	8.7	2.0	30	<.1
7-143	NEW JERSEY WC-ELLISBG 16	19850813	4.9	5.9	25	5.2	9.1	3.1	25	.1
7-147	NEW JERSEY WC-KINGSTN 25	19850813	3.4	7.1	26	5.2	8.7	2.2	30	.1
7-183	NEW JERSEY WC-GIBBSBO 43	19850711	15	6.7	12	2.6	9.3	6.1	9.6	.3
7-189	NEW JERSEY WC-GIBBSBO 41	19850711	23	6.6	12	2.8	9.3	8.4	19	.2
7-221	USGS-GLOUC CTY CG BASE 1	19850918	16	8.3	43	12	6.8	24	37	.4
7-249	GARDEN ST WC-BLACKWOOD 3	19850815	23	6.6	12	3.3	8.4	2.0	14	.5
7-273	NEW JERSEY WC-OTTERBK 29	19850809	21	6.4	11	2.7	9.0	8.8	10	.3
7-274	NEW JERSEY WC-OTTERBK 39	19850809	11	6.3	16	3.6	8.5	1.7	15	.4
7-278	NEW JERSEY WC-HADDON 15	19850807	9.8	8.0	18	3.9	8.6	4.2	20	.3
7-283	NEW JERSEY WC-EGBERT OBS	19851001	14	6.6	14	3.3	8.2	5.4	19	.2
7-302	HADDONFLD BORO WD-RULON	19850716	8.6	7.9	22	4.6	9.0	4.6	27	.2
7-304	HADDONFLD BORO WD-LAKE ST	19850716	2.7	6.6	24	5.1	8.4	1.9	36	.1
7-315	NEW JERSEY WC-MAGNOLIA 16	19850809	9.1	8.3	18	4.1	8.3	3.2	20	.3
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	9.3	2.2	5.8	2.7	15	14	26	<.1
7-341	MERCH-PENN WCOM-DEL GN 2	19850710	13	2.8	27	10	5.4	19	8.3	.2
7-345	MERCH-PENN WCOM-PARK 5	19850731	5.9	2.1	6.4	2.6	12	13	5.5	<.1
7-350	MERCH-PENN WCOM-PARK 2	19850731	5.9	2.4	6.7	2.6	14	15	6.0	<.1
7-354	PETTY ISLAND OBS	19851112	14	5.4	32	12	24	12	13	.3
7-367	CAMDEN CITY WD-PUCHACK	19850806	12	2.8	11	5.5	6.6	21	22	<.1
7-369	CAMDEN CITY WD-DELAIR 2	19850717	18	3.5	18	6.0	7.9	34	32	.1
7-372	MERCH-PENN WCOM-NAT HWY 1	19850801	8.7	2.0	7.2	3.5	9.2	15	16	<.1
7-379	CAMDEN CITY WD-MORRIS 10	19850717	12	5.6	20	8.2	9.4	22	2.3	.6
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	25	12	42	25	5.9	35	80	.6
7-412	NEW JERSEY WC-ELM TREE 2	19850919	9.8	6.1	13	2.7	9.2	3.7	7.7	.2
7-477	USGS-NEW BROOKLYN PK 2 OBS	19850923	100	4.9	5.0	.44	13	4.0	5.6	.5
7-527	CAMDEN CITY WD-CITY 18	19850829	30	5.9	31	10	11	35	80	.1

Table 5.--Results of analyses of ground-water samples for common constituents and physical characteristics, 1985-86--Continued

Well number	Local well identifier	Date of sample collection (yr-mo-dy)	Total iron (µg/L)	Dissolved iron (µg/L)	Total manganese (µg/L)	Dissolved manganese (µg/L)	Dissolved organic carbon	Phenol	Dissolved solids: Residue at 180°C	Dissolved solids: Sum of constituents
5- 39	NJ WC-DEL VALLEY WC 15	19850814	340	<3	20	3	1.2	1	115	130
5- 40	NJ WC-DEL VALLEY WC 16	19850814	--	<3	--	30	1.7	1	144	6,150
5- 60	BURLINGTON CITY WC 2	19850909	2,200	140	2,500	2,100	--	3	120	120
5- 76	HEAL, CHARLES	19850904	43,000	42,000	500	460	1.6	1	144	170
5- 76	HEAL, CHARLES	19850904	42,000	42,000	480	460	--	--	141	170
5- 89	TENNECO CHEM 7	19850910	1,400	1,300	200	190	.4	4	99	88
5- 91	TENNECO CHEM 4	19850910	270	99	1,600	1,700	1.3	5	225	230
5- 97	HERCULES POWDER 1	19850702	11,000	11,000	100	90	1.0	5	148	140
5-100	HERCULES POWDER 2	19850702	360	290	20	30	1.1	2	109	95
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	100	8	30	27	.6	1	75	49
5-125	NJ WC-DEL VALLEY WC 10	19850814	290	7	30	19	1.0	3	58	51
5-167	EVESHAM MUA 5	19850815	100	27	20	10	1.1	2	130	140
5-167	EVESHAM MUA 5	19850815	110	24	20	10	.8	4	135	140
5-167	EVESHAM MUA 5	19850815	120	34	20	10	1.4	1	131	140
5-187	FLORENCE TWP WD 4	19850702	50	21	20	22	1.3	2	182	170
5-261	USGS-MEDFORD 5 OBS	19851002	1,000	760	30	47	--	--	97	100
5-261	USGS-MEDFORD 5 OBS	19851002	1,100	760	30	47	.7	5	99	100
5-284	MOORESTOWN TWP WD 4	19850816	9,200	9,200	100	87	.7	10	105	130
5-284	MOORESTOWN TWP WD 4	19850816	--	9,400	40	87	1.5	4	116	130
5-284	MOORESTOWN TWP WD 4	19850816	9,200	9,100	110	88	.5	3	116	130
5-393	RIVERSIDE INDUSTRY 39	19850816	60	13	70	46	.7	1	187	170
5-658	WILLINGBORO MUA 7	19850703	12,000	12,000	80	78	5.8	5	55	87
5-667	WILLINGBORO MUA 5	19850703	190	120	50	46	1.2	1	94	84
5-758	TENNECO CHEM 10	19850910	480	55	<10	27	.5	3	137	140
5-780	WASTE RESOURCE OBS 6	19851008	780	10	5,300	4,800	11	11	634	660
5-822	MT LAURAL MUA 3	19850903	1,800	1,400	130	130	.5	1	108	110
5-823	MT LAURAL MUA 4	19850903	5,400	5,300	70	87	.8	1	108	110
7- 8	BELMAWR BORO WD 4	19850715	650	330	20	18	--	<1	115	110
7- 12	BELMAWR BORO WD 3	19850715	200	110	40	42	--	<1	208	220
7- 18	BERLIN BORO WD 9	19850815	80	5	20	6	1.4	4	128	130
7- 30	SJ PORT COMM NY SHIP 5A	19851015	54,000	58,000	640	650	4.3	3	200	370
7- 46	CAMDEN CITY WD-CITY 11	19850829	20	32	660	670	2.2	2	296	300
7- 46	CAMDEN CITY WD-CITY 11	19850829	20	31	650	690	2.4	4	298	300
7- 46	CAMDEN CITY WD-CITY 11	19850829	30	28	670	680	2.3	4	302	300
7- 64	CAMDEN CITY WD-CITY 17	19850829	290	12	290	290	1.6	3	330	290
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	820	760	3,500	3,400	2.4	5	303	290
7-122	NEW JERSEY WC-BROWN 44	19850808	770	640	40	39	--	5	127	130
7-124	NEW JERSEY WC-BROWN 45	19850808	740	680	50	45	3.1	<1	113	120
7-134	NEW JERSEY WC-OLD ORCH 37	19850808	1,000	990	50	52	2.4	1	134	140
7-143	NEW JERSEY WC-ELLISBG 16	19850813	4,000	3,500	70	61	.7	2	127	130
7-147	NEW JERSEY WC-KINGSTN 25	19850813	850	690	60	55	.9	2	126	120
7-183	NEW JERSEY WC-GIBBSBO 43	19850711	440	--	40	36	.9	<1	106	120
7-189	NEW JERSEY WC-GIBBSBO 41	19850711	380	340	30	30	1.3	<1	--	130
7-221	USGS-GLOUC CTY CG BASE 1	19850918	--	23,000	--	430	4.0	8	262	330
7-249	GARDEN ST WC-BLACKWOOD 3	19850815	200	130	20	7	1.1	4	135	130
7-273	NEW JERSEY WC-OTTERBK 29	19850809	300	300	30	30	1.1	1	106	110
7-274	NEW JERSEY WC-OTTERBK 39	19850809	210	180	30	12	2.8	1	110	110
7-278	NEW JERSEY WC-HADDON 15	19850807	880	770	40	39	.7	2	119	110
7-283	NEW JERSEY WC-EGBERT OBS	19851001	1,000	870	60	44	.4	4	116	110
7-302	HADDONFLD BORO WD-RULON	19850716	1,600	1,500	50	44	1.1	<1	122	140
7-304	HADDONFLD BORO WD-LAKE ST	19850716	4,000	4,100	70	63	1.0	2	122	130
7-315	NEW JERSEY WC-MAGNOLIA 16	19850809	240	230	40	27	--	5	112	110
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	60	56	120	120	1.4	2	83	76
7-341	MERCH-PENN WCOM-DEL GN 2	19850710	260	130	1,300	1,300	1.5	3	156	160
7-345	MERCH-PENN WCOM-PARK 5	19850731	30	10	80	83	.4	1	81	64
7-350	MERCH-PENN WCOM-PARK 2	19850731	180	95	100	100	.5	1	78	69
7-354	PETTY ISLAND OBS	19851112	22,000	23,000	610	600	6.2	1	222	350
7-367	CAMDEN CITY WD-PUCHACK	19850806	<10	6	170	170	1.9	<1	110	100
7-369	CAMDEN CITY WD-DELAIR 2	19850717	10,000	11,000	2,000	1,900	3.1	3	165	180
7-372	MERCH-PENN WCOM-NAT HWY 1	19850801	40	8	50	62	.7	2	80	79
7-379	CAMDEN CITY WD-MORRIS 10	19850717	30,000	29,000	7,500	7,400	3.6	4	180	220
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	49,000	49,000	7,100	6,100	11	13	386	470
7-412	NEW JERSEY WC-ELM TREE 2	19850919	960	510	--	50	.8	13	88	91
7-477	USGS-NEW BROOKLYN PK 2 OBS	19850923	620	17	10	1	1.4	20	270	270
7-527	CAMDEN CITY WD-CITY 18	19850829	170	94	180	170	1.3	2	256	250

Table 5.--Results of analyses of ground-water samples for common constituents and physical characteristics, 1985-86--Continued

Well number	Local well identifier	Date of sample collection (yr-mo-dy)	Temperature (°C)	Specific conductance (µS/cm) Field	Specific conductance (µS/cm) Lab	pH (units) Field	pH (units) Lab	Alkalinity (as CaCO3) Field	Alkalinity (as CaCO3) Lab	Dissolved oxygen	Hardness (as CaCO3) Total	Hardness (as CaCO3) Non-carbonate
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	13.5	85	82	5.10	5.30	3	2.0	7.8	22	19
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	13.5	85	80	5.10	5.20	3	3.0	7.8	22	19
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	13.5	85	83	5.10	5.60	3	2.0	7.8	21	18
7-545	CAMDEN CITY WD-MORRIS 11	19850806	14.5	282	256	6.60	6.60	73	68	.2	79	6
7-555	PENLER ANODIZING CO 1	19850828	13.5	430	471	5.40	5.50	62	63	.2	99	37
7-566	NJDEP-HARRISON AVE 6	19851016	16.0	720	900	6.30	6.20	230	227	7.7	380	150
7-567	NJDEP-HARRISON AVE 7	19851016	17.0	500	552	7.10	6.80	285	241	.2	150	<1
7-571	PENNSAUKN LANDFILL MON 4	19851010	16.0	166	154	4.80	4.90	3	2.0	5.7	36	33
7-586	CAMDEN CITY WD-MORRIS 12	19850717	15.5	235	206	7.10	6.80	60	45	.3	60	<1
7-602	MERCH-PENN WCOM HWY 2	19850801	15.0	138	124	5.00	5.10	2	3.0	3.6	29	27
15- 1	CLAYTON BORO WD 3	19850917	20.5	950	1,020	8.60	8.10	301	309	.3	13	<1
15- 1	CLAYTON BORO WD 3	19850917	20.5	950	1,020	8.60	8.20	301	309	.3	13	<1
15- 24	DEPTFORD TWP MUA 4	19850712	15.5	242	230	8.20	7.50	93	95	.3	49	<1
15- 28	E GREENWICH TWP WD 2	19850723	14.5	465	456	7.90	7.70	141	157	.4	35	<1
15- 63	GLASSBORO BORO WD 4	19850724	18.5	570	548	8.50	8.20	228	232	.3	12	<1
15- 69	GREENWICH TWP WD 3	19850725	14.0	167	179	5.10	3.90	2	<1.0	.3	31	29
15- 79	EI DUPONT REPAUNO 6	19850917	15.0	680	650	5.80	5.40	18	17	.5	74	56
15- 79	EI DUPONT REPAUNO 6	19850917	15.0	680	651	5.60	5.50	18	17	.5	79	61
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	16.0	480	435	6.00	4.90	16	1.0	.1	49	33
15-109	MOBIL OIL-GREENWICH 41	19851018	17.5	810	792	5.80	5.60	106	4.0	.2	130	28
15-118	MOBIL OIL-GREENWICH 47	19851018	15.0	455	455	6.20	5.90	50	42	.3	33	<1
15-118	MOBIL OIL-GREENWICH 47	19851018	15.0	450	455	6.20	5.90	50	42	.3	33	<1
15-130	SO JERSEY WC 3	19850723	16.0	1,000	996	8.30	8.00	251	255	.3	39	<1
15-192	MANTUA MUA 5	19850723	16.0	510	509	8.30	8.00	189	189	.4	30	<1
15-210	PAULSBORO WD 6-1973	19850925	14.5	243	238	5.60	5.10	14	<1.0	.4	34	20
15-253	WASHINGTON TWP MUA 6-64	19850724	19.0	305	311	7.40	7.10	133	133	.1	16	<1
15-276	W DEPTFORD TWP WD 4	19850718	14.0	420	390	8.10	7.70	137	145	.3	35	<1
15-282	W DEPTFORD TWP 5	19850718	16.0	400	496	7.80	7.60	89	115	.3	20	<1
15-283	SHELL CHEM CO 3	19850924	16.5	770	739	8.00	7.40	145	142	.1	28	<1
15-283	SHELL CHEM CO 3	19850924	16.5	770	738	8.00	7.30	145	142	.1	28	<1
15-308	PENWALT CORP TW 8	19850926	15.0	480	506	7.50	7.50	112	106	.2	26	<1
15-312	W DEPTFORD TWP WD 6	19850718	15.0	550	375	8.00	7.50	119	106	.3	24	<1
15-314	TEXACO EAGLE PT 6-PROD	19850924	16.5	292	275	6.70	6.30	47	56	.1	43	<1
15-323	TEXACO EAGLE PT 3-OBS	19851004	16.0	675	718	6.50	6.40	252	236	.1	250	<1
15-331	WOODBURY WD RAILROAD 5	19850722	14.5	368	362	7.80	7.70	95	104	.6	19	<1
15-342	DEL MONTE CORP 10	19850926	15.5	293	304	7.20	7.40	104	100	.2	62	<1
15-347	GREENWICH TWP WD 5	19850725	17.0	225	231	5.80	6.20	17	17	3.1	51	34
15-348	GREENWICH TWP WD 6	19850725	14.0	157	153	4.20	4.10	0	<1.0	1.8	31	31
15-374	DEPTFORD TWP MUA 6	19850712	17.0	280	262	8.10	7.60	104	104	.3	18	<1
15-385	PITMAN WD 4	19850724	17.5	575	568	8.40	8.10	221	226	.3	14	<1
15-390	GLOUCESTER CO SEW AUTH 1	19850926	14.0	--	956	6.60	6.80	197	172	.1	130	<1
15-417	S&S AUCTION HOUSE 1 1978	19851003	15.5	251	277	5.10	5.10	5	3.0	1.3	93	88
15-431	WOODBURY CITY WD 6-81	19850722	14.5	350	345	7.50	8.20	--	113	.2	92	<1
15-439	ESSEX CHEM-OLIN 2-1970	19850925	14.5	730	913	6.30	6.40	82	56	.4	87	5
33-187	USGS-POINT AIRY OBS	19851007	16.0	980	916	8.90	8.20	201	196	.1	11	<1
PH- 6	US NAVY 6	19851114	14.5	755	722	6.40	6.40	243	228	.1	301	58
PH- 12	US NAVY 12	19860123	15.5	605	541	6.70	6.70	145	224	.3	164	19
PH- 15	US NAVY 15	19860124	16.5	560	455	6.60	6.50	260	175	.3	134	<1
PH- 19	US NAVY 19	19851114	16.0	945	843	6.40	6.40	335	238	.2	296	<1
PH- 86	US NAVAL HOSPITAL	19850912	16.0	1,060	954	6.60	6.50	450	438	.2	448	<1
PH- 86	US NAVAL HOSPITAL	19851009	16.5	1,000	--	6.80	--	456	--	.1	--	--
PH-820	DEL VAL FISH CO INC	19850910	17.0	1,210	1,070	6.40	6.30	138	133	--	374	240

Table 5.--Results of analyses of ground-water samples for common constituents and physical characteristics, 1985-86--Continued

Well number	Local well identifier	Date of sample collection (yr-mo-dy)	Dissolved sodium	Dissolved potassium	Dissolved calcium	Dissolved magnesium	Dissolved silica	Dissolved chloride	Dissolved sulfate	Dissolved fluoride
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	4.1	1.6	5.1	2.2	9.0	7.4	7.7	<0.1
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	4.0	1.7	5.1	2.2	8.9	7.5	7.6	<.1
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	3.8	1.7	4.9	2.1	8.7	7.7	7.7	<.1
7-545	CAMDEN CITY WD-MORRIS 11	19850806	12	2.9	19	7.6	6.5	19	35	.2
7-555	PENLER ANODIZING CO 1	19850828	49	4.2	18	13	3.6	88	20	<.1
7-566	NJDEP-HARRISON AVE 6	19851016	40	5.2	96	33	10	61	150	<.1
7-567	NJDEP-HARRISON AVE 7	19851016	10	3.8	35	16	5.4	16	.4	1.4
7-571	PENNSAUKN LANDFILL MON 4	19851010	8.3	5.9	6.0	5.0	6.3	17	31	<.1
7-586	CAMDEN CITY WD-MORRIS 12	19850717	12	2.1	15	5.4	6.3	19	25	.2
7-602	MERCH-PENN WCOM HWY 2	19850801	8.8	1.8	6.3	3.2	9.2	14	14	<.1
15- 1	CLAYTON BORO WD 3	19850917	230	8.3	2.8	1.3	9.6	140	<.2	1.7
15- 1	CLAYTON BORO WD 3	19850917	230	9.1	2.8	1.4	9.4	140	<.2	1.6
15- 24	DEPTFORD TWP MUA 4	19850712	31	5.7	14	3.1	7.8	6.0	17	.8
15- 28	E GREENWICH TWP WD 2	19850723	83	5.5	9.3	2.7	9.5	45	8.6	1.1
15- 63	GLASSBORO BORO WD 4	19850724	120	5.4	2.8	1.1	8.7	36	1.7	1.8
15- 69	GREENWICH TWP WD 3	19850725	10	2.2	5.7	3.9	14	14	42	<.1
15- 79	EI DUPONT REPAUNO 6	19850917	78	4.3	16	8.2	8.7	94	100	<.1
15- 79	EI DUPONT REPAUNO 6	19850917	81	4.6	17	8.8	8.7	95	100	<.1
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	53	3.9	12	4.5	18	120	17	<.1
15-109	MOBIL OIL-GREENWICH 41	19851018	83	4.5	30	14	9.4	92	200	.6
15-118	MOBIL OIL-GREENWICH 47	19851018	73	2.2	8.5	2.7	8.6	110	15	.2
15-118	MOBIL OIL-GREENWICH 47	19851018	73	2.2	8.4	2.7	8.6	110	12	.1
15-130	SO JERSEY WC 3	19850723	190	8.8	10	3.3	8.4	160	5.1	1.4
15-192	MANTUA MUA 5	19850723	95	6.2	8.0	2.3	8.4	44	4.1	1.5
15-210	PAULSBORO WD 6-1973	19850925	25	3.1	7.0	3.9	9.3	31	47	.2
15-253	WASHINGTON TWP MUA 6-64	19850724	64	5.7	3.9	1.5	8.8	22	5.0	1.0
15-276	W DEPTFORD TWP WD 4	19850718	71	5.6	9.7	2.5	8.3	33	5.4	1.1
15-282	W DEPTFORD TWP 5	19850718	97	3.1	5.8	1.3	8.4	81	7.7	1.6
15-283	SHELL CHEM CO 3	19850924	140	3.4	7.7	1.9	8.8	140	9.3	2.1
15-283	SHELL CHEM CO 3	19850924	150	3.5	7.7	1.9	8.8	140	9.2	1.7
15-308	PENWALT CORP TW 8	19850926	94	3.5	7.3	1.7	8.6	79	10	1.6
15-312	W DEPTFORD TWP WD 6	19850718	68	3.8	6.9	1.5	8.3	46	9.0	1.2
15-314	TEXACO EAGLE PT 6-PROD	19850924	35	4.2	12	2.9	12	24	42	.3
15-323	TEXACO EAGLE PT 3-OBS	19851004	41	9.8	67	19	15	38	85	.1
15-331	WOODBURY WD RAILROAD 5	19850722	67	3.3	5.5	1.2	8.6	44	7.3	1.0
15-342	DEL MONTE CORP 10	19850926	39	5.4	17	4.6	10	13	24	.3
15-347	GREENWICH TWP WD 5	19850725	17	5.5	11	5.6	6.8	22	33	<.1
15-348	GREENWICH TWP WD 6	19850725	7.3	2.6	4.7	4.7	12	10	35	.1
15-374	DEPTFORD TWP MUA 6	19850712	53	3.8	5.1	1.3	7.8	15	6.8	1.1
15-385	PITMAN WD 4	19850724	120	5.8	3.4	1.3	8.7	44	1.8	2.0
15-390	GLOUCESTER CO SEW AUTH 1	19850926	140	7.8	36	9.7	13	90	160	1.0
15-417	S&S AUCTION HOUSE 1 1978	19851003	4.6	7.2	24	8.0	6.3	28	41	<.1
15-431	WOODBURY CITY WD 6-81	19850722	29	6.4	27	5.7	8.9	22	16	.9
15-439	ESSEX CHEM-OLIN 2-1970	19850925	150	5.1	24	6.2	11	130	170	1.5
33-187	USGS-POINT AIRY OBS	19851007	200	4.7	3.0	.84	7.6	170	4.3	2.1
PH- 6	US NAVY 6	19851114	27	4.4	56	39	17	23	100	.1
PH- 12	US NAVY 12	19860123	27	5.1	39	16	13	49	66	.7
PH- 15	US NAVY 15	19860124	23	43	32	13	15	32	3.4	.3
PH- 19	US NAVY 19	19851114	48	5.5	62	34	14	38	130	.2
PH- 86	US NAVAL HOSPITAL	19850912	38	4.4	72	65	18	55	17	.3
PH- 86	US NAVAL HOSPITAL	19851009	--	--	--	--	--	--	--	--
PH-820	DEL VAL FISH CO INC	19850910	66	12	77	44	14	98	210	<.1

Table 5.--Results of analyses of ground-water samples for common constituents and physical characteristics, 1985-86--Continued

Well number	Local well identifier	Date of sample collection (yr-mo-dy)	Total iron (µg/L)	Dissolved iron (µg/L)	Total manganese (µg/L)	Dissolved manganese (µg/L)	Dissolved organic carbon	Phenol	Dissolved solids: Residue at 180°C	Dissolved solids: Sum of constituents
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	40	10	20	26	--	--	63	53
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	50	6	20	25	--	--	66	53
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	50	10	30	25	.5	<1	64	53
7-545	CAMDEN CITY WD-MORRIS 11	19850806	7,100	7,100	3,800	3,800	2.2	3	148	160
7-555	PENLER ANODIZING CO 1	19850828	450	230	210	200	5.4	54	270	230
7-566	NJDEP-HARRISON AVE 6	19851016	410	10	1,500	1,500	7.3	4	610	550
7-567	NJDEP-HARRISON AVE 7	19851016	22,000	22,000	7,200	6,800	7.4	<1	224	310
7-571	PENNSAUKN LANDFILL MON 4	19851010	70	11	540	500	1.2	2	90	87
7-586	CAMDEN CITY WD-MORRIS 12	19850717	5,800	6,200	1,200	1,200	1.9	3	115	130
7-602	MERCH-PENN WCOM HWY 2	19850801	30	9	40	39	.5	<1	78	72
15- 1	CLAYTON BORO WD 3	19850917	140	40	<10	2	2.4	8	588	--
15- 1	CLAYTON BORO WD 3	19850917	110	52	<10	2	2.2	6	592	--
15- 24	DEPTFORD TWP MUA 4	19850712	240	260	10	13	2.4	2	147	140
15- 28	E GREENWICH TWP WD 2	19850723	530	170	20	5	2.3	<1	274	250
15- 63	GLASSBORO BORO WD 4	19850724	70	29	10	<1	9.3	2	346	320
15- 69	GREENWICH TWP WD 3	19850725	6,200	5,900	340	320	--	3	102	100
15- 79	EI DUPONT REPAUNO 6	19850917	390	400	740	720	1.9	6	377	360
15- 79	EI DUPONT REPAUNO 6	19850917	370	390	710	760	2.0	6	383	360
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	14,000	11,000	350	330	.6	6	248	250
15-109	MOBIL OIL-GREENWICH 41	19851018	42,000	46,000	1,200	1,200	15	68	495	550
15-118	MOBIL OIL-GREENWICH 47	19851018	3,900	3,800	80	66	1.8	5	243	250
15-118	MOBIL OIL-GREENWICH 47	19851018	3,700	3,800	70	--	1.8	7	243	250
15-130	SO JERSEY WC 3	19850723	100	78	10	3	2.1	2	555	540
15-192	MANTUA MUA 5	19850723	40	4	10	3	1.8	1	288	280
15-210	PAULSBORO WD 6-1973	19850925	7,900	7,800	130	110	1.2	4	140	140
15-253	WASHINGTON TWP MUA 6-64	19850724	60	11	<10	<1	6.4	<1	210	190
15-276	W DEPTFORD TWP WD 4	19850718	90	110	<10	4	1.7	6	241	220
15-282	W DEPTFORD TWP 5	19850718	40	35	10	11	1.3	2	276	260
15-283	SHELL CHEM CO 3	19850924	340	310	20	12	--	--	407	400
15-283	SHELL CHEM CO 3	19850924	360	300	20	13	.9	2	410	410
15-308	PENWALT CORP TW 8	19850926	4,800	1,100	60	39	1.3	4	271	280
15-312	W DEPTFORD TWP WD 6	19850718	70	38	10	9	1.7	2	208	220
15-314	TEXACO EAGLE PT 6-PROD	19850924	2,300	2,200	--	57	.9	1	162	160
15-323	TEXACO EAGLE PT 3-OBS	19851004	16,000	16,000	240	230	3.6	8	437	450
15-331	WOODBURY WD RAILROAD 5	19850722	10	4	<10	<1	4.2	4	210	190
15-342	DEL MONTE CORP 10	19850926	260	100	30	15	1.0	7	167	180
15-347	GREENWICH TWP WD 5	19850725	510	510	100	84	2.4	5	136	130
15-348	GREENWICH TWP WD 6	19850725	110	110	90	99	1.7	2	98	--
15-374	DEPTFORD TWP MUA 6	19850712	40	14	<10	8	1.4	2	165	150
15-385	PITMAN WD 4	19850724	70	30	10	<1	5.8	3	347	320
15-390	GLOUCESTER CO SEW AUTH 1	19850926	9,800	10,000	160	130	6.9	5	570	590
15-417	S&S AUCTION HOUSE 1 1978	19851003	800	340	370	380	1.4	3	162	160
15-431	WOODBURY CITY WD 6-81	19850722	--	540	--	20	1.5	--	195	190
15-439	ESSEX CHEM-OLIN 2-1970	19850925	11,000	10,000	150	100	2.7	22	532	560
33-187	USGS-POINT AIRY OBS	19851007	6,600	250	110	39	2.7	9	527	520
PH- 6	US NAVY 6	19851114	19,000	21,000	5,900	6,200	6.0	--	435	440
PH- 12	US NAVY 12	19860123	47,000	49,000	930	890	5.0	3	294	430
PH- 15	US NAVY 15	19860124	50,000	54,000	640	580	7.5	7	255	390
PH- 19	US NAVY 19	19851114	47,000	48,000	3,500	3,500	8.0	1	551	590
PH- 86	US NAVAL HOSPITAL	19850912	15,000	2,000	3,000	2,900	8.4	17	545	538
PH- 86	US NAVAL HOSPITAL	19851009	--	--	--	--	9.2	11	--	--
PH-820	DEL VAL FISH CO INC	19850910	180	<3	20	22	1.4	5	691	622

Table 6.--Results of analyses of ground-water samples for dissolved trace elements, 1985-86

[Concentrations in micrograms per liter; Dashes indicate missing data; <, less than]

Well number	Local well identifier	Date of sample (yr-mo-dy)	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexa-valent chromium
5- 39	NJ WC-DEL VALLEY WC 15	19850814	30	<1	100	0.7	2	<10	<1
5- 40	NJ WC-DEL VALLEY WC 16	19850814	10	<1	67	<.5	<1	<10	<1
5- 60	BURLINGTON CITY WC 2	19850909	<10	<1	16	1	<1	<10	<1
5- 76	HEAL, CHARLES	19850904	<10	2	53	<.5	4	10	<1
5- 76	HEAL, CHARLES	19850904	<10	2	54	.5	5	<10	<1
5- 89	TENNECO CHEM 7	19850910	10	<1	64	1	<1	<10	<1
5- 91	TENNECO CHEM 4	19850910	<10	<1	52	1	<1	<10	<1
5- 97	HERCULES POWDER 1	19850702	100	1	83	<.5	<1	20	<1
5-100	HERCULES POWDER 2	19850702	100	<1	64	.6	<1	10	<1
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	<10	<1	61	<.5	<1	<10	<1
5-125	NJ WC-DEL VALLEY WC 10	19850814	20	<1	49	1	<1	<10	<1
5-167	EVESHAM MUA 5	19850815	30	<1	140	<.5	<1	<10	<1
5-167	EVESHAM MUA 5	19850815	40	<1	140	<.5	<1	<10	1
5-167	EVESHAM MUA 5	19850815	10	<1	140	.8	<1	<10	<1
5-187	FLORENCE TWP WD 4	19850702	100	<1	57	<.5	<1	<10	<1
5-261	USGS-MEDFORD 5 OBS	19851002	<10	<1	85	<.5	<1	<10	<1
5-261	USGS-MEDFORD 5 OBS	19851002	20	<1	86	<.5	<1	<10	<1
5-284	MOORESTOWN TWP WD 4	19850816	<10	<1	89	<.5	<1	<10	<1
5-284	MOORESTOWN TWP WD 4	19850816	<10	<1	89	.5	1	<10	<1
5-284	MOORESTOWN TWP WD 4	19850816	<10	<1	89	<.5	1	<10	<1
5-393	RIVERSIDE INDUSTRY 39	19850816	<10	<1	91	.5	<1	<10	<1
5-658	WILLINGBORO MUA 7	19850703	100	<1	58	<.5	2	<10	2
5-667	WILLINGBORO MUA 5	19850703	<100	<1	110	<.5	<1	<10	1
5-758	TENNECO CHEM 10	19850910	<10	<1	60	2	<1	<10	<1
5-780	WASTE RESOURCE OBS 6	19851008	50	<1	100	.5	3	10	<1
5-822	MT LAURAL MUA 3	19850903	<10	<1	77	<.5	<1	<10	<1
5-823	MT LAURAL MUA 4	19850903	<10	<1	83	<.5	1	10	<1
7- 8	BELMAWR BORO WD 4	19850715	10	<1	53	<.5	<1	<10	<1
7- 12	BELMAWR BORO WD 3	19850715	10	<1	79	<.5	<1	<10	<1
7- 18	BERLIN BORO WD 9	19850815	20	<1	84	2	<1	<10	<1
7- 30	SJ PORT COMM NY SHIP 5A	19851015	<10	6	25	<.5	6	<10	<1
7- 46	CAMDEN CITY WD-CITY 11	19850829	<10	<1	23	.9	1	<10	<1
7- 46	CAMDEN CITY WD-CITY 11	19850829	<10	<1	23	<.5	1	<10	<1
7- 46	CAMDEN CITY WD-CITY 11	19850829	<10	<1	23	<.5	1	<10	<1
7- 64	CAMDEN CITY WD-CITY 17	19850829	<10	<1	64	.7	<1	<10	<1
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	30	<1	120	<.5	<1	<10	1
7-122	NEW JERSEY WC-BROWN 44	19850808	20	<1	79	<.5	<1	<10	1
7-124	NEW JERSEY WC-BROWN 45	19850808	20	<1	43	.6	<1	10	2
7-134	NEW JERSEY WC-OLD ORCH 37	19850808	<10	<1	120	1	<1	<10	1
7-143	NEW JERSEY WC-ELLISBG 16	19850813	10	<1	78	.8	<1	<10	<1
7-147	NEW JERSEY WC-KINGSTN 25	19850813	30	<1	95	<.5	1	<10	1
7-183	NEW JERSEY WC-GIBBSBO 43	19850711	30	<1	30	.5	<1	<10	<1
7-189	NEW JERSEY WC-GIBBSBO 41	19850711	20	<1	34	.6	<1	10	1
7-221	USGS-GLOUC CTY CG BASE 1	19850918	<10	<1	180	.5	2	<10	<1
7-249	GARDEN ST WC-BLACKWOOD 3	19850815	40	<1	80	<.5	<1	<10	<1
7-273	NEW JERSEY WC-OTTERBK 29	19850809	<10	<1	28	.8	<1	<10	1
7-274	NEW JERSEY WC-OTTERBK 39	19850809	20	<1	68	1	<1	<10	2
7-278	NEW JERSEY WC-HADDON 15	19850807	20	<1	40	<.5	<1	10	<1
7-283	NEW JERSEY WC-EGBERT OBS	19851001	30	<1	40	.8	<1	10	<1
7-302	HADDONFLD BORO WD-RULON	19850716	20	<1	50	<.5	<1	10	<1
7-304	HADDONFLD BORO WD-LAKE ST	19850716	<10	<1	110	<.5	<1	10	<1
7-315	NEW JERSEY WC-MAGNOLIA 16	19850809	20	<1	52	1	<1	<10	<1
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	80	<1	90	.8	<1	<10	<1
7-341	MERCH-PENN WCOM-DEL GN 2	19850710	<10	<1	61	<.5	<1	<10	<1
7-345	MERCH-PENN WCOM-PARK 5	19850731	30	<1	36	<.5	<1	<10	<1
7-350	MERCH-PENN WCOM-PARK 2	19850731	20	<1	38	.5	<1	<10	<1
7-354	PETTY ISLAND OBS	19851112	10	19	240	<.5	1	<10	<1
7-367	CAMDEN CITY WD-PUCHACK	19850806	20	<1	49	<.5	<1	780	390
7-369	CAMDEN CITY WD-DELAIR 2	19850717	<10	<1	89	.5	2	<10	1
7-372	MERCH-PENN WCOM-NAT HWY 1	19850801	40	<1	60	.8	<1	<10	<1

Table 6.--Results of analyses of ground-water samples for dissolved trace elements, 1985-86--Continued

Well number	Local well identifier	Date of sample (yr-mo-dy)	Cobalt	Copper	Lead	Lithium	Molyb-denum	Stron-tium	Vana-dium	Zinc
5- 39	NJ WC-DEL VALLEY WC 15	19850814	<3	<10	<10	<4	<10	88	<6	41
5- 40	NJ WC-DEL VALLEY WC 16	19850814	<3	<10	<10	<4	<10	95	<6	10
5- 60	BURLINGTON CITY WC 2	19850909	<3	<10	<10	<4	<10	79	<6	5
5- 76	HEAL, CHARLES	19850904	<3	<10	20	9	<10	36	<6	<3
5- 76	HEAL, CHARLES	19850904	<3	<10	20	7	<10	37	<6	3
5- 89	TENNECO CHEM 7	19850910	3	<10	<10	7	<10	64	<6	35
5- 91	TENNECO CHEM 4	19850910	7	<10	<10	7	<10	140	<6	14
5- 97	HERCULES POWDER 1	19850702	<3	<10	30	24	<10	140	<6	10
5-100	HERCULES POWDER 2	19850702	5	10	<10	14	<10	86	<6	67
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	<3	10	<10	8	<10	62	<6	27
5-125	NJ WC-DEL VALLEY WC 10	19850814	<3	40	10	12	<10	63	<6	17
5-167	EVESHAM MUA 5	19850815	<3	<10	<10	8	<10	630	<6	<3
5-167	EVESHAM MUA 5	19850815	<3	<10	<10	7	<10	630	<6	<3
5-167	EVESHAM MUA 5	19850815	<3	<10	<10	8	<10	630	<6	<3
5-187	FLORENCE TWP WD 4	19850702	<3	<10	<10	4	<10	150	<6	4
5-261	USGS-MEDFORD 5 OBS	19851002	<3	<10	<10	10	<10	860	<6	<3
5-261	USGS-MEDFORD 5 OBS	19851002	<3	<10	<10	11	<10	870	<6	<3
5-284	MOORESTOWN TWP WD 4	19850816	<3	<10	<10	19	<10	430	<6	<3
5-284	MOORESTOWN TWP WD 4	19850816	<3	<10	<10	19	<10	430	<6	<3
5-284	MOORESTOWN TWP WD 4	19850816	<3	<10	<10	18	<10	430	<6	<3
5-822	MT LAURAL MUA 3	19850903	<3	<10	<10	7	<10	940	<6	21
5-823	MT LAURAL MUA 4	19850903	<3	<10	<10	<4	<10	970	<6	60
5-393	RIVERSIDE INDUSTRY 39	19850816	<3	<10	<10	10	<10	68	<6	89
5-658	WILLINGBORO MUA 7	19850703	<3	<10	<10	14	<10	85	<6	11
5-667	WILLINGBORO MUA 5	19850703	3	20	<10	26	<10	78	<6	41
5-758	TENNECO CHEM 10	19850910	<3	30	<10	<4	<10	85	<6	19
5-780	WASTE RESOURCE OBS 6	19851008	20	<10	<10	<4	<10	160	<6	38
7- 8	BELMAWR BORO WD 4	19850715	<3	<10	<10	7	<10	930	<6	14
7- 12	BELMAWR BORO WD 3	19850715	8	<10	<10	5	<10	2,300	<6	5
7- 18	BERLIN BORO WD 9	19850815	<3	<10	<10	10	<10	410	<6	<3
7- 30	SJ PORT COMM NY SHIP 5A	19851015	<3	<10	<10	5	<10	160	<6	4
7- 46	CAMDEN CITY WD-CITY 11	19850829	<3	<10	10	5	<10	280	<6	12
7- 46	CAMDEN CITY WD-CITY 11	19850829	5	<10	20	6	<10	280	<6	11
7- 46	CAMDEN CITY WD-CITY 11	19850829	4	<10	20	9	<10	280	<6	11
7- 64	CAMDEN CITY WD-CITY 17	19850829	8	50	10	19	<10	780	<6	37
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	70	<10	<10	19	<10	450	<6	68
7-122	NEW JERSEY WC-BROWN 44	19850808	<3	<10	<10	<4	<10	1,400	<6	13
7-124	NEW JERSEY WC-BROWN 45	19850808	<3	<10	<10	<4	<10	1,100	<6	17
7-134	NEW JERSEY WC-OLD ORCH 37	19850808	<3	<10	<10	5	<10	1,400	<6	6
7-143	NEW JERSEY WC-ELLISBG 16	19850813	<3	<10	<10	9	<10	640	<6	9
7-147	NEW JERSEY WC-KINGSTN 25	19850813	<3	<10	<10	5	<10	1,200	<6	13
7-183	NEW JERSEY WC-GIBBSBO 43	19850711	<3	<10	<10	5	<10	730	<6	9
7-189	NEW JERSEY WC-GIBBSBO 41	19850711	<3	<10	<10	6	<10	760	<6	5
7-221	USGS-GLOUC CTY CG BASE 1	19850918	<3	<10	<10	5	<10	1,800	<6	4
7-249	GARDEN ST WC-BLACKWOOD 3	19850815	<3	<10	<10	7	<10	430	<6	4
7-273	NEW JERSEY WC-OTTERBK 29	19850809	<3	<10	<10	<4	<10	710	<6	16
7-274	NEW JERSEY WC-OTTERBK 39	19850809	<3	<10	<10	<4	<10	640	<6	16
7-278	NEW JERSEY WC-HADDON 15	19850807	<3	<10	10	7	<10	1,100	<6	11
7-283	NEW JERSEY WC-EGBERT OBS	19851001	<3	<10	<10	<4	<10	880	<6	<3
7-302	HADDONFLD BORO WD-RULON	19850716	<3	<10	<10	<4	<10	1,200	<6	4
7-304	HADDONFLD BORO WD-LAKE ST	19850716	<3	<10	<10	4	<10	1,100	<6	16
7-315	NEW JERSEY WC-MAGNOLIA 16	19850809	<3	<10	<10	<4	<10	1,000	<6	10
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	8	10	<10	30	<10	81	<6	62
7-341	MERCH-PENN WCOM-DEL GN 2	19850710	20	<10	<10	<4	<10	300	<6	5
7-345	MERCH-PENN WCOM-PARK 5	19850731	6	10	10	18	<10	110	<6	20
7-350	MERCH-PENN WCOM-PARK 2	19850731	6	110	20	22	<10	130	<6	57
7-354	PETTY ISLAND OBS	19851112	<3	<10	<10	<4	<10	210	<6	100
7-367	CAMDEN CITY WD-PUCHACK	19850806	5	10	<10	8	<10	140	<6	41
7-369	CAMDEN CITY WD-DELAIR 2	19850717	80	<10	<10	5	<10	120	<6	4
7-372	MERCH-PENN WCOM-NAT HWY 1	19850801	4	40	10	11	<10	99	<6	28

Table 6.--Results of analyses of ground-water samples for dissolved trace elements, 1985-86--Continued

Well number	Local well identifier	Date of sample (yr-mo-dy)	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexa-valent chromium
7-379	CAMDEN CITY WD-MORRIS 10	19850717	<10	1	67	<0.5	2	10	<1
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	<10	<1	110	2	5	<10	<1
7-412	NEW JERSEY WC-ELM TREE 2	19850919	20	<1	33	.6	<1	<10	<1
7-477	USGS-NEW BROOKLYN PK 2 OBS	19850923	90	<1	31	.6	1	<10	<1
7-527	CAMDEN CITY WD-CITY 18	19850829	20	<1	62	.7	<1	<10	<1
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	40	<1	33	<.5	<1	10	<1
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	40	<1	27	.7	<1	10	<1
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	30	<1	27	.5	<1	10	<1
7-545	CAMDEN CITY WD-MORRIS 11	19850806	10	<1	85	1	1	<10	<1
7-555	PENLER ANODIZING CO 1	19850828	40	<1	120	.7	<1	<10	<1
7-566	NJDEP-HARRISON AVE 6	19851016	<10	<1	54	2	<1	10	<1
7-567	NJDEP-HARRISON AVE 7	19851016	<10	1	510	.6	<1	10	<1
7-571	PENNSAUKN LANDFILL MON 4	19851010	90	<1	75	<.5	<1	960	980
7-586	CAMDEN CITY WD-MORRIS 12	19850717	20	4	37	<.5	<1	10	<1
7-602	MERCH-PENN WCOM HWY 2	19850801	<10	<1	58	<.5	1	<10	<1
15- 1	CLAYTON BORO WD 3	19850917	30	<1	42	<.5	<1	<10	<1
15- 1	CLAYTON BORO WD 3	19850917	20	<1	41	.5	<1	<10	<1
15- 24	DEPTFORD TWP MUA 4	19850712	30	<1	56	1	<1	<10	<1
15- 28	E GREENWICH TWP WD 2	19850723	10	<1	67	<.5	<1	<10	<1
15- 63	GLASSBORO BORO WD 4	19850724	30	<1	26	.5	<1	<10	<1
15- 69	GREENWICH TWP WD 3	19850725	90	3	90	2	1	10	<1
15- 79	EI DUPONT REPAUNO 6	19850917	30	<1	86	<.5	<1	<10	<1
15- 79	EI DUPONT REPAUNO 6	19850917	20	<1	86	<.5	<1	<10	<1
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	10	2	420	.6	<1	<10	<1
15-109	MOBIL OIL-GREENWICH 41	19851018	460	1	82	4	4	10	<1
15-118	MOBIL OIL-GREENWICH 47	19851018	<10	<1	76	1	1	10	<1
15-118	MOBIL OIL-GREENWICH 47	19851018	<10	<1	81	1	1	10	<1
15-130	SO JERSEY WC 3	19850723	20	<1	86	<.5	<1	<10	<1
15-192	MANTUA MUA 5	19850723	10	<1	60	<.5	<1	10	<1
15-210	PAULSBORO WD 6-1973	19850925	160	1	72	2	2	<10	<1
15-253	WASHINGTON TWP MUA 6-64	19850724	40	1	33	<.5	<1	<10	<1
15-276	W DEPTFORD TWP WD 4	19850718	50	<1	61	.5	1	<10	<1
15-282	W DEPTFORD TWP 5	19850718	20	<1	25	<.5	<1	<10	<1
15-283	SHELL CHEM CO 3	19850924	<10	<1	25	1	2	<10	<1
15-283	SHELL CHEM CO 3	19850924	<10	<1	25	2	<1	<10	<1
15-308	PENWALT CORP TW 8	19850926	20	<1	27	<.5	<1	<10	<1
15-312	W DEPTFORD TWP WD 6	19850718	<10	<1	30	<.5	<1	<10	<1
15-314	TEXACO EAGLE PT 6-PROD	19850924	<10	<1	64	.8	<1	<10	<1
15-323	TEXACO EAGLE PT 3-OBS	19851004	<10	<1	250	.8	1	<10	<1
15-331	WOODBURY WD RAILROAD 5	19850722	30	<1	23	<.5	<1	<10	<1
15-342	DEL MONTE CORP 10	19850926	10	<1	120	<.5	<1	<10	<1
15-347	GREENWICH TWP WD 5	19850725	40	<1	63	<.5	<1	<10	<1
15-348	GREENWICH TWP WD 6	19850725	750	<1	82	1	<1	10	<1
15-374	DEPTFORD TWP MUA 6	19850712	<10	<1	29	1	<1	<10	1
15-385	PITMAN WD 4	19850724	30	<1	30	<.5	<1	<10	<1
15-390	GLOUCESTER CO SEW AUTH 1	19850926	20	<1	190	<.5	1	<10	<1
15-417	S&S AUCTION HOUSE 1 1978	19851003	90	<1	79	<.5	1	<10	<1
15-431	WOODBURY CITY WD 6-81	19850722	10	<1	110	<.5	<1	<10	<1
15-439	ESSEX CHEM-OLIN 2-1970	19850925	120	<1	65	2	1	<10	<1
33-187	USGS-POINT AIRY OBS	19851007	10	<1	33	<.5	<1	<10	<1
PH- 6	US NAVY 6	19851114	10	2	34	<.5	<1	<10	<1
PH- 12	US NAVY 12	19860123	<10	2	57	<.5	4	<10	<1
PH- 15	US NAVY 15	19860124	<10	49	150	<.5	4	<10	<1
PH- 19	US NAVY 19	19851114	<10	<1	120	<.5	3	<10	<1
PH- 86	US NAVAL HOSPITAL	19850912	<10	1	56	2	<1	<10	<1
PH- 86	US NAVAL HOSPITAL	19851009	--	--	--	--	--	--	--
PH-820	DEL VAL FISH CO INC	19850910	10	--	42	<.5	<1	10	<1

Table 6.--Results of analyses of ground-water samples for dissolved trace elements, 1985-86--Continued

Well number	Local well identifier	Date of sample (yr-mo-dy)	Cobalt	Copper	Lead	Lithium	Molyb-denum	Stron-tium	Vana-dium	Zinc
7-379	CAMDEN CITY WD-MORRIS 10	19850717	30	<10	20	<4	<10	180	<6	63
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	9	<10	<10	5	<10	260	<6	21
7-412	NEW JERSEY WC-ELM TREE 2	19850919	<3	<10	<10	4	<10	730	<6	<3
7-477	USGS-NEW BROOKLYN PK 2 OBS	19850923	<3	<10	<10	12	<10	260	<6	<3
7-527	CAMDEN CITY WD-CITY 18	19850829	9	<10	20	21	<10	820	<6	11
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	6	20	<10	11	<10	75	<6	23
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	7	20	<10	13	<10	74	<6	26
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	6	20	<10	10	<10	71	<6	27
7-545	CAMDEN CITY WD-MORRIS 11	19850806	130	<10	<10	5	<10	120	<6	28
7-555	PENLER ANODIZING CO 1	19850828	30	<10	<10	<4	<10	110	<6	17
7-566	NJDEP-HARRISON AVE 6	19851016	9	<10	<10	5	<10	390	<6	15
7-567	NJDEP-HARRISON AVE 7	19851016	130	<10	<10	<4	<10	410	<6	4
7-571	PENNSAUKN LANDFILL MON 4	19851010	30	10	<10	<4	<10	43	<6	79
7-586	CAMDEN CITY WD-MORRIS 12	19850717	20	<10	<10	<4	<10	84	<6	10
7-602	MERCH-PENN WCOM HWY 2	19850801	<3	20	<10	10	<10	93	<6	37
15- 1	CLAYTON BORO WD 3	19850917	<3	<10	<10	8	<10	150	<6	22
15- 1	CLAYTON BORO WD 3	19850917	<3	<10	<10	<4	<10	150	<6	<3
15- 24	DEPTFORD TWP MUA 4	19850712	<3	<10	<10	<4	<10	730	<6	<3
15- 28	E GREENWICH TWP WD 2	19850723	<3	<10	<10	9	<10	370	<6	68
15- 63	GLASSBORO BORO WD 4	19850724	<3	<10	<10	16	<10	130	<6	8
15- 69	GREENWICH TWP WD 3	19850725	30	20	<10	16	<10	140	<6	160
15- 79	EI DUPONT REPAUNO 6	19850917	7	<10	<10	9	<10	330	<6	36
15- 79	EI DUPONT REPAUNO 6	19850917	7	<10	<10	<4	<10	330	<6	36
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	<3	<10	<10	47	<10	470	<6	46
15-109	MOBIL OIL-GREENWICH 41	19851018	<3	<10	<10	11	<10	950	<6	110
15-118	MOBIL OIL-GREENWICH 47	19851018	<3	<10	<10	5	<10	460	<6	40
15-118	MOBIL OIL-GREENWICH 47	19851018	<3	<10	<10	6	--	460	<6	21
15-130	SO JERSEY WC 3	19850723	<3	<10	<10	6	<10	430	<6	6
15-192	MANTUA MUA 5	19850723	<3	<10	<10	<4	<10	290	<6	10
15-210	PAULSBORO WD 6-1973	19850925	40	<10	<10	16	<10	160	<6	41
15-253	WASHINGTON TWP MUA 6-64	19850724	<3	<10	<10	9	<10	150	<6	21
15-276	W DEPTFORD TWP WD 4	19850718	<3	<10	30	10	<10	350	<6	14
15-282	W DEPTFORD TWP 5	19850718	<3	<10	<10	<4	<10	350	<6	8
15-283	SHELL CHEM CO 3	19850924	<3	<10	<10	5	<10	480	<6	<3
15-283	SHELL CHEM CO 3	19850924	<3	<10	<10	<4	<10	480	<6	4
15-308	PENWALT CORP TW 8	19850926	<3	<10	<10	5	<10	370	<6	16
15-312	W DEPTFORD TWP WD 6	19850718	<3	<10	<10	<4	<10	330	<6	8
15-314	TEXACO EAGLE PT 6-PROD	19850924	<3	<10	<10	7	<10	800	<6	9
15-323	TEXACO EAGLE PT 3-OBS	19851004	<3	<10	<10	6	<10	4,200	<6	25
15-331	WOODBURY WD RAILROAD 5	19850722	<3	<10	<10	6	<10	330	<6	10
15-342	DEL MONTE CORP 10	19850926	<3	<10	<10	11	<10	580	<6	22
15-347	GREENWICH TWP WD 5	19850725	4	<10	10	6	<10	91	<6	97
15-348	GREENWICH TWP WD 6	19850725	30	20	20	13	<10	75	<6	130
15-374	DEPTFORD TWP MUA 6	19850712	<3	<10	<10	7	<10	320	<6	35
15-385	PITMAN WD 4	19850724	<3	<10	<10	15	<10	160	<6	<3
15-390	GLOUCESTER CO SEW AUTH 1	19850926	20	<10	<10	15	<10	1,900	<6	15
15-417	S&S AUCTION HOUSE 1 1978	19851003	10	10	<10	<4	<10	130	<6	67
15-431	WOODBURY CITY WD 6-81	19850722	<3	<10	<10	7	<10	1,100	<6	<3
15-439	ESSEX CHEM-OLIN 2-1970	19850925	30	<10	<10	19	<10	1,100	<6	12
33-187	USGS-POINT AIRY OBS	19851007	<3	<10	<10	<4	<10	190	<6	5
PH- 6	US NAVY 6	19851114	<3	<10	10	6	<10	400	<6	20
PH- 12	US NAVY 12	19860123	7	<10	20	6	<10	350	6	7
PH- 15	US NAVY 15	19860124	10	<10	20	<4	<10	460	7	240
PH- 19	US NAVY 19	19851114	<3	<10	20	13	<10	1,300	8	4
PH- 86	US NAVAL HOSPITAL	19850912	<3	<10	<10	<4	<10	380	<6	11
PH- 86	US NAVAL HOSPITAL	19851009	--	--	--	--	--	--	--	--
PH-820	DEL VAL FISH CO INC	19850910	<3	30	<10	8	<10	290	<6	17

Table 7.--Results of analyses of ground-water samples for dissolved nutrients, 1985-86

[Concentrations in milligrams per liter; Dashes indicate missing data; <, less than]

Well number	Local well identifier	Date of sample (yr-mo-dy)	Nitrate and nitrite nitrogen (as N)	Nitrite nitrogen (as N)	Nitrogen, dissolved (as N)	Ammonia and organic nitrogen (as N)	Ammonia nitrogen (as N)	Ammonia nitrogen (as NH_4)	Ortho-phosphate (as P)
5- 39	NJ WC-DEL VALLEY WC 15	19850814	3.90	<0.01	4.0	<0.01	0.1	--	0.02
5- 40	NJ WC-DEL VALLEY WC 16	19850814	2.20	<.01	2.3	<.01	.1	--	.06
5- 60	BURLINGTON CITY WC 2	19850909	.22	.01	.52	.34	.3	.44	.07
5- 76	HEAL, CHARLES	19850904	<.10	<.01	--	.10	.1	.13	<.01
5- 76	HEAL, CHARLES	19850904	<.10	<.01	--	.10	.1	.13	<.01
5- 89	TENNECO CHEM 7	19850910	2.20	<.01	2.6	.03	.4	.04	<.01
5- 91	TENNECO CHEM 4	19850910	1.40	<.01	2.9	1.60	1.5	2.1	.01
5- 97	HERCULES POWDER 1	19850702	<.10	<.01	--	.20	.8	.26	.06
5-100	HERCULES POWDER 2	19850702	.56	<.01	.86	.06	.3	.08	.14
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	.56	<.01	.76	.05	.2	.06	<.01
5-125	NJ WC-DEL VALLEY WC 10	19850814	4.40	<.01	4.5	<.01	.1	--	<.01
5-167	EVESHAM MUA 5	19850815	<.10	<.01	--	.12	.3	.15	.02
5-167	EVESHAM MUA 5	19850815	<.10	<.01	--	.12	.4	.15	.02
5-167	EVESHAM MUA 5	19850815	<.10	<.01	--	.11	.4	.14	.05
5-187	FLORENCE TWP WD 4	19850702	2.10	<.01	4.2	1.30	2.1	1.7	<.01
5-261	USGS-MEDFORD 5 OBS	19851002	<.10	<.01	--	.10	.4	.13	<.01
5-261	USGS-MEDFORD 5 OBS	19851002	<.10	<.01	--	.14	.4	.18	<.01
5-284	MOORESTOWN TWP WD 4	19850816	<.10	<.01	--	.08	.3	.1	<.01
5-284	MOORESTOWN TWP WD 4	19850816	<.10	<.01	--	.09	.4	.12	.20
5-284	MOORESTOWN TWP WD 4	19850816	<.10	<.01	--	.10	.8	.13	.02
5-393	RIVERSIDE INDUSTRY 39	19850816	5.60	<.01	5.9	<.01	.3	--	<.01
5-658	WILLINGBORO MUA 7	19850703	<.10	<.01	--	<.01	.3	--	<.01
5-667	WILLINGBORO MUA 5	19850703	5.00	<.01	5.7	<.01	.7	--	<.01
5-758	TENNECO CHEM 10	19850910	4.90	<.01	5.4	.01	.5	.01	.01
5-780	WASTE RESOURCE OBS 6	19851008	23.0	1.20	43	17.0	20	22	.02
5-822	MT LAURAL MUA 3	19850903	<.10	<.01	--	.03	<.1	.04	<.01
5-823	MT LAURAL MUA 4	19850903	<.10	<.01	--	.05	<.1	.06	<.01
7- 8	BELMAWR BORO WD 4	19850715	<.10	<.01	--	.21	.3	.27	.08
7- 12	BELMAWR BORO WD 3	19850715	<.10	<.01	--	.22	.3	.28	.01
7- 18	BERLIN BORO WD 9	19850815	<.10	<.01	--	.39	.8	.5	.02
7- 30	SJ PORT COMM NY SHIP 5A	19851015	<.10	<.01	--	8.50	9.5	11	.03
7- 46	CAMDEN CITY WD-CITY 11	19850829	.79	<.01	6.6	7.10	5.8	9.1	.08
7- 46	CAMDEN CITY WD-CITY 11	19850829	.81	<.01	6.9	6.70	6.1	8.6	.03
7- 46	CAMDEN CITY WD-CITY 11	19850829	.77	<.01	6.3	7.00	5.5	9.0	.09
7- 64	CAMDEN CITY WD-CITY 17	19850829	1.90	.02	3.2	1.10	1.3	1.4	.05
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	2.40	<.01	12	8.30	9.4	11	<.01
7-122	NEW JERSEY WC-BROWN 44	19850808	<.10	<.01	--	.15	.3	.19	<.01
7-124	NEW JERSEY WC-BROWN 45	19850808	<.10	<.01	--	.24	.4	.31	.02
7-134	NEW JERSEY WC-OLD ORCH 37	19850808	.10	<.01	.5	.17	.4	.22	.03
7-143	NEW JERSEY WC-ELLISBG 16	19850813	<.10	<.01	--	.13	.2	.17	<.01
7-147	NEW JERSEY WC-KINGSTN 25	19850813	.10	<.01	.3	.07	.2	.09	<.01
7-183	NEW JERSEY WC-GIBBSBO 43	19850711	3.50	<.01	3.7	<.01	.2	.01	.01
7-189	NEW JERSEY WC-GIBBSBO 41	19850711	<.10	<.01	--	.68	.6	.88	<.01
7-221	USGS-GLOUC CTY CG BASE 1	19850918	<.10	.02	--	12.0	12	15	<.01
7-249	GARDEN ST WC-BLACKWOOD 3	19850815	<.10	<.01	--	.34	.5	.44	.09
7-273	NEW JERSEY WC-OTTERBK 29	19850809	<.10	<.01	--	.18	.2	.23	.03
7-274	NEW JERSEY WC-OTTERBK 39	19850809	<.10	<.01	--	.24	.4	.31	.07
7-278	NEW JERSEY WC-HADDON 15	19850807	<.10	<.01	--	.21	.6	.27	.02
7-283	NEW JERSEY WC-EGBERT OBS	19851001	<.10	.02	--	.18	.3	.23	.02
7-302	HADDONFLD BORO WD-RULON	19850716	<.10	<.01	--	.29	.4	.37	.18
7-304	HADDONFLD BORO WD-LAKE ST	19850716	<.10	<.01	--	.15	.3	.19	.03
7-315	NEW JERSEY WC-MAGNOLIA 16	19850809	<.10	<.01	--	.23	.2	.3	.04
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	<.10	<.01	--	.17	.1	.22	.03
7-341	MERCH-PENN WCOM-DEL GN 2	19850710	<.10	<.01	--	4.00	3.7	5.2	<.01
7-345	MERCH-PENN WCOM-PARK 5	19850731	3.30	<.01	3.5	.02	.2	.03	<.01

Table 7.--Results of analyses of ground-water samples for dissolved nutrients, 1985-86--Continued

Well number	Local well identifier	Date of sample (yr-mo-dy)	Nitrate and nitrite nitrogen (as N)	Nitrite nitrogen (as N)	Nitrogen, dissolved (as N)	Ammonia and organic nitrogen (as N)	Ammonia nitrogen (as N)	Ammonia nitrogen (as NH_4)	Ortho-phosphate (as P)
7-350	MERCH-PENN WCOM-PARK 2	19850731	3.20	<0.01	3.4	0.07	0.2	0.09	0.01
7-354	PETTY ISLAND OBS	19851112	<.10	.01	--	25.0	28	32	.08
7-367	CAMDEN CITY WD-PUCHACK	19850806	1.50	.01	--	.25	.5	.32	.03
7-369	CAMDEN CITY WD-DELAIR 2	19850717	<.10	<.01	--	.10	2.2	.13	.05
7-372	MERCH-PENN WCOM-NAT HWY 1	19850801	3.50	<.01	3.8	.03	.3	.04	<.01
7-379	CAMDEN CITY WD-MORRIS 10	19850717	<.10	<.01	--	2.10	3.4	2.7	<.01
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	.13	.01	11	10.0	11	13	.10
7-412	NEW JERSEY WC-ELM TREE 2	19850919	<.10	<.01	--	.13	.3	.17	.02
7-477	USGS-NEW BROOKLYN PK 2 OBS	19850923	.42	<.01	--	.05	--	.06	<.01
7-527	CAMDEN CITY WD-CITY 18	19850829	2.90	.01	3.3	.20	.4	.26	.04
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	3.00	<.01	3.5	<.01	.5	.01	<.01
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	3.10	<.01	4.0	<.01	.9	.01	<.01
7-528	CAMDEN CITY WD-PUCHACK 7	19850806	3.30	<.01	3.8	.02	.5	.03	.02
7-545	CAMDEN CITY WD-MORRIS 11	19850806	.17	<.01	1.2	1.30	1.0	1.7	<.01
7-555	PENLER ANODIZING CO 1	19850828	<.10	.01	--	.35	1.3	.45	<.01
7-566	NJDEP-HARRISON AVE 6	19851016	3.60	<.01	5.5	1.60	1.9	2.1	.01
7-567	NJDEP-HARRISON AVE 7	19851016	.18	<.01	24	18.0	24	23	.02
7-571	PENNSAUKN LANDFILL MON 4	19851010	.81	<.01	1.5	.03	.7	.04	<.01
7-586	CAMDEN CITY WD-MORRIS 12	19850717	<.10	<.01	--	.16	.7	.21	<.01
7-602	MERCH-PENN WCOM HWY 2	19850801	3.00	<.01	3.2	.03	.2	.04	<.01
15- 1	CLAYTON BORO WD 3	19850917	<.10	<.01	--	.69	1.9	.89	.27
15- 1	CLAYTON BORO WD 3	19850917	<.10	<.01	--	.68	.9	.88	.27
15- 24	DEPTFORD TWP MUA 4	19850712	<.10	<.01	--	.25	.2	.32	.11
15- 28	E GREENWICH TWP WD 2	19850723	<.10	<.01	--	.35	.3	.45	.25
15- 63	GLASSBORO BORO WD 4	19850724	<.10	.02	--	.36	.3	.46	.23
15- 69	GREENWICH TWP WD 3	19850725	.24	<.01	.54	.10	.3	.13	<.01
15- 79	EI DUPONT REPAUNO 6	19850917	8.40	.02	9.6	.57	1.2	.73	<.01
15- 79	EI DUPONT REPAUNO 6	19850917	7.60	.02	8.2	.57	.6	.73	<.01
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	.95	.01	1.7	.20	.8	.26	<.01
15-109	MOBIL OIL-GREENWICH 41	19851018	<.10	<.01	--	2.10	2.4	2.7	<.01
15-118	MOBIL OIL-GREENWICH 47	19851018	.12	<.01	.52	.11	.4	.14	<.01
15-118	MOBIL OIL-GREENWICH 47	19851018	<.10	<.01	--	.06	.3	.08	<.01
15-130	SO JERSEY WC 3	19850723	<.10	<.01	--	.57	.4	.73	.21
15-192	MANTUA MUA 5	19850723	<.10	<.01	--	.39	.3	.5	.20
15-210	PAULSBORO WD 6-1973	19850925	<.10	<.01	--	.16	.2	.21	.04
15-253	WASHINGTON TWP MUA 6-64	19850724	<.10	<.01	--	<.01	<.1	--	.12
15-276	W DEPTFORD TWP WD 4	19850718	<.10	<.01	--	.29	.3	.37	.18
15-282	W DEPTFORD TWP 5	19850718	<.10	<.01	--	.28	.3	.36	.24
15-283	SHELL CHEM CO 3	19850924	<.10	<.01	--	.27	.5	.35	.22
15-283	SHELL CHEM CO 3	19850924	<.10	<.01	--	.25	.4	.32	.22
15-308	PENWALT CORP TW 8	19850926	<.10	<.01	--	.23	.3	.3	.20
15-312	W DEPTFORD TWP WD 6	19850718	<.10	<.01	--	.13	.3	.17	.17
15-314	TEXACO EAGLE PT 6-PROD	19850924	<.10	<.01	--	.27	.9	.35	.05
15-323	TEXACO EAGLE PT 3-OBS	19851004	<.10	<.01	--	1.30	1.6	1.7	<.01
15-331	WOODBURY WD RAILROAD 5	19850722	<.10	<.01	--	.20	.3	.26	.16
15-342	DEL MONTE CORP 10	19850926	<.10	<.01	--	.22	.3	.28	.02
15-347	GREENWICH TWP WD 5	19850725	3.90	<.01	4.5	.50	.6	.64	.03
15-348	GREENWICH TWP WD 6	19850725	.96	<.01	1.5	<.01	.5	.01	<.01
15-374	DEPTFORD TWP MUA 6	19850712	<.10	<.01	--	.20	.2	.26	.28
15-385	PITMAN WD 4	19850724	<.10	<.01	--	.38	.5	.49	.23
15-390	GLOUCESTER CO SEW AUTH 1	19850926	<.10	.01	--	3.90	4.2	5.0	.01
15-417	S&S AUCTION HOUSE 1 1978	19851003	8.10	.03	8.4	.04	.3	.05	<.01
15-431	WOODBURY CITY WD 6-81	19850722	<.10	<.01	--	.32	.6	.41	.11
15-439	ESSEX CHEM-OLIN 2-1970	19850925	<.10	.01	--	.62	.7	.8	<.01
33-187	USGS-POINT AIRY OBS	19851007	.15	<.01	1.2	.22	1.0	.28	.33
PH- 6	US NAVY 6	19851114	<.10	<.01	--	.9	.73	.94	.01
PH- 12	US NAVY 12	19860123	<.10	.01	--	15.0	14.0	18	--
PH- 15	US NAVY 15	19860124	<.10	.02	--	10	9.3	12	--
PH- 19	US NAVY 19	19851114	<.10	<.01	--	4.80	4.5	5.8	<.01
PH- 86	US NAVAL HOSPITAL	19850912	<.10	.01	--	1.00	1.1	1.4	<.01
PH- 86	US NAVAL HOSPITAL	19851009	--	--	--	--	--	--	--
PH-820	DEL VAL FISH CO INC	19850910	18.0	<.01	18	.20	.09	.09	.03

Table 8.--Results of analyses of ground-water samples for purgeable organic compounds, 1985-86

[Concentrations in micrograms per liter; Dashes indicate missing data; <, less than]

Well number	Local well identifier	Date of sample (yr-mo-dy)	Benzene	Ethyl-benzene	Chloro-benezene	Chloro-ethane	Di-bromo-chloro-methane	Chloro-methane	Chloro-form	Bromo-form
5- 89	TENNECO CHEM 7	19850910	<3.0	<3.0	3.2	<3.0	--	<3.0	<3.0	<3.0
5- 91	TENNECO CHEM 4	19850910	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
5-100	HERCULES POWDER 2	19850702	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
5-393	RIVERSIDE INDUSTRY 39	19850816	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
5-780	WASTE RESOURCE OBS 6	19851008	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	<5.0	<5.0	<5.0	<5.0	--	<5.0	5.2	<5.0
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
7-345	MERCH-PENN WCOM-PARK 5	19850731	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-350	MERCH-PENN WCOM-PARK 2	19850731	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
7-367	CAMDEN CITY WD-PUCHACK	19850806	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	<3.0	<3.0	16	<3.0	--	<3.0	--	<3.0
7-412	NEW JERSEY WC-ELM TREE 2	19850919	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
7-527	CAMDEN CITY WD-CITY 18	19850829	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
7-555	PENLER ANODIZING CO 1	19850828	29	<3.0	14	<3.0	--	<3.0	<3.0	<3.0
7-566	NJDEP-HARRISON AVE 6	19851016	3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
15- 79	EI DUPONT REPAUNO 6	19850917	<3.0	<3.0	3.7	<3.0	--	<3.0	3.7	<3.0
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
15-109	MOBIL OIL-GREENWICH 41	19851018	310	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
15-253	WASHINGTON TWP MUA 6-64	19850724	<3.0	<3.0	<3.0	<3.0	--	<3.0	35	<3.0
15-308	PENWALT CORP TW 8	19850926	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
15-342	DEL MONTE CORP 10	19850926	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
15-390	GLOUCESTER CO SEW AUTH 1	19850926	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
15-439	ESSEX CHEM-OLIN 2-1970	19850925	160	8.5	620	<3.0	--	<3.0	8.4	<3.0
PH- 15	US NAVY 15	19860124	<5.0	<.2	2.3	<.2	<.2	<.2	<.2	<.2
PH- 86	US NAVAL HOSPITAL	19851009	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0
PH-820	DEL VAL FISH CO INC	19850910	<3.0	<3.0	<3.0	<3.0	--	<3.0	<3.0	<3.0

Well number	Local well identifier	Date of sample (yr-mo-dy)	Methyl-bromide	Methylene chloride	Vinyl chloride	Dichloro-bromo-methane	Dichloro-difluoro-methane	Carbon tetra-chloride	Tetra-chloro-ethylene	Tolu-ene
5- 89	TENNECO CHEM 7	19850910	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5- 91	TENNECO CHEM 4	19850910	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5-100	HERCULES POWDER 2	19850702	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5-393	RIVERSIDE INDUSTRY 39	19850816	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	9.7	<3.0
5-780	WASTE RESOURCE OBS 6	19851008	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	7.2	<3.0
7-345	MERCH-PENN WCOM-PARK 5	19850731	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-350	MERCH-PENN WCOM-PARK 2	19850731	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-367	CAMDEN CITY WD-PUCHACK	19850806	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	<3.0	<3.0	4.6	<3.0	<3.0	<3.0	<3.0	<3.0
7-412	NEW JERSEY WC-ELM TREE 2	19850919	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-527	CAMDEN CITY WD-CITY 18	19850829	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	15	<3.0
7-555	PENLER ANODIZING CO 1	19850828	<3.0	9.1	3.0	<3.0	<3.0	<3.0	8.5	<3.0
7-566	NJDEP-HARRISON AVE 6	19851016	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15- 79	EI DUPONT REPAUNO 6	19850917	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	130	<3.0
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-109	MOBIL OIL-GREENWICH 41	19851018	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-253	WASHINGTON TWP MUA 6-64	19850724	<3.0	<3.0	<3.0	4.8	<3.0	<3.0	<3.0	<3.0
15-308	PENWALT CORP TW 8	19850926	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-342	DEL MONTE CORP 10	19850926	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-390	GLOUCESTER CO SEW AUTH 1	19850926	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-439	ESSEX CHEM-OLIN 2-1970	19850925	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	65	5.8
PH- 15	US NAVY 15	19860124	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	3.0
PH- 86	US NAVAL HOSPITAL	19851009	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
PH-820	DEL VAL FISH CO INC	19850910	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	32	<3.0

Table 8.--Results of analyses of ground-water samples for purgeable organic compounds, 1985-86--Continued

Well number	Local well identifier	Date of sample (yr-mo-dy)	Tri-chloro-ethylene	Tri-chloro-fluoro-methane	1,1-Di-chloro-ethylene	1,1-Di-chloro-ethane	1,1,1-Tri-chloro-ethane	1,1,2-Tri-chloro-ethane	1,1,2,2-Tetra-chloro-ethane	1,2-Di chloro-ethane
5- 89	TENNECO CHEM 7	19850910	4.1	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5- 91	TENNECO CHEM 4	19850910	480	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5-100	HERCULES POWDER 2	19850702	3.1	<3.0	9.0	4.8	56	<3.0	<3.0	<3.0
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
5-393	RIVERSIDE INDUSTRY 39	19850816	60.0	<3.0	<3.0	<3.0	<3.9	<3.0	<3.0	<3.0
5-780	WASTE RESOURCE OBS 6	19851008	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	160	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	19
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-345	MERCH-PENN WCOM-PARK 5	19850731	15.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-350	MERCH-PENN WCOM-PARK 2	19850731	3.1	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-367	CAMDEN CITY WD-PUCHACK	19850806	9.6	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
7-412	NEW JERSEY WC-ELM TREE 2	19850919	<3.0	<3.0	<3.0	<3.0	8.0	<3.0	<3.0	<3.0
7-527	CAMDEN CITY WD-CITY 18	19850829	10.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<6.7
7-555	PENLER ANODIZING CO 1	19850828	17.0	25	<3.0	9.6	3.9	<3.0	<3.0	<3.0
7-566	NJDEP-HARRISON AVE 6	19851016	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15- 79	EI DUPONT REPAUNO 6	19850917	8.9	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-109	MOBIL OIL-GREENWICH 41	19851018	5.8	<3.0	3.9	10	<3.0	<3.0	<3.0	<3.0
15-253	WASHINGTON TWP MUA 6-64	19850724	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-308	PENWALT CORP TW 8	19850926	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-342	DEL MONTE CORP 10	19850926	<3.0	<3.0	<3.0	<3.0	4.2	<3.0	<3.0	<3.0
15-390	GLOUCESTER CO SEW AUTH 1	19850926	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
15-439	ESSEX CHEM-OLIN 2-1970	19850925	27.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	750
PH- 15	US NAVY 15	19860124	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
PH- 86	US NAVAL HOSPITAL	19851009	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
PH-820	DEL VAL FISH CO INC	19850910	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

Well number	Local well identifier	Date of sample (yr-mo-dy)	1,2-Di chloro-propane	1,3-Di chloro-propene	Trans-1,2-Di-chloro-ethylene	2-Chloro-ethyl-vinyl ether
5- 89	TENNECO CHEM 7	19850910	<3.0	<3.0	<3.0	<3.0
5- 91	TENNECO CHEM 4	19850910	<3.0	<3.0	100	<3.0
5-100	HERCULES POWDER 2	19850702	<3.0	<3.0	<3.0	<3.0
5-124	NJ WC-DEL VALLEY WC-STPHEN	19850802	<3.0	<3.0	<3.0	<3.0
5-393	RIVERSIDE INDUSTRY 39	19850816	<3.0	<3.0	<3.0	<3.0
5-780	WASTE RESOURCE OBS 6	19851008	<3.0	<3.0	<3.0	<3.0
7- 98	NEW JERSEY WC-CAMDEN 52	19850807	<5.0	<5.0	<5.0	<5.0
7-329	MERCH-PENN WCOM-BROWN 2A	19850709	<3.0	<3.0	<3.0	<3.0
7-345	MERCH-PENN WCOM-PARK 5	19850731	<3.0	<3.0	<3.0	<3.0
7-350	MERCH-PENN WCOM-PARK 2	19850731	<3.0	<3.0	<3.0	<3.0
7-367	CAMDEN CITY WD-PUCHACK	19850806	<3.0	<3.0	4.4	<3.0
7-386	CAMDEN CITY WD-MORRIS 3A	19850806	<3.0	<3.0	5.3	<3.0
7-412	NEW JERSEY WC-ELM TREE 2	19850919	<3.0	<3.0	<3.0	<3.0
7-527	CAMDEN CITY WD-CITY 18	19850829	<3.0	<3.0	<3.1	<3.0
7-555	PENLER ANODIZING CO 1	19850828	8.8	<3.0	58	<3.0
7-566	NJDEP-HARRISON AVE 6	19851016	<3.0	<3.0	<3.0	<3.0
15- 79	EI DUPONT REPAUNO 6	19850917	<3.0	<3.0	<3.0	<3.0
15- 97	HERCULES CHEM GIBB 8 OBS	19851011	<3.0	<3.0	<3.0	<3.0
15-109	MOBIL OIL-GREENWICH 41	19851018	<3.0	<3.0	13	<3.0
15-253	WASHINGTON TWP MUA 6-64	19850724	<3.0	<3.0	<3.0	<3.0
15-308	PENWALT CORP TW 8	19850926	<3.0	<3.0	<3.0	<3.0
15-342	DEL MONTE CORP 10	19850926	<3.0	<3.0	<3.0	<3.0
15-390	GLOUCESTER CO SEW AUTH 1	19850926	<3.0	<3.0	<3.0	<3.0
15-439	ESSEX CHEM-OLIN 2-1970	19850925	<3.0	<3.0	46	<3.0
PH- 15	US NAVY 15	19860124	<.2	<.2	<.2	<.2
PH- 86	US NAVAL HOSPITAL	19851009	<3.0	<3.0	<3.0	<3.0
PH-820	DEL VAL FISH CO INC	19850910	<3.0	<3.0	<3.0	<3.0

REFERENCE 69

Governor Chris Christie • Lt.Governor Kim Guadagno

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STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER SUPPLY AND GEOSCIENCE

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Digital Geodata Series
DGS02-2 Well Head Protection Areas For Public Community Water Supply Wells In New Jersey.

IMAGE METADATA DOWNLOAD UPDATED (7-11-2011)

Abstract

A Well Head Protection Area (WHPA) in New Jersey is a map area calculated around a Public Community Water Supply (PCWS) well in New Jersey that delineates the horizontal extent of ground water captured by a well pumping at a specific rate over a two-, five-, and twelve-year period of time for confined wells. The area of capture over two-, five-, and twelve-years is defined using line boundaries and polygon areas generated with the ARC/INFO Geographic Information System (GIS). The confined wells have a fifty foot radius delineated around each well serving as the well head protection area to be controlled by the water purveyor in accordance with Safe Drinking Water Regulations (see NJAC 7:10-11.7(b)1). GIS coverages are produced for each PCWS well and for the set of all PCWS wells in each county and the state using the ARC/INFO UNION command on individual coverages. The individual and county coverages are prepared for distribution as uncompressed ARC/INFO export files. The statewide NJWHPA file is prepared for distribution as an ESRI shapefile with metadata and ArcView Legend file, njwhpa.avl. The export files are combined with parameter-reference files for each county in compressed 'zip' files for delivery over the Internet. WHPA coverages therefore include line and polygon GIS coverage with associated database files and parameter-reference files for data documentation. The documentation files are ASCII text files having the 'txt' file-name extension.

WHPA delineations are conducted in response to the Safe Drinking Water Act Amendments of 1986 and 1996 as part of the Source Water Area Protection Program (SWAP). The delineations are the first step in defining the sources of water to a public supply well. Within these areas, potential contamination will be assessed and appropriate monitoring will be undertaken as subsequent phases of the NJDEP SWAP. WHPA delineation methods are described in "Guidelines for Delineation of Well Head Protection Areas in New Jersey" . An ESRI point shapefile of associated PCWS wells is available as N.J. Geological Survey Digital Geodata Series DGS97-1 .

Updates for Public Community Water Supply Well Head Protection Areas are described in Well Head Delineations Updates List.

A list of individual Public Community Water SupplyWell Head Protection Area delineations clipped are described in Well Head Delineations Clips List.

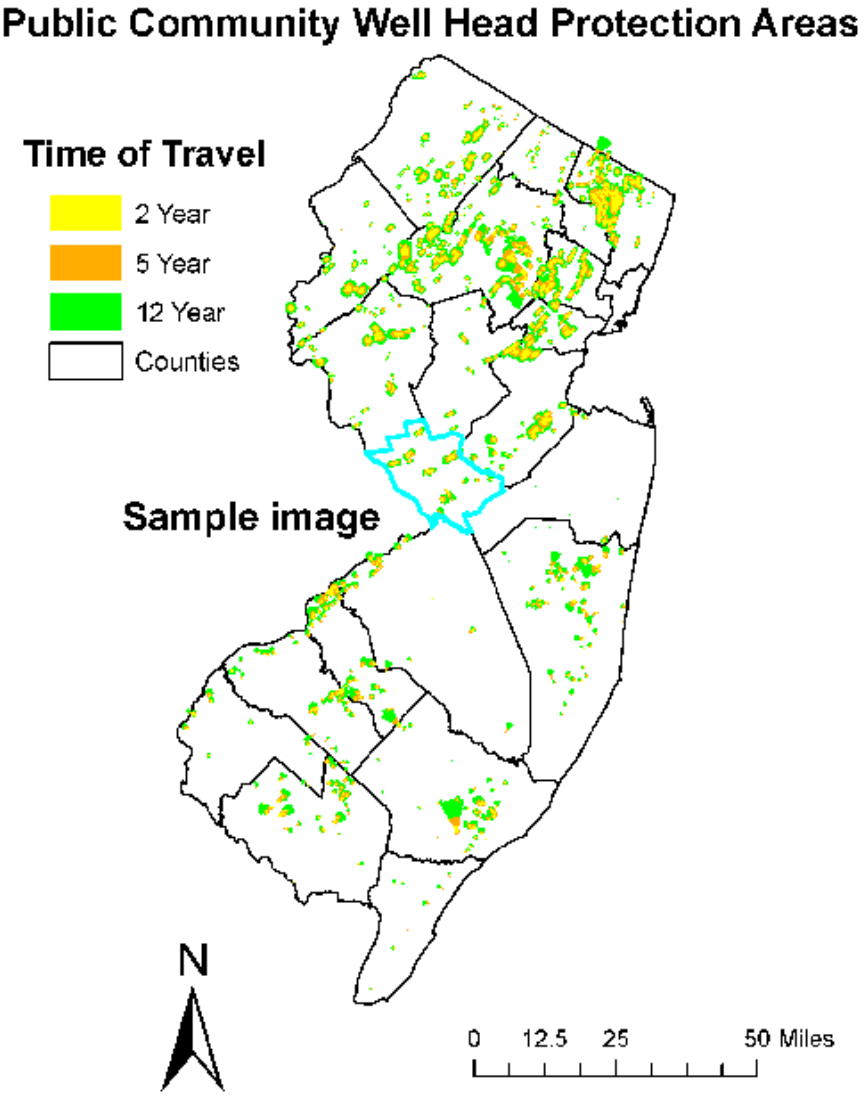
Index Map of Public Community Water Supply Well Head Protection Areas in New Jersey

Index of Coverages
by County

SAMPLE IMAGE

Download coverages by clicking link(s) below

atlantic.zip UPDATED
bergen.zip UPDATED
burlington.zip UPDATED
camden.zip UPDATED
capemay.zip UPDATED
cumberland.zip UPDATED
essex.zip UPDATED
gloucester.zip UPDATED
hunterdon.zip UPDATED
mercer.zip
middlesex.zip UPDATED
monmouth.zip UPDATED
morris.zip UPDATED
ocean.zip UPDATED
passaic.zip UPDATED
salem.zip UPDATED
somerset.zip
state.zip UPDATED
sussex.zip UPDATED
union.zip UPDATED
warren.zip UPDATED



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Department of Environmental Protection
Geological and Water Survey
P. O. Box 420
Mail Code:29-01
Trenton, NJ 08625-0420

Phone: (609) 292-1185
FAX: (609) 633-1004

REFERENCE 70

CompuChem

A division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
CASE # 42434
SDG # BA8J3
SOW # SOM01.2
CONTRACT # EPW11032

SAMPLE IDENTIFICATIONS: BA8J3 BA8J5 BA8J6 BA8J7 BA8J8 BA8J4 BA8J9 BA8K3 BA8K4 BA8K7

The 10 samples listed above were received intact, refrigerated at 2.8°C, in sealed shipping containers, on April 14, 2012, with proper documentation. No sample tags were received for the samples for this SDG. In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the samples. The Region does not require sample tags. Samples were scheduled for the requested analysis of the TVOA, SVOA and ARO fractions. The samples were prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Multi-Media, Multi-Concentration Statement of Work (SOW), and Document SOM01.2. All pertinent Quality Assurance Notices are included in the narrative section.

Issue 1: The TR/COC lists the analysis for water samples as VOA, SVOA and ARO; however, per scheduling, the correct analysis for water samples is TVOA, SVOA and ARO.
Resolution 1: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

Issue 2: The TR/COC does not list a TAT; however, the correct TAT is 14 days.
Resolution 2: In accordance with previous direction from Region 2, the laboratory will proceed with the turnaround time indicated on the Scheduling Notification Form, note the issue in the SDG Narrative, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect turnaround time.

Issue: The laboratory received 2 of 8 amber liter bottles broken for sample BA8J3 (QC); however, the laboratory indicated that they should have sufficient volume remaining for analysis. The laboratory received 1 of 4 amber liter bottles broken for sample BA8J6; however, the laboratory indicated that they should have sufficient volume remaining for analysis. The laboratory received 1 of 2-8 oz jars broken and compromised for sample BA8K1; however, the laboratory indicated that they should have sufficient volume remaining for analysis.
Resolution: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples. If re-extraction/reanalysis is necessary, the laboratory will contact the SMO coordinator and wait for a resolution.

Trace Volatiles

Analysis holding time requirements were met for all of the samples in this SDG.

The pH values of these samples were equal to 1.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in seven of these ten samples.

Tentatively Identified Compounds (TICs) were found in five of these ten samples.

Total Alkanes were found in two of these ten samples.

All of the deuterated monitoring compounds (DMCs) met recovery criteria with no more than three DMCs failing.

All of the internal standards met response and retention time criteria in the analyses of these samples.

In a response to a Statement of Work Interpretation, the Organic Contract Laboratory Program Office stated that if the Mass Spectral Interpretation Specialist determines a TIC to be a laboratory artifact (including artifacts from the DMC solution), there is no need to report it. However, all TICs not reported due to a Mass Spectral Interpretation Specialist's assessment should be noted in the SDG Narrative. There are laboratory artifacts (including artifacts from the DMC solution) not reported on the Forms 1J. The approximate retention time is as follows:
11.53 min. Laboratory artifact
The peak is present in the standards, blanks, and samples.

Manual integrations were performed on one or more of the process files associated with this SDG. Please see the detailed Manual Integration Summary report that is located in section 6. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blank and the storage blank met all quality control criteria.

No matrix spike/matrix spike duplicate (MS/MSD) samples were requested for the volatile fraction with this SDG.

As per the SOW, an example calculation is attached for Vinyl Chloride-d_3 in sample BA8J3.

I certify that this Sample Data Package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Patricia A. Murphy
Senior Scientist
April 26, 2012

cooler # 16

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Page 1 of 5

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J2
J3
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8J2	SD-020-0006-001	B3	1268	CLP TCL Semivolatiles	Sediment	4/13/2012	09:30	1	8 oz Glass Jar	4 C	N
	BA8J2	SD-020-0006-001	B3	1269	CLP TCL Aroclors	Sediment	4/13/2012	09:30	2	8 oz Glass Jar	4 C	Y
	BA8J2	SD-020-0006-001	B3	1270	CLP TCL Volatiles	Sediment	4/13/2012	09:30	3	Encore	4 C	N
	BA8J2	SD-020-0006-001	B3	1273	Percent Moisture	Sediment	4/13/2012	09:30	1	4 oz Glass Jar	4 C	N
	BA8J3	SW-020-001	B3	1276	CLP TCL Volatiles	Surface Water	4/13/2012	08:30	3	40 ml VOA	HCl pH<2	N
	BA8J3	SW-020-001	B3	1277	CLP TCL Semivolatiles	Surface Water	4/13/2012	08:30	2	1 liter amber	4 C	N
	BA8J3	SW-020-001	B3	1278	CLP TCL Aroclors	Surface Water	4/13/2012	08:30	6	1 liter amber	4 C	Y
	BA8J4	PW-020-06-001	B3	1281	CLP TCL Volatiles	Pore Water	4/13/2012	08:50	3	40 ml VOA	HCl pH<2	N
	BA8J4	PW-020-06-001	B3	1282	CLP TCL Semivolatiles	Pore Water	4/13/2012	08:50	2	1 liter amber	4 C	N
	BA8J4	PW-020-06-001	B3	1283	CLP TCL Aroclors	Pore Water	4/13/2012	08:50	2	1 liter amber	4 C	N
	BA8J5	TB-041312	Trip Blank	1284	CLP TCL Volatiles	Deionized Water	4/13/2012	09:45	3	40 ml VOA	HCl pH<2	N

~~2AL for BA8J9; LA 4/14/12~~

Special Instructions: all vials + VOA encores (encores frozen @ 12:00 on 4/14/12) rec'd @ 2.8°C

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900						
			[signature]	4/14/12							

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8J3
SIGNATURE J. Purdie DATE 4.25.12

cooler #10

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J3
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8J6	RB-041312	Rinsate Blank	1287	CLP TCL Volatiles	Deionized Water	4/13/2012	11:15	3	40 ml VOA	HCl pH<2	N
	BA8J6	RB-041312	Rinsate Blank	1288	CLP TCL Semivolatiles	Deionized Water	4/13/2012	11:15	2	1 liter amber	4 C	N
	BA8J6	RB-041312	Rinsate Blank	1289	CLP TCL Aroclors	Deionized Water	4/13/2012	11:15	2	1 liter amber	4 C	N
	BA8J7	SW-021-001	A2	1292	CLP TCL Volatiles	Surface Water	4/13/2012	10:20	3	40 ml VOA	HCl pH<2	N
*	BA8J7	SW-021-001	A2	1293	CLP TCL Semivolatiles	Surface Water	4/13/2012	10:20	2	1 liter amber	4 C	N
	BA8J7	SW-021-001	A2	1294	CLP TCL Aroclors	Surface Water	4/13/2012	10:20	2	1 liter amber	4 C	N
	BA8J8	SW-021-002	A2	1297	CLP TCL Volatiles	Surface Water	4/13/2012	10:20	3	40 ml VOA	HCl pH<2	N
	BA8J8	SW-021-002	A2	1298	CLP TCL Semivolatiles	Surface Water	4/13/2012	10:20	2	1 liter amber	4 C	N
	BA8J8	SW-021-002	A2	1299	CLP TCL Aroclors	Surface Water	4/13/2012	10:20	2	1 liter amber	4 C	N
	BA8J9	PW-021-06-001	A2	1302	CLP TCL Volatiles	Pore Water	4/13/2012	10:45	3	40 ml VOA	HCl pH<2	N
*	BA8J9	PW-021-06-001	A2	1303	CLP TCL Semivolatiles	Pore Water	4/13/2012	10:45	2	1 liter amber	4 C	N

Special Instructions: all vials VOA ~~encores~~ 3AL for BA8J9; 1AL for BA8J7 rec'd @2.8°C ~~on 4/14/12~~ 4/14/12

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900						
			[signature]	4/14/12							

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8J3
SIGNATURE [signature] DATE 4-25-12

Cooler #10

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J3
LJ2
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8J9	PW-021-06-001	A2	1304	CLP TCL Aroclors	Pore Water	4/13/2012	10:45	2	1 liter amber	4 C	N
	BA8K0	SD-021-0006-001	A2	1306	CLP TCL Semivolatiles	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K0	SD-021-0006-001	A2	1307	CLP TCL Aroclors	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K0	SD-021-0006-001	A2	1308	CLP TCL Volatiles	Sediment	4/13/2012	11:20	3	Encore	4 C	N
	BA8K0	SD-021-0006-001	A2	1311	Percent Moisture	Sediment	4/13/2012	11:20	1	16 oz Poly Bottle	4 C	N
	BA8K1	SD-021-0006-002	A2	1313	CLP TCL Semivolatiles	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K1	SD-021-0006-002	A2	1314	CLP TCL Aroclors	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K1	SD-021-0006-002	A2	1315	CLP TCL Volatiles	Sediment	4/13/2012	11:20	3	Encore	4 C	N
	BA8K1	SD-021-0006-002	A2	1316	Percent Moisture	Sediment	4/13/2012	11:20	1	4 oz Glass Jar	4 C	N
	BA8K2	SD-022-0006-001	B2	1318	CLP TCL Semivolatiles	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K2	SD-022-0006-001	B2	1319	CLP TCL Aroclors	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N

Special Instructions: all vials + VOA encores; 3AL ~~for BA8J9~~; 1AL BA8J7 recd @ 2.8°C
(encores frozen @ 12:00 on 4/14/12)

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	[signature]	4/13/12	1900
			[signature]	4/14/12	

Items/Reason	Relinquished By	Date	Received by	Date	Time
COPY ORIGINAL DOCUMENTS INCLUDED IN CSF			BA8J3		
	SIGNATURE [signature]	DATE 4.25.12			

cooler #10

20

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J2
LJ53
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8K2	SD-022-0006-001	B2	1320	CLP TCL Volatiles	Sediment	4/13/2012	11:20	3	Encore	4 C	N
	BA8K2	SD-022-0006-001	B2	1323	Percent Moisture	Sediment	4/13/2012	11:20	1	16 oz Poly Bottle	4 C	N
	BA8K3	SW-022-001	B2	1326	CLP TCL Volatiles	Surface Water	4/13/2012	10:50	3	40 ml VOA	HCl pH<2	N
	BA8K3	SW-022-001	B2	1327	CLP TCL Semivolatiles	Surface Water	4/13/2012	10:50	2	1 liter amber	4 C	N
	BA8K3	SW-022-001	B2	1328	CLP TCL Aroclors	Surface Water	4/13/2012	10:50	2	1 liter amber	4 C	N
	BA8K4	SW-023-001	B1	1331	CLP TCL Volatiles	Surface Water	4/13/2012	14:20	3	40 ml VOA	HCl pH<2	N
	BA8K4	SW-023-001	B1	1332	CLP TCL Semivolatiles	Surface Water	4/13/2012	14:20	2	1 liter amber	4 C	N
	BA8K4	SW-023-001	B1	1333	CLP TCL Aroclors	Surface Water	4/13/2012	14:20	2	1 liter amber	4 C	N
	BA8K5	SD-023-0006-001	B1	1335	CLP TCL Semivolatiles	Sediment	4/13/2012	14:40	1	8 oz Glass Jar	4 C	N
	BA8K5	SD-023-0006-001	B1	1336	CLP TCL Aroclors	Sediment	4/13/2012	14:40	1	8 oz Glass Jar	4 C	N
	BA8K5	SD-023-0006-001	B1	1337	CLP TCL Volatiles	Sediment	4/13/2012	14:40	3	Encore	4 C	N

Special Instructions: all vials + VOA encores recd @ 2.8°C
(encores frozen @ 12:00 on 4/14/12)

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all sample all analyses	Joel Petty	4/13/12	[signature]	4/13/12	1900		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8J3				
			[signature]	4/14/12			SIGNATURE [signature]		DATE 4/25/18		

cooler #10

21

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BABJ2
V J3
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8K5	SD-023-0006-001	B1	1340	Percent Moisture	Sediment	4/13/2012	14:40	1	16 oz Poly Bottle	4 C	N
	BA8K6	SD-024-0006-001	B1	1342	CLP TCL Semivolatiles	Sediment	4/13/2012	14:30	1	8 oz Glass Jar	4 C	N
	BA8K6	SD-024-0006-001	B1	1343	CLP TCL Aroclors	Sediment	4/13/2012	14:30	1	8 oz Glass Jar	4 C	N
	BA8K6	SD-024-0006-001	B1	1344	CLP TCL Volatiles	Sediment	4/13/2012	14:30	3	Encore	4 C	N
	BA8K6	SD-024-0006-001	B1	1347	Percent Moisture	Sediment	4/13/2012	14:30	1	16 oz Poly Bottle	4 C	N
	BA8K7	SW-024-001	A1	1350	CLP TCL Volatiles	Surface Water	4/13/2012	14:15	3	40 ml VOA	HCl pH<2	N
	BA8K7	SW-024-001	A1	1351	CLP TCL Semivolatiles	Surface Water	4/13/2012	14:15	2	1 liter amber	4 C	N
	BA8K7	SW-024-001	A1	1352	CLP TCL Aroclors	Surface Water	4/13/2012	14:15	2	1 liter amber	4 C	N

Joel Petty

Special Instructions: all vials + VOA encores rec'd @ 2.8°C
(encores frozen @ 12:00 on 4/14/12)

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900						
			Gail Doty	4/14/12							

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BABJ3
SIGNATURE [signature] DATE 4.25.12

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.21	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.13	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.083	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.060	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.22	J
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0190.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-02R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.28	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.19	J
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.52	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.45	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.25	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-02R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. _____ Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.19	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.61	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	1.5	
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-02R90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	8.05	0.92	J
02	556-67-2	Cyclotetrasiloxane, octameth	13.39	0.61	JN
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A	3.9	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	33	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.22	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.8	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.11	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.34	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.17	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0390.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	556-67-2	Cyclotetrasiloxane, octameth	13.39	0.74	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-04

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0490.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	30	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.21	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	1.4	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.7	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.097	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-04

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0490.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.32	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.085	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-04

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0490.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
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26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A	1.6	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.18	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.073	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0590.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	556-67-2	Cyclotetrasiloxane, octameth	13.39	0.65	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.23	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.083	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0690.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	556-67-2	Cyclotetrasiloxane, octameth	13.39	0.81	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0790.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.19	J
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.15	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.76	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0790.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.11	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.29	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.13	J
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	1.5	
106-46-7	1,4-Dichlorobenzene	0.24	J
95-50-1	1,2-Dichlorobenzene	0.12	J
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0790.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0890.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.2	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.16	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.12	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0890.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.26	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BA8K3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0890.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.16	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.49	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	1.7	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.054	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	5.1	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-0990.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
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24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-1090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	7.9	
75-15-0	Carbon disulfide	0.12	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.15	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	1.3	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-1090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.079	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J3

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204059-10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204059-1090.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/14/2012

% Moisture: not dec. Date Analyzed: 04/20/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	12.30	0.72	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
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17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

REFERENCE 71

CompuChem

A division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
CASE # 42434
SDG # BA8D4
SOW # SOM01.2
CONTRACT # EPW11032

SAMPLE IDENTIFICATIONS:	**BA8D4**	**BA8D5**	**BA8D6**	**BA8D9**	**BA8E0**	**BA8E1**
BA8E2	**BA8E3**	**BA8E4**	**BA8E8**	**BA8D3**	**BA8E5**	**BA8E6**
BA8E7	**BA8F9**	**BA8G0**	**BA8G1**	**BA8G3**	**BA8F0**	**BA8F8**

The 20 samples listed above were received intact, refrigerated between 1.3°C and 3.2°C, in sealed shipping containers, on April 10, 11, 12, 13, and 14, 2012 with proper documentation. No sample tags were received for the samples for this SDG. In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the samples. The Region does not require sample tags. Samples were scheduled for the requested analysis of the TVOA, SVOA and ARO fraction. The samples were prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Multi-Media, Multi-Concentration Statement of Work (SOW), and Document SOM01.2. All pertinent Quality Assurance Notices are included in the narrative section.

Issue: The lab only received one of the coolers that were expected to be delivered on 4/13; the other coolers were mistakenly sent to another lab. LIBRTY received the transshipped samples on 4/14.

Resolution: Per Region 2, the missing samples were transshipped overnight for Saturday delivery on 4/14 under air bill 7982 8367 7052. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.
Issue 1: The TR/COC lists the analysis for water samples as VOA, SVOA and ARO; however, per scheduling, the correct analysis for water samples is TVOA, SVOA and ARO.

Resolution 1: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

Issue 2: The TR/COC does not list a TAT; however, the correct TAT is 14 days.

Resolution 2: In accordance with previous direction from Region 2, the laboratory will proceed with the turnaround time indicated on the Scheduling Notification Form, note the issue in the SDG Narrative, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect turnaround time.

Issue: The laboratory received 1 sample designated for laboratory QC on 4/14 which was used for SDG BA8J3; however, the lab needs one additional QC sample for previously opened SDG BA8G5. The laboratory was expecting to receive additional samples; however, they did not receive any additional samples today, 4/18. The laboratory indicated that they have selected sample BA8K9 as laboratory QC for ARO analysis for SDG BA8G5; however, since the laboratory only received 4 amber containers for this sample (SVOA, ARO and MS/MSD), the laboratory indicated that they will perform laboratory QC at a reduced volume. The laboratory will extract 1000 mL for the SVOA and ARO analyses (full volume) and extract 500 mL for the ARO MS/MSD (reduced volume). For the ARO MS/MSD, the laboratory will add ½ of the surrogate amount and concentrate the extract down to ½ the final volume so that the reporting limits are reported as normal.

Resolution: Per Region 2, the laboratory should note the issue in the SDG Narrative and proceed by performing reduced volume MS/MSD on sample BA8K9 for SDG BA8G5. SMO will note that the two designated MS/MSD samples, samples BA8E0 and BA8J3, are being used as QC samples for SDGs BA8D4 and BA8J3.

Trace Volatiles

Analysis holding time requirements were met for all of the samples in this SDG.

The pH values of these samples were equal to 1.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in seventeen of these twenty samples.

No Tentatively Identified Compounds (TICs) were found in seven of these twenty samples.

Total Alkanes were found in one of these twenty samples.

All of the deuterated monitoring compounds (DMCs) met recovery criteria with no more than three DMCs failing.

All of the internal standards met response and retention time criteria in the analyses of these samples.

In a response to a Statement of Work Interpretation, the Organic Contract Laboratory Program Office stated that if the Mass Spectral Interpretation Specialist determines a TIC to be a laboratory artifact (including artifacts from the DMC solution), there is no need to report it. However, all TICs not reported due to a Mass Spectral Interpretation Specialist's assessment should be noted in the SDG Narrative. There are laboratory artifacts (including artifacts from the DMC solution) not reported on the Forms 1J. The approximate retention time is as follows:
11.52 min. Laboratory artifact
The peak is present in the standards, blanks, and samples.

Manual integrations were performed on one or more of the process files associated with this SDG. Please see the detailed Manual Integration Summary report that is located directly behind the narrative. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blank and the storage blank met all quality control criteria.

No matrix spike/matrix spike duplicate (MS/MSD) samples were requested for the volatile fraction with this SDG.

As per the SOW, an example calculation is attached for Vinyl Chloride-d_3 in sample BA8D4.

I certify that this Sample Data Package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Patricia A. Murphy
Senior Scientist
April 24, 2012

* Cooler #1, 2

USEPA
DateShipped: 4/9/2012
CarrierName: FedEx
AirbillNo: 875094866672

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-040912-162547-0002
Cooler #: 2
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
*	BA8D4	TB-040912	Trip Blank	1005	CLP TCL Volatiles	Deionized Water	4/9/2012	12:30	3	40 ml VOA	HCl pH<2	N
*	BA8D5	SW-001-001	GSR-DST-1	1008	CLP TCL Volatiles	Surface Water	4/9/2012	12:45	3	40 ml VOA	HCl pH<2	N
	BA8D5	SW-001-001	GSR-DST-1	1009	CLP TCL Semivolatiles	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
	BA8D5	SW-001-001	GSR-DST-1	1010	CLP TCL Aroclors	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
*	BA8D6	SW-001-002	GSR-DST-1	1013	CLP TCL Volatiles	Surface Water	4/9/2012	12:45	3	40 ml VOA	HCl pH<2	N
	BA8D6	SW-001-002	GSR-DST-1	1014	CLP TCL Semivolatiles	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
	BA8D6	SW-001-002	GSR-DST-1	1015	CLP TCL Aroclors	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
*	BA8D7	SD-001-0006-001	GSR-DST-1	1017	CLP TCL Semivolatiles	Sediment	4/9/2012	13:40	1	8 oz Glass Jar	4 C	N
*	BA8D7	SD-001-0006-001	GSR-DST-1	1018	CLP TCL Aroclors	Sediment	4/9/2012	13:40	1	8 oz Glass Jar	4 C	N
*	BA8D7	SD-001-0006-001	GSR-DST-1	1019	CLP TCL Volatiles	Sediment	4/9/2012	13:40	3	Encore	4 C	N
*	BA8D7	SD-001-0006-001	GSR-DST-1	1027	Percent Moisture	Sediment	4/9/2012	13:40	1	4 oz Glass Jar	4 C	N

Special Instructions: rec'd @ 1.7°C, 1.6°C IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/9/12	Fed Ex	4/9/12	1900		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D4		
			[signature]	4/10/12	0933		SIGNATURE [signature]	DATE	4.24.12		

cooler #2 T

21

USEPA
DateShipped: 4/10/2012
CarrierName: FedEx
AirbillNo: 874178390158

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-041012-142316-0004
Cooler #: 2
Lab: Liberty Analytical Corporation
Case #: 42434

ETW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8D9	TB-041012	Trip Blank	1028	CLP TCL Volatiles	Deionized Water	4/10/2012	08:30	3	40 ml VOA	HCl pH<2	N
	BA8E0	SW-002-001	GSR-DST-2	1031	CLP TCL Volatiles	Surface Water	4/10/2012	10:30	3	40 ml VOA	HCl pH<2	N
	BA8E0	SW-002-001	GSR-DST-2	1032	CLP TCL Semivolatiles	Surface Water	4/10/2012	10:30	2	1 liter amber	4 C	N
	BA8E0	SW-002-001	GSR-DST-2	1033	CLP TCL Aroclors	Surface Water	4/10/2012	10:30	6	1 liter amber	4 C	Y
	BA8E9	SD-002-0006-001	GSR-DST-2	1075	CLP TCL Semivolatiles	Sediment	4/10/2012	11:00	1	8 oz Glass Jar	4 C	N
	BA8E9	SD-002-0006-001	GSR-DST-2	1076	CLP TCL Aroclors	Sediment	4/10/2012	11:00	2	8 oz Glass Jar	4 C	Y
	BA8E9	SD-002-0006-001	GSR-DST-2	1077	CLP TCL Volatiles	Sediment	4/10/2012	11:00	3	Encore	4 C	N
	BA8E9	SD-002-0006-001	GSR-DST-2	1080	Percent Moisture	Sediment	4/10/2012	11:00	1	4 oz Glass Jar	4 C	N

Joel Petty

Special Instructions: (6 amber liters of BA8E0) rec'd @ 1.9 °C, 2.3°C IR GUN: SN 015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/10/12	FedEx	4/10/12	1600		COPY		BA8D4		
			[signature]	4/11/12	0920		ORIGINAL DOCUMENTS INCLUDED IN CSF				
							SIGNATURE [signature]	DATE	4/24/12		

cooler #7

USEPA
DateShipped: 4/11/2012
CarrierName: FedEx
AirbillNo: 874178390170

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
EPW11032

No: 2-041112-173938-0006
Cooler #: 4
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E1	SW-003-001	GSR-DST-3	1036	CLP TCL Volatiles	Surface Water	4/11/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8E1	SW-003-001	GSR-DST-3	1037	CLP TCL Semivolatiles	Surface Water	4/11/2012	11:00	2	1 liter amber	4 C	N
	BA8E1	SW-003-001	GSR-DST-3	1038	CLP TCL Aroclors	Surface Water	4/11/2012	11:00	2	1 liter amber	4 C	N
	BA8E2	SW-005-001	F4	1041	CLP TCL Volatiles	Surface Water	4/11/2012	14:40	3	40 ml VOA	HCl pH<2	N
	BA8E2	SW-005-001	F4	1042	CLP TCL Semivolatiles	Surface Water	4/11/2012	14:40	2	1 liter amber	4 C	N
	BA8E2	SW-005-001	F4	1043	CLP TCL Aroclors	Surface Water	4/11/2012	14:40	2	1 liter amber	4 C	N
	BA8E3	SW-006-001	F3	1046	CLP TCL Volatiles	Surface Water	4/11/2012	15:25	3	40 ml VOA	HCl pH<2	N
	BA8E3	SW-006-001	F3	1047	CLP TCL Semivolatiles	Surface Water	4/11/2012	15:25	2	1 liter amber	4 C	N
	BA8E3	SW-006-001	F3	1048	CLP TCL Aroclors	Surface Water	4/11/2012	15:25	2	1 liter amber	4 C	N
	BA8E4	SW-007-001	F2	1051	CLP TCL Volatiles	Surface Water	4/11/2012	18:00	3	40 ml VOA	HCl pH<2	N
	BA8E4	SW-007-001	F2	1052	CLP TCL Semivolatiles	Surface Water	4/11/2012	18:00	2	1 liter amber	4 C	N

Special Instructions: recd @ 3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/11/12	FedEx	4/11/12	2030		COPY ORIGINAL DOCUMENTS INCLUDED IN COC		BA8D4		
			Cary Dow	4/12/12	926		SIGNATURE		DATE 4/12/12		

Cooler #7

USEPA
DateShipped: 4/11/2012
CarrierName: FedEx
AirbillNo: 874178390170

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BABD4
BABD7
4-18-12

No: 2-041112-173938-0006
Cooler #: 4
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E4	SW-007-001	F2	1053	CLP TCL Aroclors	Surface Water	4/11/2012	18:00	2	1 liter amber	4 C	N
	BA8E8	SW-004-001	F5	1071	CLP TCL Volatiles	Surface Water	4/11/2012	11:50	3	40 ml VOA	HCl pH<2	N
	BA8E8	SW-004-001	F5	1072	CLP TCL Semivolatiles	Surface Water	4/11/2012	11:50	2	1 liter amber	4 C	N
	BA8E8	SW-004-001	F5	1073	CLP TCL Aroclors	Surface Water	4/11/2012	11:50	2	1 liter amber	4 C	N
	BA8F0	TB-041112	Trip Blank	1081	CLP TCL Volatiles	Deionized Water	4/11/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1083	CLP TCL Semivolatiles	Sediment	4/11/2012	11:15	1	8 oz Glass Jar	4 C	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1084	CLP TCL Aroclors	Sediment	4/11/2012	11:15	1	8 oz Glass Jar	4 C	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1085	CLP TCL Volatiles	Sediment	4/11/2012	11:15	3	Encore	4 C	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1088	Percent Moisture	Sediment	4/11/2012	11:15	1	4 oz Glass Jar	4 C	N
	BA8F2	SD-004-0006-001	F5	1090	CLP TCL Semivolatiles	Sediment	4/11/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8F2	SD-004-0006-001	F5	1091	CLP TCL Aroclors	Sediment	4/11/2012	12:20	1	8 oz Glass Jar	4 C	N

Special Instructions: rec'd @ 3.2°C IR GUN SNOOKS

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/11/12	Fed Ex	4/11/12	2030				BABD4		
			[signature]	4/12/12	926						

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF
SIGNATURE [signature] DATE 4-24-12

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

cooler #9
BABD4
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8D3	RB-041212	Rinsate Blank	1002	CLP TCL Volatiles	Deionized Water	4/12/2012	14:30	3	40 ml VOA	HCl pH<2	N
	BA8D3	RB-041212	Rinsate Blank	1003	CLP TCL Semivolatiles	Deionized Water	4/12/2012	14:30	2	1 liter amber	4 C	N
	BA8D3	RB-041212	Rinsate Blank	1004	CLP TCL Aroclors	Deionized Water	4/12/2012	14:30	2	1 liter amber	4 C	N
	BA8E5	SW-008-001	F1	1056	CLP TCL Volatiles	Surface Water	4/12/2012	09:00	3	40 ml VOA	HCl pH<2	N
	BA8E5	SW-008-001	F1	1057	CLP TCL Semivolatiles	Surface Water	4/12/2012	09:00	2	1 liter amber	4 C	N
	BA8E5	SW-008-001	F1	1058	CLP TCL Aroclors	Surface Water	4/12/2012	09:00	2	1 liter amber	4 C	N
	BA8E6	SW-009-001	C4	1061	CLP TCL Volatiles	Surface Water	4/12/2012	09:05	3	40 ml VOA	HCl pH<2	N
	BA8E6	SW-009-001	C4	1062	CLP TCL Semivolatiles	Surface Water	4/12/2012	09:05	2	1 liter amber	4 C	N
	BA8E6	SW-009-001	C4	1063	CLP TCL Aroclors	Surface Water	4/12/2012	09:05	2	1 liter amber	4 C	N
	BA8E7	PW-009-06-001	C4	1066	CLP TCL Volatiles	Pore Water	4/12/2012	09:30	3	40 ml VOA	HCl pH<2	N
	BA8E7	PW-009-06-001	C4	1067	CLP TCL Semivolatiles	Pore Water	4/12/2012	09:30	2	1 liter amber	4 C	N

Special Instructions: 3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100		COPY		Joan Purdie	4/13/12	946
						ORIGINAL DOCUMENTS INCLUDED IN CSF- BABD4					
						SIGNATURE J. Purdie DATE 4.24.12					

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
~~BA~~ BA8D7
9/4/5.12

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E7	PW-009-06-001	C4	1068	CLP TCL Aroclors	Pore Water	4/12/2012	09:30	2	1 liter amber	4 C	N
	BA8F6	SD-008-0006-001	F1	1118	CLP TCL Semivolatiles	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1119	CLP TCL Aroclors	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1120	CLP TCL Volatiles ✓	Sediment	4/12/2012	10:00	3	Encore	4 C	N
	BA8F6	SD-008-0006-001	F1	1123	Percent Moisture	Sediment	4/12/2012	10:00	1	4 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1125	CLP TCL Semivolatiles	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1126	CLP TCL Aroclors	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1127	CLP TCL Volatiles ✓	Sediment	4/12/2012	10:05	3	Encore	4 C	N
	BA8F7	SD-009-0006-001	C4	1130	Percent Moisture	Sediment	4/12/2012	10:05	1	4 oz Glass Jar	4 C	N
	BA8F8	TB-041212	Trip Blank	1131	CLP TCL Volatiles ✓	Deionized Water	4/12/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8F9	SW-010-001	E3	1134	CLP TCL Volatiles ✓	Surface Water	4/12/2012	11:20	3	40 ml VOA	HCl pH<2	N

Special Instructions: 3.2°C IR Gun SW0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100

Items/Reason	Relinquished By	Date	Received by	Date	Time
	COPY		Joan Purdie	4.13.12	944
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D4					
SIGNATURE	J. Purdie DATE 4/13/12				

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Josi Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8F9	SW-010-001	E3	1135	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8F9	SW-010-001	E3	1136	CLP TCL Aroclors	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1139	CLP TCL Volatiles	Pore Water	4/12/2012	11:25	3	40 ml VOA	HCl pH<2	N
	BA8G0	PW-010-06-001	E3	1140	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1141	CLP TCL Aroclors	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1144	CLP TCL Volatiles	Pore Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G1	PW-010-18-001	E3	1145	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1146	CLP TCL Aroclors	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G2	SD-010-0006-001	E3	1148	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1149	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1150	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N

Special Instructions: 3.2°C IR Gun SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analytes	Josi Petty	4/12/12	FedEx	4/12/12	2100		COPY		Jason Purdie	4/13/12	946
						ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7					
						SIGNATURE		DATE 4-24-12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8D4
BA8G5

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G2	SD-010-0006-001	E3	1153	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G3	SW-011-001	C3	1156	CLP TCL Volatiles	Surface Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G3	SW-011-001	C3	1157	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N SDG final sample
	BA8G3	SW-011-001	C3	1158	CLP TCL Aroclors	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G4	SD-011-0006-001	C3	1160	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1161	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1162	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N
	BA8G4	SD-011-0006-001	C3	1165	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G5	SW-012-001	C2	1168	CLP TCL Volatiles	Surface Water	4/12/2012	12:35	3	40 ml VOA	HCl pH<2	N
	BA8G5	SW-012-001	C2	1169	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N
	BA8G5	SW-012-001	C2	1170	CLP TCL Aroclors	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N

Special Instructions:

3.2 °C
IR GUN
SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100		COPY		Joan Purdie	4-13-12	946
						ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D4					
						SIGNATURE J. Purdie DATE 4-24-12					

Cooler #11

28

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8D3	RB-041212	Rinsate Blank	1002	CLP TCL Volatiles	Deionized Water	4/12/2012	14:30	3	40 ml VOA	HCl pH<2	N
	BA8D3	RB-041212	Rinsate Blank	1003	CLP TCL Semivolatiles	Deionized Water	4/12/2012	14:30	2	1 liter amber	4 C	N
	BA8D3	RB-041212	Rinsate Blank	1004	CLP TCL Aroclors	Deionized Water	4/12/2012	14:30	2	1 liter amber	4 C	N
	BA8E5	SW-008-001	F1	1056	CLP TCL Volatiles	Surface Water	4/12/2012	09:00	3	40 ml VOA	HCl pH<2	N
	BA8E5	SW-008-001	F1	1057	CLP TCL Semivolatiles	Surface Water	4/12/2012	09:00	2	1 liter amber	4 C	N
	BA8E5	SW-008-001	F1	1058	CLP TCL Aroclors	Surface Water	4/12/2012	09:00	2	1 liter amber	4 C	N
	BA8E6	SW-009-001	C4	1061	CLP TCL Volatiles	Surface Water	4/12/2012	09:05	3	40 ml VOA	HCl pH<2	N
	BA8E6	SW-009-001	C4	1062	CLP TCL Semivolatiles	Surface Water	4/12/2012	09:05	2	1 liter amber	4 C	N
	BA8E6	SW-009-001	C4	1063	CLP TCL Aroclors	Surface Water	4/12/2012	09:05	2	1 liter amber	4 C	N
	BA8E7	PW-009-06-001	C4	1066	CLP TCL Volatiles	Pore Water	4/12/2012	09:30	3	40 ml VOA	HCl pH<2	N
	BA8E7	PW-009-06-001	C4	1067	CLP TCL Semivolatiles	Pore Water	4/12/2012	09:30	2	1 liter amber	4 C	N

Special Instructions: rec'd @ 1.3°C IR GUN SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	[illegible]	4/12/12	2100
			[illegible]	4/14/12	1023

Items/Reason	Relinquished by	Date	Received by	Date	Time
COPY ORIGINAL DOCUMENTS INCLUDED IN CSF - BA8D4					
SIGNATURE [illegible] DATE 4/24/12					

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E7	PW-009-06-001	C4	1068	CLP TCL Aroclors	Pore Water	4/12/2012	09:30	2	1 liter amber	4 C	N
	BA8F6	SD-008-0006-001	F1	1118	CLP TCL Semivolatiles	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1119	CLP TCL Aroclors	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1120	CLP TCL Volatiles	Sediment	4/12/2012	10:00	3	Encore	4 C	N
	BA8F6	SD-008-0006-001	F1	1123	Percent Moisture	Sediment	4/12/2012	10:00	1	4 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1125	CLP TCL Semivolatiles	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1126	CLP TCL Aroclors	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1127	CLP TCL Volatiles	Sediment	4/12/2012	10:05	3	Encore	4 C	N
	BA8F7	SD-009-0006-001	C4	1130	Percent Moisture	Sediment	4/12/2012	10:05	1	4 oz Glass Jar	4 C	N
	BA8F8	TB-041212	Trip Blank	1131	CLP TCL Volatiles	Deionized Water	4/12/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8F9	SW-010-001	E3	1134	CLP TCL Volatiles	Surface Water	4/12/2012	11:20	3	40 ml VOA	HCl pH<2	N

Special Instructions: rec'd @1.3°C IR Gun SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF-			BA8D4		
			[signature]	4/14/12	1023	SIGNATURE	[signature]	DATE 4/24/12			

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8F9	SW-010-001	E3	1135	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8F9	SW-010-001	E3	1136	CLP TCL Aroclors	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1139	CLP TCL Volatiles	Pore Water	4/12/2012	11:25	3	40 ml VOA	HCl pH<2	N
	BA8G0	PW-010-06-001	E3	1140	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1141	CLP TCL Aroclors	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1144	CLP TCL Volatiles	Pore Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G1	PW-010-18-001	E3	1145	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1146	CLP TCL Aroclors	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G2	SD-010-0006-001	E3	1148	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1149	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1150	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N

Special Instructions: rec'd @ 1.3°C IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100	ORIGINAL DOCUMENTS INCLUDED IN CSF	COPY		BA8D4		
			[illegible]	4/14/12	1023	SIGNATURE	[illegible]	DATE	4/24/12		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8D4
BA8G5

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434
EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G2	SD-010-0006-001	E3	1153	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G3	SW-011-001	C3	1156	CLP TCL Volatiles	Surface Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G3	SW-011-001	C3	1157	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G3	SW-011-001	C3	1158	CLP TCL Aroclors	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C SDG Sample	
	BA8G4	SD-011-0006-001	C3	1160	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1161	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1162	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N
	BA8G4	SD-011-0006-001	C3	1165	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G5	SW-012-001	C2	1168	CLP TCL Volatiles	Surface Water	4/12/2012	12:35	3	40 ml VOA	HCl pH<2	N
	BA8G5	SW-012-001	C2	1169	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N
	BA8G5	SW-012-001	C2	1170	CLP TCL Aroclors	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N

Special Instructions: rec'd @ 1.3°C IR Gun SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D4		
			[signature]	4/14/12	1023		SIGNATURE [signature]	DATE	4-24-12		

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-13

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	57	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	4.1	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	3.4	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.12	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-13

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.46	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.13	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BA8D3

Lab Name: COMPUCHEM | Contract: EPW11032

Lab Code: LIBRTY | Case No.: 42434 | Mod. Ref No.: | SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER | Lab Sample ID: 1204021-13

Sample wt/vol: 25.0 (g/mL) mL | Lab File ID: 1204021-1390.d

Level: (TRACE or LOW/MED) TRACE | Date Received: 04/13/2012

% Moisture: not dec. | Date Analyzed: 04/17/2012

GC Column: SPB-624 | ID: 0.32 (mm) | Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L | Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	8.41	0.63	J
02		Unknown-02	9.13	0.57	J
03	590-50-1	2-Pentanone, 4,4-dimethyl-	12.10	0.76	JN
04		Unknown-03	13.88	1.5	J
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-01R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/11/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	14	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	3.4	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-01R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. _____ Date Analyzed: 04/11/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.094	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8D4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-01R90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/11/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0290.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.27	J
156-59-2	cis-1,2-Dichloroethene	0.39	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	1.2	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.34	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0290.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.062	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8D5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0290.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.29	J
156-59-2	cis-1,2-Dichloroethene	0.44	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	1.2	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.32	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8D6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0390.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/10/2012

% Moisture: not dec. Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/11/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	49	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	4.6	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	3.2	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/11/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.52	
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.14	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.065	JB
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8D9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0590.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/11/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	8.41	0.55	J
02		Unknown-02	12.09	0.72	J
03		Unknown-03	13.87	1.0	J
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/11/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.7	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.39	J
156-59-2	cis-1,2-Dichloroethene	0.58	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	1.6	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.44	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/11/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.059	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	3.1	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BA8E0

Lab Name: COMPUCHEM | Contract: EPW11032

Lab Code: LIBRTY | Case No.: 42434 | Mod. Ref No.: | SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER | Lab Sample ID: 1204021-06

Sample wt/vol: 25.0 (g/mL) mL | Lab File ID: 1204021-0690.d

Level: (TRACE or LOW/MED) TRACE | Date Received: 04/11/2012

% Moisture: not dec. | Date Analyzed: 04/17/2012

GC Column: SPB-624 | ID: 0.32 (mm) | Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L | Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0790.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.38	J
156-59-2	cis-1,2-Dichloroethene	0.62	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	1.6	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.47	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0790.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.071	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	3.1	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0790.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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19					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0890.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.53	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.41	J
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.68	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.85	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0890.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.050	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	5.1	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0890.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.057	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.97	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-0990.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
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25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.18	JB
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1090.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-14

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1490.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-14

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1490.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.081	JB
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-14

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1490.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
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25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-15

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.97	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.59	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-15

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.8	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-15

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1590.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-16

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	1.6	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	1.7	
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.49	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	4.2	J
75-15-0	Carbon disulfide	0.094	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.57	
156-59-2	cis-1,2-Dichloroethene	8.8	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.23	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-16

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.13	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	1.2	
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-16

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1690.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	60-29-7	Ethyl Ether	6.55	1.4	JN
02		Unknown-01	7.32	1.6	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-11

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.41	J
156-59-2	cis-1,2-Dichloroethene	0.70	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	1.7	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.49	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-11

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	3.4	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-11

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1190.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-12

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-12R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	57	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.18	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.3	
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.0	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-12

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-12R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.37	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.12	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-12

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-12R90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/12/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	12.10	0.63	J
02		Unknown-02	13.88	1.3	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A	0.57	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-17

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-17R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. _____ Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	54	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.26	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.3	
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.53	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-17

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-17R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.14	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.11	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-17

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-17R90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.64	1.0	J
02		Unknown-02	13.87	0.70	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-18

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1890.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.45	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.5	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	1.4	
156-59-2	cis-1,2-Dichloroethene	1.9	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	8.5	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	2.7	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-18

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1890.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.059	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	18	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-18

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1890.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-19

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	6.4	
75-15-0	Carbon disulfide	0.35	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.15	J
156-59-2	cis-1,2-Dichloroethene	0.28	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.045	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.17	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-19

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.17	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.22	JB
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.65	
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-19

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-1990.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.32	1.9	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-20

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-2090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	4.2	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-20

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-2090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.16	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.93	
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-20

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-2090.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.31	1.5	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-21

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-2190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.38	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-21

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-2190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	4.9	B
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204021-21

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204021-2190.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

REFERENCE 72

CompuChem

A division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
CASE # 42434
SDG # BA8G5
SOW # SOM01.2
CONTRACT # EPW11032

SAMPLE IDENTIFICATIONS:	**BA8G5**	**BA8G7**	**BA8G7DL**	**BA8H4**	**BA8H5**	**BA8H6**
BA8H7	**BA8H8**	**BA8J0**	**BA8J1**	**BA8K9**	**BA8L0**	**BA8L1**
BA8L2	**BA8L3**	**BA8L6**	**BA8L7**			

The 16 samples listed above were received intact, refrigerated at 3.2°C, 1.3°C and 2.8°C, in sealed shipping containers, on April 13, 14 and 17, 2012, with proper documentation. No sample tags were received for the samples for this SDG. In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the samples. The Region does not require sample tags. Samples were scheduled for the requested analysis of the TVOA, SVOA and ARO fractions. The samples were prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Multi-Media, Multi-Concentration Statement of Work (SOW), and Document SOM01.2. All pertinent Quality Assurance Notices are included in the narrative section.

Issue 1: The TR/COC lists the analysis for water samples as VOA, SVOA and ARO; however, per scheduling, the correct analysis for water samples is TVOA, SVOA and ARO.
Resolution 1: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

Issue 2: The TR/COC does not list a TAT; however, the correct TAT is 14 days.
Resolution 2: In accordance with previous direction from Region 2, the laboratory will proceed with the turnaround time indicated on the Scheduling Notification Form, note the issue in the SDG Narrative, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect turnaround time.
Issue: The lab only received one of the coolers that were expected to be delivered on 4/13; the other coolers were mistakenly sent to another lab. LIBRTY received the transshipped samples on 4/14.

Resolution: Per Region 2, the missing samples were transshipped overnight for Saturday delivery on 4/14 under air bill 7982 8367 7052. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.
Issue: The laboratory received 1 sample designated for laboratory QC on 4/14 which was used for SDG BA8J3; however, the lab needs one additional QC sample for previously opened SDG BA8G5. The laboratory was expecting to receive additional samples; however, they did not receive any additional samples today, 4/18. The laboratory indicated that they have selected sample BA8K9 as laboratory QC for ARO analysis for SDG BA8G5; however, since the laboratory only received 4 amber containers for this sample (SVOA, ARO and MS/MSD), the laboratory indicated that they will perform laboratory QC at a reduced volume. The laboratory will extract 1000 mL for the SVOA and ARO analyses (full volume) and extract 500 mL for the ARO MS/MSD (reduced volume). For the ARO MS/MSD, the laboratory will add ½ of the surrogate amount and concentrate the extract down to ½ the final volume so that the reporting limits are reported as normal.

Resolution: Per Region 2, the laboratory should note the issue in the SDG Narrative and proceed by performing reduced volume MS/MSD on sample BA8K9 for SDG BA8G5. SMO will note that the two designated MS/MSD samples, samples BA8E0 and BA8J3, are being used as QC samples for SDGs BA8D4 and BA8J3.

Trace Volatiles

Analysis holding time requirements were met for all of the samples in this SDG.

The pH values of these samples were equal to 1, except for sample BA8J1had a pH of 6.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in thirteen of these sixteen samples.

In the initial analysis of sample BA8G7, the on-column amount of some target compounds exceeded the instrument's analytical range as defined by the highest concentration level of the Initial Calibration. The sample was reanalyzed using a smaller aliquot of raw sample to bring the on-column amount into range. We have reported both analyses of sample BA8G7.

Due to the results of a screen samples BA8H4, BA8H5, BA8H6, BA8H7 and BA8H8 were initially analyzed using a dilution of raw sample. The screen Reconstructed Ion Chromatogram (RIC) is included in the sample data package immediately following the RIC for the sample's reportable run.

Tentatively Identified Compounds (TICs) were found in five of these sixteen samples.

Total Alkanes were found in two of these sixteen samples.

All of the deuterated monitoring compounds (DMCs) met recovery criteria with no more than three DMCs failing.

All of the internal standards met response and retention time criteria in the analyses of these samples.

In a response to a Statement of Work Interpretation, the Organic Contract Laboratory Program Office stated that if the Mass Spectral Interpretation Specialist determines a TIC to be a laboratory artifact (including artifacts from the DMC solution), there is no need to report it. However, all TICs not reported due to a Mass Spectral Interpretation Specialist's assessment should be noted in the SDG Narrative. There are laboratory artifacts (including artifacts from the DMC solution) not reported on the Forms 1J. The approximate retention time is as follows:
11.53 min. Laboratory artifact
The peak is present in the standards, blanks, and samples.

Manual integrations were performed on one or more of the process files associated with this SDG. Please see the detailed Manual Integration Summary report that is located in section 6. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blank and the storage blank met all quality control criteria.

No matrix spike/matrix spike duplicate (MS/MSD) samples were requested for the volatile fraction with this SDG.

As per the SOW, an example calculation is attached for Vinyl Chloride-d_3 in sample BA8G5.

I certify that this Sample Data Package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Patricia A. Murphy
Senior Scientist
April 26, 2012

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H1	SD-016-0006-001	D3	1210	Percent Moisture	Sediment	4/12/2012	14:55	1	4 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1212	CLP TCL Semivolatiles	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1213	CLP TCL Aroclors	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1214	CLP TCL Volatiles ✓	Sediment	4/12/2012	15:55	3	Encore	4 C	N
	BA8H2	SD-017-0006-001	D2	1217	Percent Moisture	Sediment	4/12/2012	15:55	1	4 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1219	CLP TCL Semivolatiles	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1220	CLP TCL Aroclors	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1221	CLP TCL Volatiles ✓	Sediment	4/12/2012	16:40	3	Encore	4 C	N
	BA8H3	SD-018-0006-001	D1	1224	Percent Moisture	Sediment	4/12/2012	16:40	1	4 oz Glass Jar	4 C	N
	BA8H4	SW-014-001	E1	1227	CLP TCL Volatiles ✓	Surface Water	4/12/2012	14:40	3	40 ml VOA	HCl pH<2	N
	BA8H4	SW-014-001	E1	1228	CLP TCL Semivolatiles	Surface Water	4/12/2012	14:40	2	1 liter amber	4 C	N

Special Instructions:

3.2°C
IR GUN
SW005

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF	BA8D7		Jason Purdie	4/13/12	946
						SIGNATURE	J Purdie	DATE 4/23/12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BBAG5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G6	SD-012-0006-001	C2	1172	CLP TCL Semivolatiles	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1173	CLP TCL Arodors	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1174	CLP TCL Volatiles	Sediment	4/12/2012	12:55	3	Encore	4 C	N
	BA8G6	SD-012-0006-001	C2	1177	Percent Moisture	Sediment	4/12/2012	12:55	1	4 oz Glass Jar	4 C	N
	BA8G7	SW-013-001	E2	1180	CLP TCL Volatiles	Surface Water	4/12/2012	12:40	3	40 ml VOA	HCl pH<2	N
	BA8G7	SW-013-001	E2	1181	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G7	SW-013-001	E2	1182	CLP TCL Arodors	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G8	SD-013-0006-001	E2	1184	CLP TCL Semivolatiles	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1185	CLP TCL Arodors	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1186	CLP TCL Volatiles	Sediment	4/12/2012	13:00	3	Encore	4 C	N
	BA8G8	SD-013-0006-001	E2	1189	Percent Moisture	Sediment	4/12/2012	13:00	1	4 oz Glass Jar	4 C	N

Special Instructions:

3.2°C
IR GUN
SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100

Items/Reason	Relinquished By	Date	Received by	Date	Time
	COPY		Ryan Purdee	4.13.12	946
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7					
SIGNATURE	R Purdee	DATE 4.23.12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8D4
BA8G5

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G2	SD-010-0006-001	E3	1153	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G3	SW-011-001	C3	1156	CLP TCL Volatiles	Surface Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G3	SW-011-001	C3	1157	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G3	SW-011-001	C3	1158	CLP TCL Aroclors	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G4	SD-011-0006-001	C3	1160	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1161	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1162	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N
	BA8G4	SD-011-0006-001	C3	1165	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G5	SW-012-001	C2	1168	CLP TCL Volatiles	Surface Water	4/12/2012	12:35	3	40 ml VOA	HCl pH<2	N
	BA8G5	SW-012-001	C2	1169	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N
	BA8G5	SW-012-001	C2	1170	CLP TCL Aroclors	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N

Special Instructions:

3.2°C
IR SW SAMPLES

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
All samples old analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100

Items/Reason	Relinquished By	Date	Received by	Date	Time
	COPY				
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D4			Joan Purdie	4-13-12	946
SIGNATURE	DATE 4-25-12				

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H4	SW-014-001	E1	1229	CLP TCL Aroclors	Surface Water	4/12/2012	14:40	2	1 liter amber	4 C	N
	BA8H5	SW-015-001	C1	1232	CLP TCL Volatiles	Surface Water	4/12/2012	16:10	3	40 ml VOA	HCl pH<2	N
	BA8H5	SW-015-001	C1	1233	CLP TCL Semivolatiles	Surface Water	4/12/2012	16:10	2	1 liter amber	4 C	N
	BA8H5	SW-015-001	C1	1234	CLP TCL Aroclors	Surface Water	4/12/2012	16:10	2	1 liter amber	4 C	N
	BA8H6	SW-016-001	D3	1237	CLP TCL Volatiles	Surface Water	4/12/2012	14:50	3	40 ml VOA	HCl pH<2	N
	BA8H6	SW-016-001	D3	1238	CLP TCL Semivolatiles	Surface Water	4/12/2012	14:50	2	1 liter amber	4 C	N
	BA8H6	SW-016-001	D3	1239	CLP TCL Aroclors	Surface Water	4/12/2012	14:50	2	1 liter amber	4 C	N
	BA8H7	SW-017-001	D2	1242	CLP TCL Volatiles	Surface Water	4/12/2012	15:45	3	40 ml VOA	HCl pH<2	N
	BA8H7	SW-017-001	D2	1243	CLP TCL Semivolatiles	Surface Water	4/12/2012	15:45	2	1 liter amber	4 C	N
	BA8H7	SW-017-001	D2	1244	CLP TCL Aroclors	Surface Water	4/12/2012	15:45	2	1 liter amber	4 C	N
	BA8H8	SW-018-001	D1	1247	CLP TCL Volatiles	Surface Water	4/12/2012	16:30	3	40 ml VOA	HCl pH<2	N

Special Instructions: 3.2 °C IR GUN 3N0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8G5			Joan Purdie	4-13-12	946
						SIGNATURE J. Purdie DATE 4-24-12					

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Num b Cont	Container	Preservati ve	MS/MS D
	BA8J1	PW-019-06-001	GSR-MID	1266	CLP TCL Aroclors	Pore Water	4/12/2012	17:40	2	1 liter amber	4 C	N

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8G5
SIGNATURE Joan Rudie DATE 4-24-12

Special Instructions:

3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples & analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100				Joan Rudie	4/13/12	946

Cooler #11

22

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5
BPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H8	SW-018-001	D1	1248	CLP TCL Semivolatiles	Surface Water	4/12/2012	16:30	2	1 liter amber	4 C	N
	BA8H8	SW-018-001	D1	1249	CLP TCL Aroclors	Surface Water	4/12/2012	16:30	2	1 liter amber	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1251	CLP TCL Semivolatiles	Sediment	4/12/2012	17:50	1	8 oz Glass Jar	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1252	CLP TCL Aroclors	Sediment	4/12/2012	17:50	1	8 oz Glass Jar	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1253	CLP TCL Volatiles	Sediment	4/12/2012	17:50	3	Encore	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1256	Percent Moisture	Sediment	4/12/2012	17:50	1	4 oz Glass Jar	4 C	N
	BA8J0	SW-019-001	GSR-MID	1259	CLP TCL Volatiles	Surface Water	4/12/2012	17:30	3	40 ml VOA	HCl pH<2	N
	BA8J0	SW-019-001	GSR-MID	1260	CLP TCL Semivolatiles	Surface Water	4/12/2012	17:30	2	1 liter amber	4 C	N
	BA8J0	SW-019-001	GSR-MID	1261	CLP TCL Aroclors	Surface Water	4/12/2012	17:30	2	1 liter amber	4 C	N
	BA8J1	PW-019-06-001	GSR-MID	1264	CLP TCL Volatiles	Pore Water	4/12/2012	17:40	3	40 ml VOA	HCl pH<2	N
	BA8J1	PW-019-06-001	GSR-MID	1265	CLP TCL Semivolatiles	Pore Water	4/12/2012	17:40	2	1 liter amber	4 C	N

Additional Sample

Special Instructions:	SAMPLES TRANSFERRED FROM
rec'd @ 1.3°C IRGUN SN00015	CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples for analysis	Joel Petty	4/12/12		4/13/12	2100		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D7		
				4/14/12	1023	SIGNATURE		DATE	4/24/12		

cooler #11

23

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5

EPW11032

No: 2-041212-184803-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H1	SD-016-0006-001	D3	1210	Percent Moisture	Sediment	4/12/2012	14:55	1	4 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1212	CLP TCL Semivolatiles	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1213	CLP TCL Aroclors	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1214	CLP TCL Volatiles	Sediment	4/12/2012	15:55	3	Encore	4 C	N
	BA8H2	SD-017-0006-001	D2	1217	Percent Moisture	Sediment	4/12/2012	15:55	1	4 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1219	CLP TCL Semivolatiles	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1220	CLP TCL Aroclors	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1221	CLP TCL Volatiles	Sediment	4/12/2012	16:40	3	Encore	4 C	N
	BA8H3	SD-018-0006-001	D1	1224	Percent Moisture	Sediment	4/12/2012	16:40	1	4 oz Glass Jar	4 C	N
	BA8H4	SW-014-001	E1	1227	CLP TCL Volatiles	Surface Water	4/12/2012	14:40	3	40 ml VOA	HCl pH<2	N
	BA8H4	SW-014-001	E1	1228	CLP TCL Semivolatiles	Surface Water	4/12/2012	14:40	2	1 liter amber	4 C	N

Special Instructions: rec'd @ 1.3°C IR Gun SW0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D7		
			[illegible] Doer	4/14/12	1023		SIGNATURE		DATE 4/24/19		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8D4
BA8G5

No: 2-041212-164603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434
EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G2	SD-010-0006-001	E3	1153	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G3	SW-011-001	C3	1156	CLP TCL Volatiles	Surface Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G3	SW-011-001	C3	1157	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G3	SW-011-001	C3	1158	CLP TCL Aroclors	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	SOC mod sample
	BA8G4	SD-011-0006-001	C3	1160	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1161	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1162	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N
	BA8G4	SD-011-0006-001	C3	1165	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G5	SW-012-001	C2	1168	CLP TCL Volatiles	Surface Water	4/12/2012	12:35	3	40 ml VOA	HCl pH<2	N
	BA8G5	SW-012-001	C2	1169	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N
	BA8G5	SW-012-001	C2	1170	CLP TCL Aroclors	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N

Special Instructions: rec'd @ 13°C IR Gun SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF			BA8D4		
				4/14/12	1023	SIGNATURE		DATE	4/24/12		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G6	SD-012-0006-001	C2	1172	CLP TCL Semivolatiles	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1173	CLP TCL Aroclors	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1174	CLP TCL Volatiles	Sediment	4/12/2012	12:55	3	Encore	4 C	N
	BA8G6	SD-012-0006-001	C2	1177	Percent Moisture	Sediment	4/12/2012	12:55	1	4 oz Glass Jar	4 C	N
	BA8G7	SW-013-001	E2	1180	CLP TCL Volatiles	Surface Water	4/12/2012	12:40	3	40 ml VOA	HCl pH<2	N
	BA8G7	SW-013-001	E2	1181	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G7	SW-013-001	E2	1182	CLP TCL Aroclors	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G8	SD-013-0006-001	E2	1184	CLP TCL Semivolatiles	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1185	CLP TCL Aroclors	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1186	CLP TCL Volatiles	Sediment	4/12/2012	13:00	3	Encore	4 C	N
	BA8G8	SD-013-0006-001	E2	1189	Percent Moisture	Sediment	4/12/2012	13:00	1	4 oz Glass Jar	4 C	N

Special Instructions: rec'd @ 1.3°C IRGUN SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF			BA8D7		
			Jay Doe	4/13/12	1123	SIGNATURE		DATE	4/13/12		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H4	SW-014-001	E1	1229	CLP TCL Aroclors	Surface Water	4/12/2012	14:40	2	1 liter amber	4 C	N
	BA8H5	SW-015-001	C1	1232	CLP TCL Volatiles	Surface Water	4/12/2012	16:10	3	40 ml VOA	HCl pH<2	N
	BA8H5	SW-015-001	C1	1233	CLP TCL Semivolatiles	Surface Water	4/12/2012	16:10	2	1 liter amber	4 C	N
	BA8H5	SW-015-001	C1	1234	CLP TCL Aroclors	Surface Water	4/12/2012	16:10	2	1 liter amber	4 C	N
	BA8H6	SW-016-001	D3	1237	CLP TCL Volatiles	Surface Water	4/12/2012	14:50	3	40 ml VOA	HCl pH<2	N
	BA8H6	SW-016-001	D3	1238	CLP TCL Semivolatiles	Surface Water	4/12/2012	14:50	2	1 liter amber	4 C	N
	BA8H6	SW-016-001	D3	1239	CLP TCL Aroclors	Surface Water	4/12/2012	14:50	2	1 liter amber	4 C	N
	BA8H7	SW-017-001	D2	1242	CLP TCL Volatiles	Surface Water	4/12/2012	15:45	3	40 ml VOA	HCl pH<2	N
	BA8H7	SW-017-001	D2	1243	CLP TCL Semivolatiles	Surface Water	4/12/2012	15:45	2	1 liter amber	4 C	N
	BA8H7	SW-017-001	D2	1244	CLP TCL Aroclors	Surface Water	4/12/2012	15:45	2	1 liter amber	4 C	N
	BA8H8	SW-018-001	D1	1247	CLP TCL Volatiles	Surface Water	4/12/2012	16:30	3	40 ml VOA	HCl pH<2	N

Special Instructions: rec'd @ 1.3 °C IR GUN SW0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all containers	Joel Petty	4/12/12	Fed Ex	4/12/12	2100
			[illegible] Doer	4/14/12	1023

Items/Reason	Relinquished By	Date	Received by	Date	Time
COPY ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8G5					
SIGNATURE	[signature]	DATE 4/24/12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BAB G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BABJ1	PW-019-06-001	GSR-MID	1266	CLP TCL Aroclors	Pore Water	4/12/2012	17:40	2	1 liter amber	4 C	N

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF BABG5

SIGNATURE J. Petty DATE 4/24/12

Special Instructions: rec'd @ 1.3 °C IR Gun SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12		4/12/12	2100						
				4/14/12	1023						

USEPA
DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: 874178390180

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8K8 4-17-19
BA8G5
BA8J2

No: 2-041612-154604-0012
Cooler #: 3
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8K8	SD-025-0006-001	GSR-MID-2	1354	CLP TCL Semivolatiles	Sediment	4/16/2012	11:30	1	8 oz Glass Jar	4 C	N
	BA8K8	SD-025-0006-001	GSR-MID-2	1355	CLP TCL Aroclors	Sediment	4/16/2012	11:30	1	8 oz Glass Jar	4 C	N
	BA8K8	SD-025-0006-001	GSR-MID-2	1356	CLP TCL Volatiles	Sediment	4/16/2012	11:30	3	Encore	4 C	N
	BA8K8	SD-025-0006-001	GSR-MID-2	1359	Percent Moisture	Sediment	4/16/2012	11:30	1	16 oz Poly Bottle	4 C	N
	BA8K9	SW-025-001	GSR-MID-2	1362	CLP TCL Volatiles	Surface Water	4/16/2012	10:20	3	40 ml VOA	HCl pH<2	N
	BA8K9	SW-025-001	GSR-MID-2	1363	CLP TCL Semivolatiles	Surface Water	4/16/2012	10:20	2	1 liter amber	4 C	N
	BA8K9	SW-025-001	GSR-MID-2	1364	CLP TCL Aroclors	Surface Water	4/16/2012	10:20	2	1 liter amber	4 C	N
	BA8L0	PW-025-06-001	GSR-MID-2	1367	CLP TCL Volatiles	Pore Water	4/16/2012	10:45	3	40 ml VOA	HCl pH<2	N
	BA8L0	PW-025-06-001	GSR-MID-2	1368	CLP TCL Semivolatiles	Pore Water	4/16/2012	10:45	2	1 liter amber	4 C	N
	BA8L0	PW-025-06-001	GSR-MID-2	1369	CLP TCL Aroclors	Pore Water	4/16/2012	10:45	2	1 liter amber	4 C	N
	BA8L1	PW-025-18-001	GSR-MID-2	1370	CLP TCL Volatiles	Pore Water	4/16/2012	11:20	3	40 ml VOA	HCl pH<2	N

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8G5

Special Instructions:

SIGNATURE J. Purdie DATE 4-25-12 2.8 °C IR GUN S00015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/16/12	Fed Ex	4/16/12	1830				Joan Purdie	4-17-12	935

29

USEPA
DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: 874178390160

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
BA8J2
BPW11032

No: 2-041612-154604-0012
Cooler #: 3
Lab: Liberty Analytical Corporation
Case #: 42434

AMENDED DATA

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8L2	TB-041612	Trip Blank	1371	CLP TCL Volatiles	Deionized Water	4/13/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8L3	RB-041612	Rinsate Blank	1374	CLP TCL Volatiles	Deionized Water	4/16/2012	11:45	3	40 ml VOA	HCl pH<2	N
	BA8L3	RB-041612	Rinsate Blank	1375	CLP TCL Semivolatiles	Deionized Water	4/16/2012	11:45	2	1 liter amber	4 C	N
	BA8L3	RB-041612	Rinsate Blank	1376	CLP TCL Aroclors	Deionized Water	4/16/2012	11:45	2	1 liter amber	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1378	CLP TCL Semivolatiles	Sediment	4/16/2012	13:40	1	8 oz Glass Jar	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1379	CLP TCL Aroclors	Sediment	4/16/2012	13:40	1	8 oz Glass Jar	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1380	CLP TCL Volatiles	Sediment	4/16/2012	13:40	3	Encore	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1383	Percent Moisture	Sediment	4/16/2012	13:40	1	16 oz Poly Bottle	4 C	N
	BA8L5	SD-027-0006-001	GSR-BKG-2	1385	CLP TCL Semivolatiles	Sediment	4/16/2012	14:25	1	8 oz Glass Jar	4 C	N
	BA8L5	SD-027-0006-001	GSR-BKG-2	1386	CLP TCL Aroclors	Sediment	4/16/2012	14:25	1	8 oz Glass Jar	4 C	N
	BA8L5	SD-027-0006-001	GSR-BKG-2	1387	CLP TCL Volatiles	Sediment	4/16/2012	14:25	3	Encore	4 C	N

Special Instructions: 2.8° IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all sample all analyses	Joel Petty	4/16/12	Fed Ex	4/16/12	1830				Joan Pardie	4-17-12	935

3D

USEPA
DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: 874178390180

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
BA8J2
EPW11032

No: 2-041612-154604-0012
Cooler #: 3
Lab: Liberty Analytical Corporation
Case #: 42434

AMENDED DATA

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8L5	SD-027-0006-001	GSR-BKG-2	1390	Percent Moisture	Sediment	4/16/2012	14:25	1	16 oz Poly Bottle	4 C SDC final sample	
	BA8L6	SW-026-001	GSR-BKG-1	1393	CLP TCL Volatiles	Surface Water	4/16/2012	13:25	3	40 ml VOA	HCl pH<2	N
	BA8L6	SW-026-001	GSR-BKG-1	1394	CLP TCL Semivolatiles	Surface Water	4/16/2012	13:25	2	1 liter amber	4 C	N
	BA8L6	SW-026-001	GSR-BKG-1	1395	CLP TCL Aroclors	Surface Water	4/16/2012	13:25	2	1 liter amber 1 Al rec. broken SP 4/17/12	4 C	N
	BA8L7	SW-027-001	GSR-BKG-2	1398	CLP TCL Volatiles	Surface Water	4/16/2012	14:10	3	40 ml VOA	HCl pH<2	N
	BA8L7	SW-027-001	GSR-BKG-2	1399	CLP TCL Semivolatiles	Surface Water	4/16/2012	14:10	2	1 liter amber	4 C	N
	BA8L7	SW-027-001	GSR-BKG-2	1400	CLP TCL Aroclors	Surface Water	4/16/2012	14:10	2	1 liter amber	4 C SDC final sample	N

Joel Petty

Special Instructions: 2.8°C IRGUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/16/12	FedEx	4/16/12	1830				Joseph Purdie	4/17/12	935

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	1.8	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.039	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	1.2	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	9.3	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-01

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0190.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0290.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. _____ Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	1.5	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.27	J
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	5.2	
156-59-2	cis-1,2-Dichloroethene	15	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	34	E
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	10	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0290.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	53	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-02

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0290.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
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23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G7DL

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-02RE1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-02D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. _____ Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 6.3

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	3.1	U
74-87-3	Chloromethane	3.1	U
75-01-4	Vinyl chloride	3.1	U
74-83-9	Bromomethane	3.1	U
75-00-3	Chloroethane	3.1	U
75-69-4	Trichlorofluoromethane	3.1	U
75-35-4	1,1-Dichloroethene	3.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.1	U
67-64-1	Acetone	31	U
75-15-0	Carbon disulfide	3.1	U
79-20-9	Methyl acetate	3.1	U
75-09-2	Methylene chloride	2.6	JBD
156-60-5	trans-1,2-Dichloroethene	3.1	U
1634-04-4	Methyl tert-butyl ether	3.1	U
75-34-3	1,1-Dichloroethane	5.1	D
156-59-2	cis-1,2-Dichloroethene	12	D
78-93-3	2-Butanone	31	U
74-97-5	Bromochloromethane	3.1	U
67-66-3	Chloroform	3.1	U
71-55-6	1,1,1-Trichloroethane	34	D
110-82-7	Cyclohexane	3.1	U
56-23-5	Carbon tetrachloride	3.1	U
71-43-2	Benzene	3.1	U
107-06-2	1,2-Dichloroethane	3.1	U
79-01-6	Trichloroethene	8.8	D

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G7DL

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-02RE1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-02D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 6.3

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	3.1	U
78-87-5	1,2-Dichloropropane	3.1	U
75-27-4	Bromodichloromethane	3.1	U
10061-01-5	cis-1,3-Dichloropropene	3.1	U
108-10-1	4-Methyl-2-pentanone	31	U
108-88-3	Toluene	3.1	U
10061-02-6	trans-1,3-Dichloropropene	3.1	U
79-00-5	1,1,2-Trichloroethane	3.1	U
127-18-4	Tetrachloroethene	56	D
591-78-6	2-Hexanone	31	U
124-48-1	Dibromochloromethane	3.1	U
106-93-4	1,2-Dibromoethane	3.1	U
108-90-7	Chlorobenzene	3.1	U
100-41-4	Ethylbenzene	3.1	U
95-47-6	o-Xylene	3.1	U
179601-23-1	m,p-Xylene	3.1	U
100-42-5	Styrene	3.1	U
75-25-2	Bromoform	3.1	U
98-82-8	Isopropylbenzene	3.1	U
79-34-5	1,1,2,2-Tetrachloroethane	3.1	U
541-73-1	1,3-Dichlorobenzene	3.1	U
106-46-7	1,4-Dichlorobenzene	3.1	U
95-50-1	1,2-Dichlorobenzene	3.1	U
96-12-8	1,2-Dibromo-3-chloropropane	3.1	U
120-82-1	1,2,4-Trichlorobenzene	3.1	U
87-61-6	1,2,3-Trichlorobenzene	3.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G7DL

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-02RE1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-02D90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 6.3

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-03D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 35.7

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	18	U
74-87-3	Chloromethane	18	U
75-01-4	Vinyl chloride	18	U
74-83-9	Bromomethane	18	U
75-00-3	Chloroethane	18	U
75-69-4	Trichlorofluoromethane	18	U
75-35-4	1,1-Dichloroethene	18	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	18	U
67-64-1	Acetone	180	U
75-15-0	Carbon disulfide	18	U
79-20-9	Methyl acetate	18	U
75-09-2	Methylene chloride	13	JB
156-60-5	trans-1,2-Dichloroethene	18	U
1634-04-4	Methyl tert-butyl ether	18	U
75-34-3	1,1-Dichloroethane	14	J
156-59-2	cis-1,2-Dichloroethene	29	
78-93-3	2-Butanone	180	U
74-97-5	Bromochloromethane	18	U
67-66-3	Chloroform	18	U
71-55-6	1,1,1-Trichloroethane	190	
110-82-7	Cyclohexane	18	U
56-23-5	Carbon tetrachloride	18	U
71-43-2	Benzene	18	U
107-06-2	1,2-Dichloroethane	18	U
79-01-6	Trichloroethene	49	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-03D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 35.7

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	18	U
78-87-5	1,2-Dichloropropane	18	U
75-27-4	Bromodichloromethane	18	U
10061-01-5	cis-1,3-Dichloropropene	18	U
108-10-1	4-Methyl-2-pentanone	180	U
108-88-3	Toluene	2.1	J
10061-02-6	trans-1,3-Dichloropropene	18	U
79-00-5	1,1,2-Trichloroethane	18	U
127-18-4	Tetrachloroethene	340	
591-78-6	2-Hexanone	180	U
124-48-1	Dibromochloromethane	18	U
106-93-4	1,2-Dibromoethane	18	U
108-90-7	Chlorobenzene	18	U
100-41-4	Ethylbenzene	18	U
95-47-6	o-Xylene	18	U
179601-23-1	m,p-Xylene	18	U
100-42-5	Styrene	18	U
75-25-2	Bromoform	18	U
98-82-8	Isopropylbenzene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
541-73-1	1,3-Dichlorobenzene	18	U
106-46-7	1,4-Dichlorobenzene	18	U
95-50-1	1,2-Dichlorobenzene	18	U
96-12-8	1,2-Dibromo-3-chloropropane	18	U
120-82-1	1,2,4-Trichlorobenzene	18	U
87-61-6	1,2,3-Trichlorobenzene	18	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-03

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-03D90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 35.7

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-04

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-04D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 12.5

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	6.3	U
74-87-3	Chloromethane	6.3	U
75-01-4	Vinyl chloride	6.3	U
74-83-9	Bromomethane	6.3	U
75-00-3	Chloroethane	6.3	U
75-69-4	Trichlorofluoromethane	6.3	U
75-35-4	1,1-Dichloroethene	6.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.3	U
67-64-1	Acetone	63	U
75-15-0	Carbon disulfide	6.3	U
79-20-9	Methyl acetate	6.3	U
75-09-2	Methylene chloride	3.5	JB
156-60-5	trans-1,2-Dichloroethene	6.3	U
1634-04-4	Methyl tert-butyl ether	6.3	U
75-34-3	1,1-Dichloroethane	6.3	U
156-59-2	cis-1,2-Dichloroethene	6.3	U
78-93-3	2-Butanone	63	U
74-97-5	Bromochloromethane	6.3	U
67-66-3	Chloroform	6.3	U
71-55-6	1,1,1-Trichloroethane	0.58	J
110-82-7	Cyclohexane	6.3	U
56-23-5	Carbon tetrachloride	6.3	U
71-43-2	Benzene	6.3	U
107-06-2	1,2-Dichloroethane	6.3	U
79-01-6	Trichloroethene	7.3	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-04

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-04D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 12.5

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	6.3	U
78-87-5	1,2-Dichloropropane	6.3	U
75-27-4	Bromodichloromethane	6.3	U
10061-01-5	cis-1,3-Dichloropropene	6.3	U
108-10-1	4-Methyl-2-pentanone	63	U
108-88-3	Toluene	0.71	J
10061-02-6	trans-1,3-Dichloropropene	6.3	U
79-00-5	1,1,2-Trichloroethane	6.3	U
127-18-4	Tetrachloroethene	160	
591-78-6	2-Hexanone	63	U
124-48-1	Dibromochloromethane	6.3	U
106-93-4	1,2-Dibromoethane	6.3	U
108-90-7	Chlorobenzene	6.3	U
100-41-4	Ethylbenzene	6.3	U
95-47-6	o-Xylene	6.3	U
179601-23-1	m,p-Xylene	6.3	U
100-42-5	Styrene	6.3	U
75-25-2	Bromoform	6.3	U
98-82-8	Isopropylbenzene	6.3	U
79-34-5	1,1,2,2-Tetrachloroethane	6.3	U
541-73-1	1,3-Dichlorobenzene	6.3	U
106-46-7	1,4-Dichlorobenzene	6.3	U
95-50-1	1,2-Dichlorobenzene	6.3	U
96-12-8	1,2-Dibromo-3-chloropropane	6.3	U
120-82-1	1,2,4-Trichlorobenzene	6.3	U
87-61-6	1,2,3-Trichlorobenzene	6.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-04

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-04D90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 12.5

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966'96[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-05D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	25	U
74-87-3	Chloromethane	25	U
75-01-4	Vinyl chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-69-4	Trichlorofluoromethane	25	U
75-35-4	1,1-Dichloroethene	15	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	25	U
67-64-1	Acetone	250	U
75-15-0	Carbon disulfide	25	U
79-20-9	Methyl acetate	25	U
75-09-2	Methylene chloride	14	JB
156-60-5	trans-1,2-Dichloroethene	25	U
1634-04-4	Methyl tert-butyl ether	25	U
75-34-3	1,1-Dichloroethane	50	
156-59-2	cis-1,2-Dichloroethene	61	
78-93-3	2-Butanone	250	U
74-97-5	Bromochloromethane	25	U
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	250	
110-82-7	Cyclohexane	25	U
56-23-5	Carbon tetrachloride	25	U
71-43-2	Benzene	25	U
107-06-2	1,2-Dichloroethane	25	U
79-01-6	Trichloroethene	62	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-05D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108 87 2	Methylcyclohexane	25	U
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
108-10-1	4-Methyl-2-pentanone	250	U
108-88-3	Toluene	25	U
10061-02-6	trans-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
127-18-4	Tetrachloroethene	490	
591-78-6	2-Hexanone	250	U
124-48-1	Dibromochloromethane	25	U
106-93-4	1,2-Dibromoethane	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
95-47-6	o-Xylene	25	U
179601-23-1	m,p-Xylene	25	U
100-42-5	Styrene	25	U
75-25-2	Bromoform	25	U
98-82-8	Isopropylbenzene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
541-73-1	1,3-Dichlorobenzene	25	U
106-46-7	1,4-Dichlorobenzene	25	U
95-50-1	1,2-Dichlorobenzene	25	U
96-12-8	1,2-Dibromo-3-chloropropane	25	U
120-82-1	1,2,4-Trichlorobenzene	25	U
87-61-6	1,2,3-Trichlorobenzene	25	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-05

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-05D90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-06D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 166.7

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	83	U
74-87-3	Chloromethane	83	U
75-01-4	Vinyl chloride	83	U
74-83-9	Bromomethane	83	U
75-00-3	Chloroethane	83	U
75-69-4	Trichlorofluoromethane	83	U
75-35-4	1,1-Dichloroethene	83	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	83	U
67-64-1	Acetone	830	U
75-15-0	Carbon disulfide	83	U
79-20-9	Methyl acetate	83	U
75-09-2	Methylene chloride	50	JB
156-60-5	trans-1,2-Dichloroethene	83	U
1634-04-4	Methyl tert-butyl ether	83	U
75-34-3	1,1-Dichloroethane	54	J
156-59-2	cis-1,2-Dichloroethene	83	U
78-93-3	2-Butanone	830	U
74-97-5	Bromochloromethane	83	U
67-66-3	Chloroform	83	U
71-55-6	1,1,1-Trichloroethane	800	
110-82-7	Cyclohexane	83	U
56-23-5	Carbon tetrachloride	83	U
71-43-2	Benzene	83	U
107-06-2	1,2-Dichloroethane	83	U
79-01-6	Trichloroethene	150	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-06D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 166.7

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	83	U
78-87-5	1,2-Dichloropropane	83	U
75-27-4	Bromodichloromethane	83	U
10061-01-5	cis-1,3-Dichloropropene	83	U
108-10-1	4-Methyl-2-pentanone	830	U
108-88-3	Toluene	9.5	J
10061-02-6	trans-1,3-Dichloropropene	83	U
79-00-5	1,1,2-Trichloroethane	83	U
127-18-4	Tetrachloroethene	1700	
591-78-6	2-Hexanone	830	U
124-48-1	Dibromochloromethane	83	U
106-93-4	1,2-Dibromoethane	83	U
108-90-7	Chlorobenzene	83	U
100-41-4	Ethylbenzene	83	U
95-47-6	o-Xylene	83	U
179601-23-1	m,p-Xylene	83	U
100-42-5	Styrene	83	U
75-25-2	Bromoform	83	U
98-82-8	Isopropylbenzene	83	U
79-34-5	1,1,2,2-Tetrachloroethane	83	U
541-73-1	1,3-Dichlorobenzene	83	U
106-46-7	1,4-Dichlorobenzene	83	U
95-50-1	1,2-Dichlorobenzene	83	U
96-12-8	1,2-Dibromo-3-chloropropane	83	U
120-82-1	1,2,4-Trichlorobenzene	83	U
87-61-6	1,2,3-Trichlorobenzene	83	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-06

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-06D90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 166.7

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-07D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 41.7

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	21	U
74-87-3	Chloromethane	21	U
75-01-4	Vinyl chloride	21	U
74-83-9	Bromomethane	21	U
75-00-3	Chloroethane	21	U
75-69-4	Trichlorofluoromethane	21	U
75-35-4	1,1-Dichloroethene	21	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	21	U
67-64-1	Acetone	210	U
75-15-0	Carbon disulfide	21	U
79-20-9	Methyl acetate	21	U
75-09-2	Methylene chloride	13	JB
156-60-5	trans-1,2-Dichloroethene	21	U
1634-04-4	Methyl tert-butyl ether	21	U
75-34-3	1,1-Dichloroethane	30	
156-59-2	cis-1,2-Dichloroethene	80	
78-93-3	2-Butanone	210	U
74-97-5	Bromochloromethane	21	U
67-66-3	Chloroform	21	U
71-55-6	1,1,1-Trichloroethane	190	
110-82-7	Cyclohexane	21	U
56-23-5	Carbon tetrachloride	21	U
71-43-2	Benzene	21	U
107-06-2	1,2-Dichloroethane	21	U
79-01-6	Trichloroethene	83	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-07D90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 41.7

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	21	U
78-87-5	1,2-Dichloropropane	21	U
75-27-4	Bromodichloromethane	21	U
10061-01-5	cis-1,3-Dichloropropene	21	U
108-10-1	4-Methyl-2-pentanone	210	U
108-88-3	Toluene	2.6	J
10061-02-6	trans-1,3-Dichloropropene	21	U
79-00-5	1,1,2-Trichloroethane	21	U
127-18-4	Tetrachloroethene	360	
591-78-6	2-Hexanone	210	U
124-48-1	Dibromochloromethane	21	U
106-93-4	1,2-Dibromoethane	21	U
108-90-7	Chlorobenzene	21	U
100-41-4	Ethylbenzene	21	U
95-47-6	o-Xylene	21	U
179601-23-1	m,p-Xylene	21	U
100-42-5	Styrene	21	U
75-25-2	Bromoform	21	U
98-82-8	Isopropylbenzene	21	U
79-34-5	1,1,2,2-Tetrachloroethane	21	U
541-73-1	1,3-Dichlorobenzene	21	U
106-46-7	1,4-Dichlorobenzene	21	U
95-50-1	1,2-Dichlorobenzene	21	U
96-12-8	1,2-Dibromo-3-chloropropane	21	U
120-82-1	1,2,4-Trichlorobenzene	21	U
87-61-6	1,2,3-Trichlorobenzene	21	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-07

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-07D90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 41.7

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-08R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.28	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-08R90.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.072	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.096	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.16	J
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-08

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-08R90.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E9GG79G[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.6	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	2.5	
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0990.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.082	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.24	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.63	
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8J1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-09

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-0990.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/13/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	60-29-7	Ethyl Ether	6.55	1.9	JN
02		Unknown-01	7.31	1.6	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-20

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.9	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.46	J
156-59-2	cis-1,2-Dichloroethene	0.79	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.52	
107-06-2	1,2-Dichloroethane	0.36	J
79-01-6	Trichloroethene	0.32	J

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-20

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2090.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.076	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.26	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	1.9	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.21	J
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.57	
106-46-7	1,4-Dichlorobenzene	0.92	
95-50-1	1,2-Dichlorobenzene	0.56	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-20

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2090.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	60-29-7	Ethyl Ether	6.55	1.9	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-21

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	1.2	
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.2	
75-15-0	Carbon disulfide	0.12	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.16	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.43	J
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	11	
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	1.1	
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.27	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-21

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2190.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.27	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.11	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	6.8	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.15	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.66	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	1.8	
106-46-7	1,4-Dichlorobenzene	0.77	
95-50-1	1,2-Dichlorobenzene	0.43	J
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-21

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2190.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	60-29-7	Ethyl Ether	6.55	6.8	JN
02	12130-66-4	Platinum, bis[(1,2,5,6-.eta.	13.53	1.1	JN
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A	73	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-22

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2290.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.1	
75-15-0	Carbon disulfide	0.26	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.46	J
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	1.8	
156-59-2	cis-1,2-Dichloroethene	3.2	
78-93-3	2-Butanone	8.1	
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	1.7	
107-06-2	1,2-Dichloroethane	0.44	J
79-01-6	Trichloroethene	0.61	

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-22

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2290.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.27	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.11	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	4.2	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.096	J
179601-23-1	m,p-Xylene	0.21	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	1.7	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	2.0	
106-46-7	1,4-Dichlorobenzene	0.85	
95-50-1	1,2-Dichlorobenzene	0.78	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.25	J
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-22

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2290.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	60-29-7	Ethyl Ether	6.55	8.3	JN
02		Unknown-01	8.05	1.6	J
03		Unknown-02	13.54	0.60	J
04		Unknown-03	14.60	0.55	J
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A	4.8	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-23

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	32	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.6	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.092	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-23

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2390.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.31	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.13	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.064	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-23

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2390.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	8.41	0.54	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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19					
20					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-24

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2490.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	31	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	1.1	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.6	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.091	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-24

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2490.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.32	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.11	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.062	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-24

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2490.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-25

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-25

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2590.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.057	JB
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.14	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-25

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2590.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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16					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-26

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. _____ Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.2	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.26	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	1.3	J
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-26

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2690.d

Level: (TRACE/LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.16	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.062	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8G5

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1204045-26

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1204045-2690.d

Level: (TRACE or LOW/MED) TRACE Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

REFERENCE 73

CompuChem

A division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
CASE # 42434
SDG # BA8J2
SOW # SOM01.2
CONTRACT # EPW11032

SAMPLE IDENTIFICATIONS: **BA8J2** **BA8K0** **BA8K1** **BA8K2** **BA8K5** **BA8K6** **BA8K8** **BA8L4** **BA8L5**

The 9 soil samples listed above were received intact, refrigerated at 1.3°C and 3.2°C, in sealed shipping containers, on April 14 and 17, 2012 with proper documentation. No sample tags were received for the samples for this SDG. In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the samples. The Region does not require sample tags. Soil samples were received in ENCOREs and transferred to closed system VOA vials and placed in the freezer. The Samples were scheduled for the requested analyses of the VOA LOW, SEMI-VOA and Aroclor fractions. The samples were prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Multi-Media, Multi-Concentration Statement of Work (SOW), and Document SOM01.2. All pertinent Quality Assurance Notices are included in the narrative section.

Issue 1: The TR/COC lists the analysis for water samples as VOA, SVOA and ARO; however, per scheduling, the correct analysis for water samples is TVOA, SVOA and ARO.
Resolution 1: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

Issue 2: The TR/COC does not list a TAT; however, the correct TAT is 14 days.
Resolution 2: In accordance with previous direction from Region 2, the laboratory will proceed with the turnaround time indicated on the Scheduling Notification Form, note the issue in the SDG Narrative, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect turnaround time.

Issue: The laboratory received coolers without temperature blanks; however, the laboratory reported the temperature of the coolers using an IR temperature gun.
Resolution: In accordance with previous direction from Region 2, if the temperature of the cooler is 10°C or lower, the laboratory will note the issue, and the method used to determine the temperature, in the SDG Narrative and proceed with the analysis of the samples.

Issue: The laboratory received 2 of 8 amber liter bottles broken for sample BA8J3 (QC); however, the laboratory indicated that they should have sufficient volume remaining for analysis. The laboratory received 1 of 4 amber liter bottles broken for sample BA8J6; however, the laboratory indicated that they should have sufficient volume remaining for analysis. The laboratory received 1 of 2-8 oz jars broken and compromised for sample BA8K1; however, the laboratory indicated that they should have sufficient volume remaining for analysis.
Resolution: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples. If re-extraction/reanalysis is necessary, the laboratory will contact the SMO coordinator and wait for a resolution.

Volatiles

Analysis holding time requirements were met for all of the samples in this SDG.

The percent moisture values for these samples ranged from 13 to 64 percent.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in all of these nine samples.

Tentatively Identified Compounds (TICs) were found in two of these nine samples.

No Total Alkanes were found in these twenty samples.

All of the deuterated monitoring compounds (DMCs) met recovery criteria in the analyses of these samples.

All of the internal standards met response and retention time criteria in the analyses of these samples.

In a response to a Statement of Work Interpretation, the Organic Contract Laboratory Program Office stated that if the Mass Spectral Interpretation Specialist determines a TIC to be a laboratory artifact (including artifacts from the DMC solution), there is no need to report it. However, all TICs not reported due to a Mass Spectral Interpretation Specialist's assessment should be noted in the SDG Narrative. There are laboratory artifacts (including artifacts from the DMC solution) not reported on the Forms 1J. The approximate retention time is as follows:
11.75 min. Laboratory artifact
The peak is present in the standards, blanks, and samples.

Manual integrations were performed on one or more of the process files associated with this SDG. Please see the detailed Manual Integration Summary report that is located in section 6. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blanks and storage blank met all quality control criteria.

No matrix spike/matrix spike duplicate (MS/MSD) samples were requested for the volatile fraction with this SDG.

As per the SOW, an example calculation is attached for Vinyl Chloride-d_3 in sample BA8J2.

I certify that this Sample Data Package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Patricia A. Murphy
Senior Scientist
April 29, 2012

cooler # 18

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J2
J3

EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8J2	SD-020-0006-001	B3	1268	CLP TCL Semivolatiles	Sediment	4/13/2012	09:30	1	8 oz Glass Jar	4 C	N
	BA8J2	SD-020-0006-001	B3	1269	CLP TCL Aroclors	Sediment	4/13/2012	09:30	2	8 oz Glass Jar	4 C	Y
	BA8J2	SD-020-0006-001	B3	1270	CLP TCL Volatiles	Sediment	4/13/2012	09:30	3	Encore	4 C	N
	BA8J2	SD-020-0006-001	B3	1273	Percent Moisture	Sediment	4/13/2012	09:30	1	4 oz Glass Jar	4 C	N
	BA8J3	SW-020-001	B3	1276	CLP TCL Volatiles	Surface Water	4/13/2012	08:30	3	40 ml VOA	HCl pH<2	N
	BA8J3	SW-020-001	B3	1277	CLP TCL Semivolatiles	Surface Water	4/13/2012	08:30	2	1 liter amber	4 C	N
	BA8J3	SW-020-001	B3	1278	CLP TCL Aroclors	Surface Water	4/13/2012	08:30	6	1 liter amber	4 C	Y
	BA8J4	PW-020-06-001	B3	1281	CLP TCL Volatiles	Pore Water	4/13/2012	08:50	3	40 ml VOA	HCl pH<2	N
	BA8J4	PW-020-06-001	B3	1282	CLP TCL Semivolatiles	Pore Water	4/13/2012	08:50	2	1 liter amber	4 C	N
	BA8J4	PW-020-06-001	B3	1283	CLP TCL Aroclors	Pore Water	4/13/2012	08:50	2	1 liter amber	4 C	N
	BA8J5	TB-041312	Trip Blank	1284	CLP TCL Volatiles	Deionized Water	4/13/2012	09:45	3	40 ml VOA	HCl pH<2	N

~~3AL for BA8J9; LA @ BA8J7~~ 4/14/12

Special Instructions: all vials + VOA encores (encores frozen @ 12:00 on 4/14/12) rec'd @ 2.8°C

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900						
			[signature]	4/14/12							

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8J3
SIGNATURE J. Purdie DATE 4/25/12

Cooler #10

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J3
LJ2
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8J9	PW-021-06-001	A2	1304	CLP TCL Aroclors	Pore Water	4/13/2012	10:45	2	1 liter amber	4 C	N
	BA8K0	SD-021-0006-001	A2	1306	CLP TCL Semivolatiles	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K0	SD-021-0006-001	A2	1307	CLP TCL Aroclors	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K0	SD-021-0006-001	A2	1308	CLP TCL Volatiles	Sediment	4/13/2012	11:20	3	Encore	4 C	N
	BA8K0	SD-021-0006-001	A2	1311	Percent Moisture	Sediment	4/13/2012	11:20	1	16 oz Poly Bottle	4 C	N
	BA8K1	SD-021-0006-002	A2	1313	CLP TCL Semivolatiles	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K1	SD-021-0006-002	A2	1314	CLP TCL Aroclors	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K1	SD-021-0006-002	A2	1315	CLP TCL Volatiles	Sediment	4/13/2012	11:20	3	Encore	4 C	N
	BA8K1	SD-021-0006-002	A2	1316	Percent Moisture	Sediment	4/13/2012	11:20	1	4 oz Glass Jar	4 C	N
	BA8K2	SD-022-0006-001	B2	1318	CLP TCL Semivolatiles	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N
	BA8K2	SD-022-0006-001	B2	1319	CLP TCL Aroclors	Sediment	4/13/2012	11:20	1	8 oz Glass Jar	4 C	N

Special Instructions: 3AL for BA8J9; 1AL BA8J7 all vials + VOA encores; recd @ 2.8°C (encores frozen @ 12:00 on 4/14/12)

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900
			[signature]	4/14/12	

Items/Reason	Relinquished By	Date	Received by	Date	Time
	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8J3		
	SIGNATURE [signature]	DATE 4.28.12			

cooler #10

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8J2
L53
EPW11032

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8K2	SD-022-0006-001	B2	1320	CLP TCL Volatiles	Sediment	4/13/2012	11:20	3	Encore	4 C	N
	BA8K2	SD-022-0006-001	B2	1323	Percent Moisture	Sediment	4/13/2012	11:20	1	16 oz Poly Bottle	4 C	N
	BA8K3	SW-022-001	B2	1326	CLP TCL Volatiles	Surface Water	4/13/2012	10:50	3	40 ml VOA	HCl pH<2	N
	BA8K3	SW-022-001	B2	1327	CLP TCL Semivolatiles	Surface Water	4/13/2012	10:50	2	1 liter amber	4 C	N
	BA8K3	SW-022-001	B2	1328	CLP TCL Aroclors	Surface Water	4/13/2012	10:50	2	1 liter amber	4 C	N
	BA8K4	SW-023-001	B1	1331	CLP TCL Volatiles	Surface Water	4/13/2012	14:20	3	40 ml VOA	HCl pH<2	N
	BA8K4	SW-023-001	B1	1332	CLP TCL Semivolatiles	Surface Water	4/13/2012	14:20	2	1 liter amber	4 C	N
	BA8K4	SW-023-001	B1	1333	CLP TCL Aroclors	Surface Water	4/13/2012	14:20	2	1 liter amber	4 C	N
	BA8K5	SD-023-0006-001	B1	1335	CLP TCL Semivolatiles	Sediment	4/13/2012	14:40	1	8 oz Glass Jar	4 C	N
	BA8K5	SD-023-0006-001	B1	1336	CLP TCL Aroclors	Sediment	4/13/2012	14:40	1	8 oz Glass Jar	4 C	N
	BA8K5	SD-023-0006-001	B1	1337	CLP TCL Volatiles	Sediment	4/13/2012	14:40	3	Encore	4 C	N

Special Instructions: all wdst VOA encores recd @ 2.8°C
(encores frozen @ 12:00 on 4/14/12)

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all sample all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900						
				4/14/12							

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8J3
SIGNATURE [signature] DATE 4/25/18

cooler #10

BABJ2
V J3

EPW11032

USEPA
DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 874178390191

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-041312-155136-0011
Cooler #: 6
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8K5	SD-023-0006-001	B1	1340	Percent Moisture	Sediment	4/13/2012	14:40	1	16 oz Poly Bottle	4 C	N
	BA8K6	SD-024-0006-001	B1	1342	CLP TCL Semivolatiles	Sediment	4/13/2012	14:30	1	8 oz Glass Jar	4 C	N
	BA8K6	SD-024-0006-001	B1	1343	CLP TCL Aroclors	Sediment	4/13/2012	14:30	1	8 oz Glass Jar	4 C	N
	BA8K6	SD-024-0006-001	B1	1344	CLP TCL Volatiles	Sediment	4/13/2012	14:30	3	Encore	4 C	N
	BA8K6	SD-024-0006-001	B1	1347	Percent Moisture	Sediment	4/13/2012	14:30	1	16 oz Poly Bottle	4 C	N
	BA8K7	SW-024-001	A1	1350	CLP TCL Volatiles	Surface Water	4/13/2012	14:15	3	40 ml VOA	HCl pH<2	N
	BA8K7	SW-024-001	A1	1351	CLP TCL Semivolatiles	Surface Water	4/13/2012	14:15	2	1 liter amber	4 C	N
	BA8K7	SW-024-001	A1	1352	CLP TCL Aroclors	Surface Water	4/13/2012	14:15	2	1 liter amber	4 C	N

Original Sample

Joel Petty

Special Instructions: all vials + VOA encores rec'd @ 2.8°C
(encores frozen @ 12:00 on 4/14/12)

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/13/12	1900		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BABJ3		
			[illegible]	4/14/12			SIGNATURE [illegible]	DATE 4/25/12			

Page 1 of 3

USEPA
DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: 874178390180

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

~~BOP~~ 4-17-19
BA865
BA8J2
EPW11032

No: 2-041612-154604-0012
Cooler #: 3
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8K8	SD-025-0006-001	GSR-MID-2	1354	CLP TCL Semivolatiles	Sediment	4/16/2012	11:30	1	8 oz Glass Jar	4 C	N
	BA8K8	SD-025-0006-001	GSR-MID-2	1355	CLP TCL Aroclors	Sediment	4/16/2012	11:30	1	8 oz Glass Jar	4 C	N
	BA8K8	SD-025-0006-001	GSR-MID-2	1356	CLP TCL Volatiles	Sediment	4/16/2012	11:30	3	Encore	4 C	N
	BA8K8	SD-025-0006-001	GSR-MID-2	1359	Percent Moisture	Sediment	4/16/2012	11:30	1	16 oz Poly Bottle	4 C	N
	BA8K9	SW-025-001	GSR-MID-2	1362	CLP TCL Volatiles	Surface Water	4/16/2012	10:20	3	40 ml VOA	HCl pH<2	N
	BA8K9	SW-025-001	GSR-MID-2	1363	CLP TCL Semivolatiles	Surface Water	4/16/2012	10:20	2	1 liter amber	4 C	N
	BA8K9	SW-025-001	GSR-MID-2	1364	CLP TCL Aroclors	Surface Water	4/16/2012	10:20	2	1 liter amber	4 C	N
	BA8L0	PW-025-06-001	GSR-MID-2	1367	CLP TCL Volatiles	Pore Water	4/16/2012	10:45	3	40 ml VOA	HCl pH<2	N
	BA8L0	PW-025-06-001	GSR-MID-2	1368	CLP TCL Semivolatiles	Pore Water	4/16/2012	10:45	2	1 liter amber	4 C	N
	BA8L0	PW-025-06-001	GSR-MID-2	1369	CLP TCL Aroclors	Pore Water	4/16/2012	10:45	2	1 liter amber	4 C	N
	BA8L1	PW-025-18-001	GSR-MID-2	1370	CLP TCL Volatiles	Pore Water	4/16/2012	11:20	3	40 ml VOA	HCl pH<2	N

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA865

Special Instructions:

SIGNATURE [signature] DATE 4-25-12 2.8 °C IR GUN S00015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/16/12	Fed Ex	4/16/12	1830				Joan Purdie	4-17-12	935

Page 2 of 3

USEPA
DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: 874178390180

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
BA8J2
BPW11032

No: 2-041612-154604-0012
Cooler #: 3
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8L2	TB-041612	Trip Blank	1371	CLP TCL Volatiles	Deionized Water	4/13/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8L3	RB-041612	Rinsate Blank	1374	CLP TCL Volatiles	Deionized Water	4/16/2012	11:45	3	40 ml VOA	HCl pH<2	N
	BA8L3	RB-041612	Rinsate Blank	1375	CLP TCL Semivolatiles	Deionized Water	4/16/2012	11:45	2	1 liter amber	4 C	N
	BA8L3	RB-041612	Rinsate Blank	1376	CLP TCL Aroclors	Deionized Water	4/16/2012	11:45	2	1 liter amber	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1378	CLP TCL Semivolatiles	Sediment	4/16/2012	13:40	1	8 oz Glass Jar	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1379	CLP TCL Aroclors	Sediment	4/16/2012	13:40	1	8 oz Glass Jar	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1380	CLP TCL Volatiles	Sediment	4/16/2012	13:40	3	Encore	4 C	N
	BA8L4	SD-026-0006-001	GSR-BKG-1	1383	Percent Moisture	Sediment	4/16/2012	13:40	1	16 oz Poly Bottle	4 C	N
	BA8L5	SD-027-0006-001	GSR-BKG-2	1385	CLP TCL Semivolatiles	Sediment	4/16/2012	14:25	1	8 oz Glass Jar	4 C	N
	BA8L5	SD-027-0006-001	GSR-BKG-2	1386	CLP TCL Aroclors	Sediment	4/16/2012	14:25	1	8 oz Glass Jar	4 C	N
	BA8L5	SD-027-0006-001	GSR-BKG-2	1387	CLP TCL Volatiles	Sediment	4/16/2012	14:25	3	Encore	4 C	N

Special Instructions:

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8G5
SIGNATURE J. Pardie DATE 4-25-12 2.8°C IRGUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/16/12	Fed Ex	4/16/12	1830				Joan Pardie	4-17-12	935

Page 3 of 3

USEPA
DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: 874178390180

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8G5
BA8J2
EPW11032

No: 2-041612-154604-0012
Cooler #: 3
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8L5	SD-027-0006-001	GSR-BKG-2	1390	Percent Moisture	Sediment	4/16/2012	14:25	1	16 oz Poly Bottle	4 C SD Original sample	
	BA8L6	SW-026-001	GSR-BKG-1	1393	CLP TCL Volatiles	Surface Water	4/16/2012	13:25	3	40 ml VOA	HCl pH<2	N
	BA8L6	SW-026-001	GSR-BKG-1	1394	CLP TCL Semivolatiles	Surface Water	4/16/2012	13:25	2	1 liter amber	4 C	N
	BA8L6	SW-026-001	GSR-BKG-1	1395	CLP TCL Aroclors	Surface Water	4/16/2012	13:25	2	1 liter amber 1-Al rec. broken 4/17/12	4 C	N
	BA8L7	SW-027-001	GSR-BKG-2	1398	CLP TCL Volatiles	Surface Water	4/16/2012	14:10	3	40 ml VOA	HCl pH<2	N
	BA8L7	SW-027-001	GSR-BKG-2	1399	CLP TCL Semivolatiles	Surface Water	4/16/2012	14:10	2	1 liter amber	4 C	N
	BA8L7	SW-027-001	GSR-BKG-2	1400	CLP TCL Aroclors	Surface Water	4/16/2012	14:10	2	1 liter amber	4 C SD Original sample	N

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8G5
SIGNATURE J Purdie DATE 4/25/12

Joel Petty

Special Instructions: 2.8 oc IRGUN SW0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/16/12	Fed Ex	4/16/12	1830				Joel Purdie	4/17/12	935

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-01

Sample wt/vol: 3.16 (g/mL) g Lab File ID: 1204060-0191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 52.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	17	U
74-87-3	Chloromethane	17	U
75-01-4	Vinyl chloride	17	U
74-83-9	Bromomethane	17	U
75-00-3	Chloroethane	17	U
75-69-4	Trichlorofluoromethane	17	U
75-35-4	1,1-Dichloroethene	17	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	17	U
67-64-1	Acetone	150	
75-15-0	Carbon disulfide	17	U
79-20-9	Methyl acetate	17	U
75-09-2	Methylene chloride	2.9	JB
156-60-5	trans-1,2-Dichloroethene	17	U
1634-04-4	Methyl tert-butyl ether	17	U
75-34-3	1,1-Dichloroethane	17	U
156-59-2	cis-1,2-Dichloroethene	17	U
78-93-3	2-Butanone	52	
74-97-5	Bromochloromethane	17	U
67-66-3	Chloroform	17	U
71-55-6	1,1,1-Ttichloroethane	17	U
110-82-7	Cyclohexane	17	U
56-23-5	Carbon tetrachloride	17	U
71-43-2	Benzene	17	U
107-06-2	1,2-Dichloroethane	17	U
123-91-1	1,4-Dioxane	330	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8J2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-01

Sample wt/vol: 3.16 (g/mL) g Lab File ID: 1204060-0191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 52.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	17	U
108-87-2	Methylcyclohexane	17	U
78-87-5	1,2-Dichloropropane	17	U
75-27-4	Bromodichloromethane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
108-10-1	4-Methyl-2-pentanone	33	U
108-88-3	Toluene	17	U
10061-02-6	trans-1,3-Dichloropropene	17	U
79-00-5	1,1,2-Trichloroethane	17	U
127-18-4	Tetrachloroethene	17	U
591-78-6	2-Hexanone	33	U
124-48-1	Dibromochloromethane	17	U
106-93-4	1,2-Dibromoethane	17	U
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
95-47-6	o-Xylene	17	U
179601-23-1	m,p-Xylene	17	U
100-42-5	Styrene	17	U
75-25-2	Bromoform	17	U
98-82-8	Isopropylbenzene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
541-73-1	1,3-Dichlorobenzene	17	U
106-46-7	1,4-Dichlorobenzene	17	U
95-50-1	1,2-Dichlorobenzene	17	U
96-12-8	1,2-Dibromo-3-chloropropane	17	U
120-82-1	1,2,4-Trichlorobenzene	17	U
87-61-6	1,2,3-Trichlorobenzene	17	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BA8J2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-01

Sample wt/vol: 3.16 (g/mL) g Lab File ID: 1204060-0191.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 52.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-02

Sample wt/vol: 6.17 (g/mL) g Lab File ID: 1204060-0291.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 12.6 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	4.6	U
74-87-3	Chloromethane	4.6	U
75-01-4	Vinyl chloride	4.6	U
74-83-9	Bromomethane	4.6	U
75-00-3	Chloroethane	4.6	U
75-69-4	Trichlorofluoromethane	4.6	U
75-35-4	1,1-Dichloroethene	4.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U
67-64-1	Acetone	9.7	
75-15-0	Carbon disulfide	4.6	U
79-20-9	Methyl acetate	4.6	U
75-09-2	Methylene chloride	0.81	JB
156-60-5	trans-1,2-Dichloroethene	4.6	U
1634-04-4	Methyl tert-butyl ether	4.6	U
75-34-3	1,1-Dichloroethane	4.6	U
156-59-2	cis-1,2-Dichloroethene	4.6	U
78-93-3	2-Butanone	9.3	U
74-97-5	Bromochloromethane	4.6	U
67-66-3	Chloroform	4.6	U
71-55-6	1,1,1-Trichloroethane	4.6	U
110-82-7	Cyclohexane	4.6	U
56-23-5	Carbon tetrachloride	4.6	U
71-43-2	Benzene	4.6	U
107-06-2	1,2-Dichloroethane	4.6	U
123-91-1	1,4-Dioxane	93	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-02

Sample wt/vol: 6.17 (g/mL) g Lab File ID: 1204060-0291.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 12.6 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	4.6	U
108-87-2	Methylcyclohexane	4.6	U
78-87-5	1,2-Dichloropropane	4.6	U
75-27-4	Bromodichloromethane	4.6	U
10061-01-5	cis-1,3-Dichloropropene	4.6	U
108-10-1	4-Methyl-2-pentanone	9.3	U
108-88-3	Toluene	4.6	U
10061-02-6	trans-1,3-Dichloropropene	4.6	U
79-00-5	1,1,2-Trichloroethane	4.6	U
127-18-4	Tetrachloroethene	0.41	J
591-78-6	2-Hexanone	9.3	U
124-48-1	Dibromochloromethane	4.6	U
106-93-4	1,2-Dibromoethane	4.6	U
108-90-7	Chlorobenzene	4.6	U
100-41-4	Ethylbenzene	4.6	U
95-47-6	o-Xylene	4.6	U
179601-23-1	m,p-Xylene	4.6	U
100-42-5	Styrene	4.6	U
75-25-2	Bromoform	4.6	U
98-82-8	Isopropylbenzene	4.6	U
79-34-5	1,1,2,2-Tetrachloroethane	4.6	U
541-73-1	1,3-Dichlorobenzene	4.6	U
106-46-7	1,4-Dichlorobenzene	4.6	U
95-50-1	1,2-Dichlorobenzene	4.6	U
96-12-8	1,2-Dibromo-3-chloropropane	4.6	U
120-82-1	1,2,4-Trichlorobenzene	4.6	U
87-61-6	1,2,3-Trichlorobenzene	4.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-02

Sample wt/vol: 6.17 (g/mL) g Lab File ID: 1204060-0291.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 12.6 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-03

Sample wt/vol: 5.43 (g/mL) g Lab File ID: 1204060-0391.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 14.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	5.4	U
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	13	
75-15-0	Carbon disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	1.0	JB
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-03

Sample wt/vol: 5.43 (g/mL) g Lab File ID: 1204060-0391.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 14.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.4	U
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	0.84	J
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
95-47-6	o-Xylene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-03

Sample wt/vol: 5.43 (g/mL) g Lab File ID: 1204060-0391.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 14.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	80-56-8	.alpha.-Pinene	13.67	14	JN
02	18172-67-3	Bicyclo[3.1.1]heptane, 6,6-d	14.19	7.0	JN
03	13466-78-9	3-Carene	14.40	14	JN
04	99-87-6	Benzene, 1-methyl-4-(1-methy	14.57	18	JN
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-04

Sample wt/vol: 5.42 (g/mL) g Lab File ID: 1204060-0491.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 33.1 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	6.9	U
74-87-3	Chloromethane	6.9	U
75-01-4	Vinyl chloride	6.9	U
74-83-9	Bromomethane	6.9	U
75-00-3	Chloroethane	6.9	U
75-69-4	Trichlorofluoromethane	6.9	U
75-35-4	1,1-Dichloroethene	6.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.9	U
67-64-1	Acetone	21	
75-15-0	Carbon disulfide	1.3	J
79-20-9	Methyl acetate	6.9	U
75-09-2	Methylene chloride	1.4	JB
156-60-5	trans-1,2-Dichloroethene	6.9	U
1634-04-4	Methyl tert-butyl ether	6.9	U
75-34-3	1,1-Dichloroethane	6.9	U
156-59-2	cis-1,2-Dichloroethene	6.9	U
78-93-3	2-Butanone	5.9	J
74-97-5	Bromochloromethane	6.9	U
67-66-3	Chloroform	6.9	U
71-55-6	1,1,1-Trichloroethane	6.9	U
110-82-7	Cyclohexane	6.9	U
56-23-5	Carbon tetrachloride	6.9	U
71-43-2	Benzene	6.9	U
107-06-2	1,2-Dichloroethane	6.9	U
123-91-1	1,4-Dioxane	140	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-04

Sample wt/vol: 5.42 (g/mL) g Lab File ID: 1204060-0491.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 33.1 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	6.9	U
108-87-2	Methylcyclohexane	6.9	U
78-87-5	1,2-Dichloropropane	6.9	U
75-27-4	Bromodichloromethane	6.9	U
10061-01-5	cis-1,3-Dichloropropene	6.9	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	0.64	J
10061-02-6	trans-1,3-Dichloropropene	6.9	U
79-00-5	1,1,2-Trichloroethane	6.9	U
127-18-4	Tetrachloroethene	6.9	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	6.9	U
106-93-4	1,2-Dibromoethane	6.9	U
108-90-7	Chlorobenzene	6.9	U
100-41-4	Ethylbenzene	6.9	U
95-47-6	o-Xylene	6.9	U
179601-23-1	m,p-Xylene	6.9	U
100-42-5	Styrene	6.9	U
75-25-2	Bromoform	6.9	U
98-82-8	Isopropylbenzene	6.9	U
79-34-5	1,1,2,2-Tetrachloroethane	6.9	U
541-73-1	1,3-Dichlorobenzene	6.9	U
106-46-7	1,4-Dichlorobenzene	6.9	U
95-50-1	1,2-Dichlorobenzene	6.9	U
96-12-8	1,2-Dibromo-3-chloropropane	6.9	U
120-82-1	1,2,4-Trichlorobenzene	6.9	U
87-61-6	1,2,3-Trichlorobenzene	6.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-04

Sample wt/vol: 5.42 (g/mL) g Lab File ID: 1204060-0491.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 33.1 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-05

Sample wt/vol: 5.13 (g/mL) g Lab File ID: 1204060-0591.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 23.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	6.4	U
74-87-3	Chloromethane	6.4	U
75-01-4	Vinyl chloride	6.4	U
74-83-9	Bromomethane	6.4	U
75-00-3	Chloroethane	6.4	U
75-69-4	Trichlorofluoromethane	6.4	U
75-35-4	1,1-Dichloroethene	6.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.4	U
67-64-1	Acetone	12	J
75-15-0	Carbon disulfide	6.4	U
79-20-9	Methyl acetate	6.4	U
75-09-2	Methylene chloride	1.4	JB
156-60-5	trans-1,2-Dichloroethene	6.4	U
1634-04-4	Methyl tert-butyl ether	6.4	U
75-34-3	1,1-Dichloroethane	6.4	U
156-59-2	cis-1,2-Dichloroethene	3.9	J
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.4	U
67-66-3	Chloroform	6.4	U
71-55-6	1,1,1-Trichloroethane	6.4	U
110-82-7	Cyclohexane	6.4	U
56-23-5	Carbon tetrachloride	6.4	U
71-43-2	Benzene	6.4	U
107-06-2	1,2-Dichloroethane	6.4	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-05

Sample wt/vol: 5.13 (g/mL) g Lab File ID: 1204060-0591.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 23.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	6.3	J
108-87-2	Methylcyclohexane	6.4	U
78-87-5	1,2-Dichloropropane	6.4	U
75-27-4	Bromodichloromethane	6.4	U
10061-01-5	cis-1,3-Dichloropropene	6.4	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.4	U
10061-02-6	trans-1,3-Dichloropropene	6.4	U
79-00-5	1,1,2-Trichloroethane	6.4	U
127-18-4	Tetrachloroethene	7.2	
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.4	U
106-93-4	1,2-Dibromoethane	6.4	U
108-90-7	Chlorobenzene	2.2	J
100-41-4	Ethylbenzene	6.4	U
95-47-6	o-Xylene	6.4	U
179601-23-1	m,p-Xylene	6.4	U
100-42-5	Styrene	6.4	U
75-25-2	Bromoform	6.4	U
98-82-8	Isopropylbenzene	6.4	U
79-34-5	1,1,2,2-Tetrachloroethane	6.4	U
541-73-1	1,3-Dichlorobenzene	6.4	U
106-46-7	1,4-Dichlorobenzene	6.4	U
95-50-1	1,2-Dichlorobenzene	6.4	U
96-12-8	1,2-Dibromo-3-chloropropane	6.4	U
120-82-1	1,2,4-Trichlorobenzene	6.4	U
87-61-6	1,2,3-Trichlorobenzene	6.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-05

Sample wt/vol: 5.13 (g/mL) g Lab File ID: 1204060-0591.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 23.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-06

Sample wt/vol: 4.26 (g/mL) g Lab File ID: 1204060-06R91.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 63.8 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	16	U
74-87-3	Chloromethane	16	U
75-01-4	Vinyl chloride	16	U
74-83-9	Bromomethane	16	U
75-00-3	Chloroethane	16	U
75-69-4	Trichlorofluoromethane	16	U
75-35-4	1,1-Dichloroethene	16	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	16	U
67-64-1	Acetone	81	
75-15-0	Carbon disulfide	16	U
79-20-9	Methyl acetate	16	U
75-09-2	Methylene chloride	7.0	JB
156-60-5	trans-1,2-Dichloroethene	16	U
1634-04-4	Methyl tert-butyl ether	16	U
75-34-3	1,1-Dichloroethane	16	U
156-59-2	cis-1,2-Dichloroethene	16	U
78-93-3	2-Butanone	29	J
74-97-5	Bromochloromethane	16	U
67-66-3	Chloroform	16	U
71-55-6	1,1,1-Trichloroethane	16	U
110-82-7	Cyclohexane	16	U
56-23-5	Carbon tetrachloride	16	U
71-43-2	Benzene	16	U
107-06-2	1,2-Dichloroethane	16	U
123-91-1	1,4-Dioxane	320	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-06

Sample wt/vol: 4.26 (g/mL) g Lab File ID: 1204060-06R91.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 63.8 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	16	U
108-87-2	Methylcyclohexane	16	U
78-87-5	1,2-Dichloropropane	16	U
75-27-4	Bromodichloromethane	16	U
10061-01-5	cis-1,3-Dichloropropene	16	U
108-10-1	4-Methyl-2-pentanone	32	U
108-88-3	Toluene	2.0	J
10061-02-6	trans-1,3-Dichloropropene	16	U
79-00-5	1,1,2-Trichloroethane	16	U
127-18-4	Tetrachloroethene	16	U
591-78-6	2-Hexanone	32	U
124-48-1	Dibromochloromethane	16	U
106-93-4	1,2-Dibromoethane	16	U
108-90-7	Chlorobenzene	16	U
100-41-4	Ethylbenzene	16	U
95-47-6	o-Xylene	16	U
179601-23-1	m,p-Xylene	16	U
100-42-5	Styrene	16	U
75-25-2	Bromoform	16	U
98-82-8	Isopropylbenzene	16	U
79-34-5	1,1,2,2-Tetrachloroethane	16	U
541-73-1	1,3-Dichlorobenzene	16	U
106-46-7	1,4-Dichlorobenzene	16	U
95-50-1	1,2-Dichlorobenzene	16	U
96-12-8	1,2-Dibromo-3-chloropropane	16	U
120-82-1	1,2,4-Trichlorobenzene	16	U
87-61-6	1,2,3-Trichlorobenzene	16	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-06

Sample wt/vol: 4.26 (g/mL) g Lab File ID: 1204060-06R91.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/14/2012

% Moisture: not dec. 63.8 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-08

Sample wt/vol: 3.30 (g/mL) g Lab File ID: 1204060-0891.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 73.7 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	29	U
74-87-3	Chloromethane	29	U
75-01-4	Vinyl chloride	29	U
74-83-9	Bromomethane	29	U
75-00-3	Chloroethane	29	U
75-69-4	Trichlorofluoromethane	29	U
75-35-4	1,1-Dichloroethene	29	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	29	U
67-64-1	Acetone	220	
75-15-0	Carbon disulfide	29	U
79-20-9	Methyl acetate	29	U
75-09-2	Methylene chloride	13	JB
156-60-5	trans-1,2-Dichloroethene	29	U
1634-04-4	Methyl tert-butyl ether	29	U
75-34-3	1,1-Dichloroethane	29	U
156-59-2	cis-1,2-Dichloroethene	29	U
78-93-3	2-Butanone	60	
74-97-5	Bromochloromethane	29	U
67-66-3	Chloroform	29	U
71-55-6	1,1,1-Trichloroethane	29	U
110-82-7	Cyclohexane	29	U
56-23-5	Carbon tetrachloride	29	U
71-43-2	Benzene	29	U
107-06-2	1,2-Dichloroethane	29	U
123-91-1	1,4-Dioxane	580	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8K8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-08

Sample wt/vol: 3.30 (g/mL) g Lab File ID: 1204060-0891.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 73.7 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	29	U
108-87-2	Methylcyclohexane	29	U
78-87-5	1,2-Dichloropropane	29	U
75-27-4	Bromodichloromethane	29	U
10061-01-5	cis-1,3-Dichloropropene	29	U
108-10-1	4-Methyl-2-pentanone	58	U
108-88-3	Toluene	3.6	J
10061-02-6	trans-1,3-Dichloropropene	29	U
79-00-5	1,1,2-Trichloroethane	29	U
127-18-4	Tetrachloroethene	29	U
591-78-6	2-Hexanone	58	U
124-48-1	Dibromochloromethane	29	U
106-93-4	1,2-Dibromoethane	29	U
108-90-7	Chlorobenzene	42	
100-41-4	Ethylbenzene	29	U
95-47-6	o-Xylene	29	U
179601-23-1	m,p-Xylene	29	U
100-42-5	Styrene	29	U
75-25-2	Bromoform	29	U
98-82-8	Isopropylbenzene	17	J
79-34-5	1,1,2,2-Tetrachloroethane	29	U
541-73-1	1,3-Dichlorobenzene	29	J
106-46-7	1,4-Dichlorobenzene	22	J
95-50-1	1,2-Dichlorobenzene	14	J
96-12-8	1,2-Dibromo-3-chloropropane	29	U
120-82-1	1,2,4-Trichlorobenzene	29	U
87-61-6	1,2,3-Trichlorobenzene	29	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8K8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-08

Sample wt/vol: 3.30 (g/mL) g Lab File ID: 1204060-0891.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 73.7 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	14.47	29	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-09

Sample wt/vol: 3.16 (g/mL) g Lab File ID: 1204060-0991.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 75.4 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	32	U
74-87-3	Chloromethane	32	U
75-01-4	Vinyl chloride	32	U
74-83-9	Bromomethane	32	U
75-00-3	Chloroethane	32	U
75-69-4	Trichlorofluoromethane	32	U
75-35-4	1,1-Dichloroethene	32	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	32	U
67-64-1	Acetone	110	
75-15-0	Carbon disulfide	32	U
79-20-9	Methyl acetate	32	U
75-09-2	Methylene chloride	14	JB
156-60-5	trans-1,2-Dichloroethene	32	U
1634-04-4	Methyl tert-butyl ether	32	U
75-34-3	1,1-Dichloroethane	32	U
156-59-2	cis-1,2-Dichloroethene	32	U
78-93-3	2-Butanone	34	J
74-97-5	Bromochloromethane	32	U
67-66-3	Chloroform	32	U
71-55-6	1,1,1-Trichloroethane	32	U
110-82-7	Cyclohexane	32	U
56-23-5	Carbon tetrachloride	32	U
71-43-2	Benzene	32	U
107-06-2	1,2-Dichloroethane	32	U
123-91-1	1,4-Dioxane	640	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-09

Sample wt/vol: 3.16 (g/mL) g Lab File ID: 1204060-0991.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 75.4 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	32	U
108-87-2	Methylcyclohexane	32	U
78-87-5	1,2-Dichloropropane	32	U
75-27-4	Bromodichloromethane	32	U
10061-01-5	cis-1,3-Dichloropropene	32	U
108-10-1	4-Methyl-2-pentanone	64	U
108-88-3	Toluene	3.1	J
10061-02-6	trans-1,3-Dichloropropene	32	U
79-00-5	1,1,2-Trichloroethane	32	U
127-18-4	Tetrachloroethene	32	U
591-78-6	2-Hexanone	64	U
124-48-1	Dibromochloromethane	32	U
106-93-4	1,2-Dibromoethane	32	U
108-90-7	Chlorobenzene	32	U
100-41-4	Ethylbenzene	32	U
95-47-6	o-Xylene	32	U
179601-23-1	m,p-Xylene	32	U
100-42-5	Styrene	32	U
75-25-2	Bromoform	32	U
98-82-8	Isopropylbenzene	32	U
79-34-5	1,1,2,2-Tetrachloroethane	32	U
541-73-1	1,3-Dichlorobenzene	32	U
106-46-7	1,4-Dichlorobenzene	32	U
95-50-1	1,2-Dichlorobenzene	32	U
96-12-8	1,2-Dibromo-3-chloropropane	32	U
120-82-1	1,2,4-Trichlorobenzene	32	U
87-61-6	1,2,3-Trichlorobenzene	32	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-09

Sample wt/vol: 3.16 (g/mL) g Lab File ID: 1204060-0991.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 75.4 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-10

Sample wt/vol: 3.79 (g/mL) g Lab File ID: 1204060-1091.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 70.1 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	22	U
74-87-3	Chloromethane	22	U
75-01-4	Vinyl chloride	22	U
74-83-9	Bromomethane	22	U
75-00-3	Chloroethane	22	U
75-69-4	Trichlorofluoromethane	22	U
75-35-4	1,1-Dichloroethene	22	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	22	U
67-64-1	Acetone	71	
75-15-0	Carbon disulfide	22	U
79-20-9	Methyl acetate	22	U
75-09-2	Methylene chloride	8.4	JB
156-60-5	trans-1,2-Dichloroethene	22	U
1634-04-4	Methyl tert-butyl ether	22	U
75-34-3	1,1-Dichloroethane	22	U
156-59-2	cis-1,2-Dichloroethene	22	U
78-93-3	2-Butanone	37	J
74-97-5	Bromochloromethane	22	U
67-66-3	Chloroform	22	U
71-55-6	1,1,1-Trichloroethane	22	U
110-82-7	Cyclohexane	22	U
56-23-5	Carbon tetrachloride	22	U
71-43-2	Benzene	22	U
107-06-2	1,2-Dichloroethane	22	U
123-91-1	1,4-Dioxane	440	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8L5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-10

Sample wt/vol: 3.79 (g/mL) g Lab File ID: 1204060-1091.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 70.1 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	22	U
108-87-2	Methylcyclohexane	22	U
78-87-5	1,2-Dichloropropane	22	U
75-27-4	Bromodichloromethane	22	U
10061-01-5	cis-1,3-Dichloropropene	22	U
108-10-1	4-Methyl-2-pentanone	44	U
108-88-3	Toluene	2.4	J
10061-02-6	trans-1,3-Dichloropropene	22	U
79-00-5	1,1,2-Trichloroethane	22	U
127-18-4	Tetrachloroethene	22	U
591-78-6	2-Hexanone	44	U
124-48-1	Dibromochloromethane	22	U
106-93-4	1,2-Dibromoethane	22	U
108-90-7	Chlorobenzene	22	U
100-41-4	Ethylbenzene	22	U
95-47-6	o-Xylene	22	U
179601-23-1	m,p-Xylene	22	U
100-42-5	Styrene	22	U
75-25-2	Bromoform	22	U
98-82-8	Isopropylbenzene	22	U
79-34-5	1,1,2,2-Tetrachloroethane	22	U
541-73-1	1,3-Dichlorobenzene	22	U
106-46-7	1,4-Dichlorobenzene	22	U
95-50-1	1,2-Dichlorobenzene	22	U
96-12-8	1,2-Dibromo-3-chloropropane	22	U
120-82-1	1,2,4-Trichlorobenzene	22	U
87-61-6	1,2,3-Trichlorobenzene	22	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8L5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8J2

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204060-10

Sample wt/vol: 3.79 (g/mL) g Lab File ID: 1204060-1091.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. 70.1 Date Analyzed: 04/18/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
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16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

REFERENCE 74

CompuChem

A division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
CASE # 42434
SDG # BA8D7
SOW # SOM01.2
CONTRACT # EPW11032

SAMPLE IDENTIFICATIONS:	**BA8D7**	**BA8D8**	**BA8E9**	**BA8F1**	**BA8F2**
BA8F3	**BA8F4**	**BA8F5**	**BA8F6**	**BA8F7**	**BA8G2**
BA8G4	**BA8G6**	**BA8G8**	**BA8G9**	**BA8H0**	**BA8H1**
BA8H2	**BA8H3**	**BA8H9**	**BA8G9ME**	**BA8H0ME**	**BA8H2ME**
BA8H3ME					

The 20 soil samples listed above were received intact, refrigerated between 1.3°C and 3.2°C, in sealed shipping containers, on April 10, 12, 13 and 14, 2012 with proper documentation. No sample tags were received for the samples for this SDG. In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the samples. The Region does not require sample tags. Soil samples were received in ENCOREs and transferred to closed system VOA vials and placed in the freezer. The Samples were scheduled for the requested analyses of the VOA LOW, SEMI-VOA and Aroclor fractions. The samples were prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Multi-Media, Multi-Concentration Statement of Work (SOW), and Document SOM01.2. All pertinent Quality Assurance Notices are included in the narrative section.

Issue 1: The TR/COC lists the analysis for water samples as VOA, SVOA and ARO; however, per scheduling, the correct analysis for water samples is TVOA, SVOA and ARO.

Resolution 1: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.
Issue 2: The TR/COC does not list a TAT; however, the correct TAT is 14 days.

Resolution 2: In accordance with previous direction from Region 2, the laboratory will proceed with the turnaround time indicated on the Scheduling Notification Form, note the issue in the SDG Narrative, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect turnaround time.

Issue: The lab only received one of the coolers that were expected to be delivered on 4/13, the other coolers were mistakenly sent to another lab. LIBRTY received the transshipped samples on 4/14.

Resolution: Per Region 2, the missing samples were transshipped overnight for Saturday delivery on 4/14 under air bill 7982 8367 7052. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Issue: The laboratory received coolers without temperature blanks; however, the laboratory reported the temperature of the coolers using an IR temperature gun.

Resolution: In accordance with previous direction from Region 2, if the temperature of the cooler is 10°C or lower, the laboratory will note the issue, and the method used to determine the temperature, in the SDG Narrative and proceed with the analysis of the samples.

Volatiles

Analysis holding time requirements were met for all of the samples in this SDG.

The percent moisture values for these samples ranged from 15 to 83 percent.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in all of these twenty samples.

BA8H0 and BA8H3 had suspected carry over. They required a Medium Level Solid analysis.

BA8G9, BA8H0, BA8H2 and BA8H3 were initially analyzed as a Low Level Solid. In this analysis, the on-column amount of target compounds exceeded the instrument's analytical range as defined by the highest concentration level of the Initial Calibration. The samples were reprepared as a Medium Level Solid. The analysis of the Medium Level Solid extract resulted in an on-column amount in dilution criteria range (the upper half of the instrument's analytical range). We have reported and billed for both analyses of BA8G9, BA8H0, BA8H2 and BA8H3.

No Tentatively Identified Compounds (TICs) were found in these twenty samples.

No Total Alkanes were found in these twenty samples.

All of the deuterated monitoring compounds (DMCs) met recovery criteria in the analyses of these samples.

All of the internal standards met response and retention time criteria in the analyses of these samples.

In a response to a Statement of Work Interpretation, the Organic Contract Laboratory Program Office stated that if the Mass Spectral Interpretation Specialist determines a TIC to be a laboratory artifact (including artifacts from the DMC solution), there is no need to report it. However, all TICs not reported due to a Mass Spectral Interpretation Specialist's assessment should be noted in the SDG Narrative. There are laboratory artifacts (including artifacts from the DMC solution) not reported on the Forms 1J. The approximate retention time is as follows:
11.75 min. Laboratory artifact
The peak is present in the standards, blanks, and samples.

Manual integrations were performed on one or more of the process files associated with this SDG. Please see the detailed Manual Integration Summary report that is located in section 6. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blanks and storage blank met all quality control criteria.

No matrix spike/matrix spike duplicate (MS/MSD) samples were requested for the volatile fraction with this SDG.

As per the SOW, an example calculation is attached for Vinyl Chloride-d_3 in sample BA8D7.

I certify that this Sample Data Package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Patricia A. Murphy
Senior Scientist
April 27, 2012

* Cooler #1, 2

USEPA
DateShipped: 4/9/2012
CarrierName: FedEx
AirbillNo: 875094866672

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7
EPW11032

No: 2-040912-162547-0002
Cooler #: 2
Lab: Liberty Analytical Corporation
Case #: 42434

	Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
*		BA8D4	TB-040912	Trip Blank	1005	CLP TCL Volatiles	Deionized Water	4/9/2012	12:30	3	40 ml VOA	HCl pH<2	N
*		BA8D5	SW-001-001	GSR-DST-1	1008	CLP TCL Volatiles	Surface Water	4/9/2012	12:45	3	40 ml VOA	HCl pH<2	N
		BA8D5	SW-001-001	GSR-DST-1	1009	CLP TCL Semivolatiles	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
		BA8D5	SW-001-001	GSR-DST-1	1010	CLP TCL Aroclors	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
*		BA8D6	SW-001-002	GSR-DST-1	1013	CLP TCL Volatiles	Surface Water	4/9/2012	12:45	3	40 ml VOA	HCl pH<2	N
		BA8D6	SW-001-002	GSR-DST-1	1014	CLP TCL Semivolatiles	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
		BA8D6	SW-001-002	GSR-DST-1	1015	CLP TCL Aroclors	Surface Water	4/9/2012	12:45	2	1 liter amber	4 C	N
*		BA8D7	SD-001-0006-001	GSR-DST-1	1017	CLP TCL Semivolatiles	Sediment	4/9/2012	13:40	1	8 oz Glass Jar	4 C	N
*		BA8D7	SD-001-0006-001	GSR-DST-1	1018	CLP TCL Aroclors	Sediment	4/9/2012	13:40	1	8 oz Glass Jar	4 C	N
*		BA8D7	SD-001-0006-001	GSR-DST-1	1019	CLP TCL Volatiles	Sediment	4/9/2012	13:40	3	Encore	4 C	N
*		BA8D7	SD-001-0006-001	GSR-DST-1	1027	Percent Moisture	Sediment	4/9/2012	13:40	1	4 oz Glass Jar	4 C	N

Special Instructions: recd @ 1.7°C, 1.6° IR Gun SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/9/12	Fed Ex	4/9/12	1900		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D4		
				4/10/12	0933		SIGNATURE		DATE 4.24.12		

Cooler #1

USEPA
DateShipped: 4/9/2012
CarrierName: FedEx
AirbillNo: 875094866672

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
EPW11032

No: 2-040912-162547-0002
Cooler #: 2
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8D8	SD-001-0006-002	GSR-DST-1	1023	CLP TCL Semivolatiles	Sediment	4/9/2012	13:40	1	8 oz Glass Jar	4 C	N
	BA8D8	SD-001-0006-002	GSR-DST-1	1024	CLP TCL Aroclors	Sediment	4/9/2012	13:40	1	8 oz Glass Jar	4 C	N
	BA8D8	SD-001-0006-002	GSR-DST-1	1025	CLP TCL Volatiles	Sediment	4/9/2012	13:40	3	Encore	4 C	N
	BA8D8	SD-001-0006-002	GSR-DST-1	1026	Percent Moisture	Sediment	4/9/2012	13:40	1	4 oz Glass Jar	4 C	N

Joel Petty

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D4 7 4-26-12
SIGNATURE [signature] DATE 4-24-12

Special Instructions: rec'd @ 1.7°C, [signature] 4.10.12 IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/9/12	Fed Ex	4/9/12	1900						
			[signature]	4/10/12	0933						

cooler #2 T

20

USEPA
DateShipped: 4/10/2012
CarrierName: FedEx
AirbillNo: 874178390158

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-041012-142316-0004
Cooler #: 2
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8D9	TB-041012	Trip Blank	1028	CLP TCL Volatiles	Deionized Water	4/10/2012	08:30	3	40 ml VOA	HCl pH<2	N
	BA8E0	SW-002-001	GSR-DST-2	1031	CLP TCL Volatiles	Surface Water	4/10/2012	10:30	3	40 ml VOA	HCl pH<2	N
	BA8E0	SW-002-001	GSR-DST-2	1032	CLP TCL Semivolatiles	Surface Water	4/10/2012	10:30	2	1 liter amber	4 C	N
	BA8E0	SW-002-001	GSR-DST-2	1033	CLP TCL Aroclors	Surface Water	4/10/2012	10:30	6	1 liter amber	4 C	Y
	BA8E9	SD-002-0006-001	GSR-DST-2	1075	CLP TCL Semivolatiles	Sediment	4/10/2012	11:00	1	8 oz Glass Jar	4 C	N
	BA8E9	SD-002-0006-001	GSR-DST-2	1076	CLP TCL Aroclors	Sediment	4/10/2012	11:00	2	8 oz Glass Jar	4 C	Y
	BA8E9	SD-002-0006-001	GSR-DST-2	1077	CLP TCL Volatiles	Sediment	4/10/2012	11:00	3	Encore	4 C	N
	BA8E9	SD-002-0006-001	GSR-DST-2	1080	Percent Moisture	Sediment	4/10/2012	11:00	1	4 oz Glass Jar	4 C	N

Joel Petty

Special Instructions: (6 amber liters of BA8E0) rec'd @ 1.9 °C, 2.3°C IR GUN: SN 0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/10/12	FedEx	4/10/12	1600		COPY		BA8D4		
			Kelly Dea	4/11/12	0920		ORIGINAL DOCUMENTS INCLUDED IN CSF				
							SIGNATURE		DATE 4/24/12		

Cooler #7

USEPA
DateShipped: 4/11/2012
CarrierName: FedEx
AirbillNo: 874178390170

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
EPW11032

No: 2-041112-173938-0006
Cooler #: 4
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8F2	SD-004-0006-001	F5	1092	CLP TCL Volatiles	Sediment	4/11/2012	12:20	3	Encore	4 C	N
	BA8F2	SD-004-0006-001	F5	1095	Percent Moisture	Sediment	4/11/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8F3	SD-005-0006-001	F4	1097	CLP TCL Semivolatiles	Sediment	4/11/2012	14:50	1	8 oz Glass Jar	4 C	N
	BA8F3	SD-005-0006-001	F4	1098	CLP TCL Aroclors	Sediment	4/11/2012	14:50	1	8 oz Glass Jar	4 C	N
	BA8F3	SD-005-0006-001	F4	1099	CLP TCL Volatiles	Sediment	4/11/2012	14:50	3	Encore	4 C	N
	BA8F3	SD-005-0006-001	F4	1102	Percent Moisture	Sediment	4/11/2012	14:50	1	4 oz Glass Jar	4 C	N
	BA8F4	SD-006-0006-001	F3	1104	CLP TCL Semivolatiles	Sediment	4/11/2012	16:25	1	8 oz Glass Jar	4 C	N
	BA8F4	SD-006-0006-001	F3	1105	CLP TCL Aroclors	Sediment	4/11/2012	16:25	1	8 oz Glass Jar	4 C	N
	BA8F4	SD-006-0006-001	F3	1106	CLP TCL Volatiles	Sediment	4/11/2012	16:25	3	Encore	4 C	N
	BA8F4	SD-006-0006-001	F3	1109	Percent Moisture	Sediment	4/11/2012	16:25	1	4 oz Glass Jar	4 C	N
	BA8F5	SD-007-0006-001	F2	1111	CLP TCL Semivolatiles	Sediment	4/11/2012	17:45	1	8 oz Glass Jar	4 C	N

Special Instructions: rec'd @ 3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/11/12	Fed Ex	4/11/12	2030		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7				
			[illegible]	4/12/12	926		SIGNATURE [signature] DATE 4/24/12				

cooler #7

USEPA
DateShipped: 4/11/2012
CarrierName: FedEx
AirbillNo: 874178390170

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
EPW11032

No: 2-041112-173938-0006
Cooler #: 4
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
*	BA8F5	SD-007-0006-001	F2	1112	CLP TCL Aroclors	Sediment	4/11/2012	17:45	1	8 oz Glass Jar	4 C	N
*	BA8F5	SD-007-0006-001	F2	1113	CLP TCL Volatiles	Sediment	4/11/2012	17:45	3	Encore	4 C	N
*	BA8F5	SD-007-0006-001	F2	1116	Percent Moisture	Sediment	4/11/2012	17:45	1	4 oz Glass Jar	4 C	N

Joel Petty

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7
SIGNATURE [signature] DATE 4-24-12

Special Instructions: recd @ 3.2°C IRGUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analysis	Joel Petty	4/11/12	Fed Ex	4/11/12	2030						
			[signature]	4/12/12	926						

Cooler #7

USEPA
DateShipped: 4/11/2012
CarrierName: FedEx
AirbillNo: 874178390170

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BABD4 & BABD7 4-19-12

EPW11032

No: 2-041112-173938-0006
Cooler #: 4
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E4	SW-007-001	F2	1053	CLP TCL Aroclors	Surface Water	4/11/2012	18:00	2	1 liter amber	4 C	N
	BA8E8	SW-004-001	F5	1071	CLP TCL Volatiles	Surface Water	4/11/2012	11:50	3	40 ml VOA	HCl pH<2	N
	BA8E8	SW-004-001	F5	1072	CLP TCL Semivolatiles	Surface Water	4/11/2012	11:50	2	1 liter amber	4 C	N
	BA8E8	SW-004-001	F5	1073	CLP TCL Aroclors	Surface Water	4/11/2012	11:50	2	1 liter amber	4 C	N
	BA8F0	TB-041112	Trip Blank	1081	CLP TCL Volatiles	Deionized Water	4/11/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1083	CLP TCL Semivolatiles	Sediment	4/11/2012	11:15	1	8 oz Glass Jar	4 C	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1084	CLP TCL Aroclors	Sediment	4/11/2012	11:15	1	8 oz Glass Jar	4 C	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1085	CLP TCL Volatiles	Sediment	4/11/2012	11:15	3	Encore	4 C	N
	BA8F1	SD-003-0006-001	GSR-DST-3	1088	Percent Moisture	Sediment	4/11/2012	11:15	1	4 oz Glass Jar	4 C	N
	BA8F2	SD-004-0006-001	F5	1090	CLP TCL Semivolatiles	Sediment	4/11/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8F2	SD-004-0006-001	F5	1091	CLP TCL Aroclors	Sediment	4/11/2012	12:20	1	8 oz Glass Jar	4 C	N

Special Instructions: rec'd @ 3.2°C IR Gun SWEALS

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/11/12	FedEx	4/11/12	2030
			Jay Doe	4/12/12	926

Items/Reason	Relinquished By	Date	Received by	Date	Time
COPY ORIGINAL DOCUMENTS INCLUDED IN COC			BABD4		
	SIGNATURE J. Purdie	DATE 4-20-12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BBAG5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G6	SD-012-0006-001	C2	1172	CLP TCL Semivolatiles	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1173	CLP TCL Aroclors	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1174	CLP TCL Volatiles	Sediment	4/12/2012	12:55	3	Encore	4 C	N
	BA8G6	SD-012-0006-001	C2	1177	Percent Moisture	Sediment	4/12/2012	12:55	1	4 oz Glass Jar	4 C	N
	BA8G7	SW-013-001	E2	1180	CLP TCL Volatiles	Surface Water	4/12/2012	12:40	3	40 ml VOA	HCl pH<2	N
	BA8G7	SW-013-001	E2	1181	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G7	SW-013-001	E2	1182	CLP TCL Aroclors	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G8	SD-013-0006-001	E2	1184	CLP TCL Semivolatiles	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1185	CLP TCL Aroclors	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1186	CLP TCL Volatiles	Sediment	4/12/2012	13:00	3	Encore	4 C	N
	BA8G8	SD-013-0006-001	E2	1189	Percent Moisture	Sediment	4/12/2012	13:00	1	4 oz Glass Jar	4 C	N

Special Instructions: 3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all sample all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100

Items/Reason	Relinquished By	Date	Received by	Date	Time
	COPY				
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7					
SIGNATURE	DJ Purdie DATE	4.13.12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G9	SD-014-0006-001	E1	1191	CLP TCL Semivolatiles	Sediment	4/12/2012	15:00	1	8 oz Glass Jar	4 C	N
	BA8G9	SD-014-0006-001	E1	1192	CLP TCL Aroclors	Sediment	4/12/2012	15:00	1	8 oz Glass Jar	4 C	N
	BA8G9	SD-014-0006-001	E1	1193	CLP TCL Volatiles	Sediment	4/12/2012	15:00	3	Encore	4 C	N
	BA8G9	SD-014-0006-001	E1	1196	Percent Moisture	Sediment	4/12/2012	15:00	1	4 oz Glass Jar	4 C	N
	BA8H0	SD-015-0006-001	C1	1198	CLP TCL Semivolatiles	Sediment	4/12/2012	16:30	1	8 oz Glass Jar	4 C	N
	BA8H0	SD-015-0006-001	C1	1199	CLP TCL Aroclors	Sediment	4/12/2012	16:30	1	8 oz Glass Jar	4 C	N
	BA8H0	SD-015-0006-001	C1	1200	CLP TCL Volatiles	Sediment	4/12/2012	16:30	3	Encore	4 C	N
	BA8H0	SD-015-0006-001	C1	1203	Percent Moisture	Sediment	4/12/2012	16:30	1	4 oz Glass Jar	4 C	N
	BA8H1	SD-016-0006-001	D3	1205	CLP TCL Semivolatiles	Sediment	4/12/2012	14:55	1	8 oz Glass Jar	4 C	N
	BA8H1	SD-016-0006-001	D3	1206	CLP TCL Aroclors	Sediment	4/12/2012	14:55	1	8 oz Glass Jar	4 C	N
	BA8H1	SD-016-0006-001	D3	1207	CLP TCL Volatiles	Sediment	4/12/2012	14:55	3	Encore	4 C	N

Special Instructions: 3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/13/12	2100				Jean Purdie	4.13.12	946
						COPY ORIGINAL DOCUMENTS INCLUDED IN CSF. BA8D7					
						SIGNATURE J. Purdie DATE		4/24/12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H1	SD-016-0006-001	D3	1210	Percent Moisture	Sediment	4/12/2012	14:55	1	4 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1212	CLP TCL Semivolatiles	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1213	CLP TCL Aroclors	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1214	CLP TCL Volatiles ✓	Sediment	4/12/2012	15:55	3	Encore	4 C	N
	BA8H2	SD-017-0006-001	D2	1217	Percent Moisture	Sediment	4/12/2012	15:55	1	4 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1219	CLP TCL Semivolatiles	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1220	CLP TCL Aroclors	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1221	CLP TCL Volatiles ✓	Sediment	4/12/2012	16:40	3	Encore	4 C	N
	BA8H3	SD-018-0006-001	D1	1224	Percent Moisture	Sediment	4/12/2012	16:40	1	4 oz Glass Jar	4 C	N
	BA8H4	SW-014-001	E1	1227	CLP TCL Volatiles ✓	Surface Water	4/12/2012	14:40	3	40 ml VOA	HCl pH<2	N
	BA8H4	SW-014-001	E1	1228	CLP TCL Semivolatiles	Surface Water	4/12/2012	14:40	2	1 liter amber	4 C	N

Special Instructions:
3.2°C
IR GUN
SW005

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF	BA8D		Jason Purdie	4/13/12	946
						SIGNATURE J Purdie	DATE 4/13/12				

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7 BA8D4 BA8G5

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G2	SD-010-0006-001	E3	1153	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G3	SW-011-001	C3	1156	CLP TCL Volatiles	Surface Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G3	SW-011-001	C3	1157	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G3	SW-011-001	C3	1158	CLP TCL Aroclors	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G4	SD-011-0006-001	C3	1160	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1161	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1162	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N
	BA8G4	SD-011-0006-001	C3	1165	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G5	SW-012-001	C2	1168	CLP TCL Volatiles	Surface Water	4/12/2012	12:35	3	40 ml VOA	HCl pH<2	N
	BA8G5	SW-012-001	C2	1169	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N
	BA8G5	SW-012-001	C2	1170	CLP TCL Aroclors	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N

Special Instructions: 3.2°C IR GW BA8D15

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2:00		COPY				
						ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D4			Joan Purdie	4-13-12	946
						SIGNATURE		DATE 4-13-12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8F9	SW-010-001	E3	1135	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8F9	SW-010-001	E3	1136	CLP TCL Aroclors	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1139	CLP TCL Volatiles	Pore Water	4/12/2012	11:25	3	40 ml VOA	HCl pH<2	N
	BA8G0	PW-010-06-001	E3	1140	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1141	CLP TCL Aroclors	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1144	CLP TCL Volatiles	Pore Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G1	PW-010-18-001	E3	1145	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1146	CLP TCL Aroclors	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G2	SD-010-0006-001	E3	1148	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1149	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1150	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N

Special Instructions: 3.2°C IR GUN SN0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
all samples all analytes	Joel Petty	4/12/12	FedEx	4/13/12	2100

Items/Reason	Relinquished By	Date	Received by	Date	Time
	COPY		Joan Purdie	4/13/12	946
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D4					
SIGNATURE	J Purdie DATE	4/24/12			

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BABD4
~~BA~~ BABD7
4/13/12

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E7	PW-009-06-001	C4	1068	CLP TCL Aroclors	Pore Water	4/12/2012	09:30	2	1 liter amber	4 C	N
	BA8F6	SD-008-0006-001	F1	1118	CLP TCL Semivolatiles	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1119	CLP TCL Aroclors	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1120	CLP TCL Volatiles ✓	Sediment	4/12/2012	10:00	3	Encore	4 C	N
	BA8F6	SD-008-0006-001	F1	1123	Percent Moisture	Sediment	4/12/2012	10:00	1	4 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1125	CLP TCL Semivolatiles	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1126	CLP TCL Aroclors	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1127	CLP TCL Volatiles ✓	Sediment	4/12/2012	10:05	3	Encore	4 C	N
	BA8F7	SD-009-0006-001	C4	1130	Percent Moisture	Sediment	4/12/2012	10:05	1	4 oz Glass Jar	4 C	N
	BA8F8	TB-041212	Trip Blank	1131	CLP TCL Volatiles ✓	Deionized Water	4/12/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8F9	SW-010-001	E3	1134	CLP TCL Volatiles ✓	Surface Water	4/12/2012	11:20	3	40 ml VOA	HCl pH<2	N

Special Instructions: 3.2°C IR Gun SW0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all zones all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100		COPY		Joan Purdie	4·13·12	946
						ORIGINAL DOCUMENTS INCLUDED IN CSF- BABD4					
						SIGNATURE J. Purdie		DATE 4·13·12			

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G6	SD-012-0006-001	C2	1172	CLP TCL Semivolatiles	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1173	CLP TCL Aroclors	Sediment	4/12/2012	12:55	1	8 oz Glass Jar	4 C	N
	BA8G6	SD-012-0006-001	C2	1174	CLP TCL Volatiles	Sediment	4/12/2012	12:55	3	Encore	4 C	N
	BA8G6	SD-012-0006-001	C2	1177	Percent Moisture	Sediment	4/12/2012	12:55	1	4 oz Glass Jar	4 C	N
	BA8G7	SW-013-001	E2	1180	CLP TCL Volatiles	Surface Water	4/12/2012	12:40	3	40 ml VOA	HCl pH<2	N
	BA8G7	SW-013-001	E2	1181	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G7	SW-013-001	E2	1182	CLP TCL Aroclors	Surface Water	4/12/2012	12:40	2	1 liter amber	4 C	N
	BA8G8	SD-013-0006-001	E2	1184	CLP TCL Semivolatiles	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1185	CLP TCL Aroclors	Sediment	4/12/2012	13:00	1	8 oz Glass Jar	4 C	N
	BA8G8	SD-013-0006-001	E2	1186	CLP TCL Volatiles	Sediment	4/12/2012	13:00	3	Encore	4 C	N
	BA8G8	SD-013-0006-001	E2	1189	Percent Moisture	Sediment	4/12/2012	13:00	1	4 oz Glass Jar	4 C	N

Special Instructions: rec'd @ 1.3°C IRGUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/12/12	2100		COPY				
			[illegible]	4/14/12	1023		ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7				
				4/14/12			SIGNATURE [illegible]	DATE 4/24/12			

30

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8D4
BA8G5

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434
EPW11032

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G2	SD-010-0006-001	E3	1153	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G3	SW-011-001	C3	1156	CLP TCL Volatiles	Surface Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G3	SW-011-001	C3	1157	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G3	SW-011-001	C3	1158	CLP TCL Aroclors	Surface Water	4/12/2012	11:55	2	1 liter amber	4 C	SDG [illegible] Sample
	BA8G4	SD-011-0006-001	C3	1160	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1161	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G4	SD-011-0006-001	C3	1162	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N
	BA8G4	SD-011-0006-001	C3	1165	Percent Moisture	Sediment	4/12/2012	12:20	1	4 oz Glass Jar	4 C	N
	BA8G5	SW-012-001	C2	1168	CLP TCL Volatiles	Surface Water	4/12/2012	12:35	3	40 ml VOA	HCl pH<2	N
	BA8G5	SW-012-001	C2	1169	CLP TCL Semivolatiles	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N
	BA8G5	SW-012-001	C2	1170	CLP TCL Aroclors	Surface Water	4/12/2012	12:35	2	1 liter amber	4 C	N

Special Instructions: rec'd @ 1.3°C IR GUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2:00		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D4		
			[illegible]	4/14/12	1023		SIGNATURE [illegible]	DATE	4/24/12		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8F9	SW-010-001	E3	1135	CLP TCL Semivolatiles	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8F9	SW-010-001	E3	1136	CLP TCL Aroclors	Surface Water	4/12/2012	11:20	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1139	CLP TCL Volatiles	Pore Water	4/12/2012	11:25	3	40 ml VOA	HCl pH<2	N
	BA8G0	PW-010-06-001	E3	1140	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G0	PW-010-06-001	E3	1141	CLP TCL Aroclors	Pore Water	4/12/2012	11:25	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1144	CLP TCL Volatiles	Pore Water	4/12/2012	11:55	3	40 ml VOA	HCl pH<2	N
	BA8G1	PW-010-18-001	E3	1145	CLP TCL Semivolatiles	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G1	PW-010-18-001	E3	1146	CLP TCL Aroclors	Pore Water	4/12/2012	11:55	2	1 liter amber	4 C	N
	BA8G2	SD-010-0006-001	E3	1148	CLP TCL Semivolatiles	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1149	CLP TCL Aroclors	Sediment	4/12/2012	12:20	1	8 oz Glass Jar	4 C	N
	BA8G2	SD-010-0006-001	E3	1150	CLP TCL Volatiles	Sediment	4/12/2012	12:20	3	Encore	4 C	N

Special Instructions: recd @ 13°C IR GUN SA80015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	Fed Ex	4/13/12	2100	ORIGINAL DOCUMENTS INCLUDED IN CSF	COPY		BA8D4		
			Greg Dorn	4/14/12	1023	SIGNATURE		DATE	4/24/12		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D4
BA8D7

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8E7	PW-009-06-001	C4	1068	CLP TCL Aroclors	Pore Water	4/12/2012	09:30	2	1 liter amber	4 C	N
	BA8F6	SD-008-0006-001	F1	1118	CLP TCL Semivolatiles	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1119	CLP TCL Aroclors	Sediment	4/12/2012	10:00	1	8 oz Glass Jar	4 C	N
	BA8F6	SD-008-0006-001	F1	1120	CLP TCL Volatiles	Sediment	4/12/2012	10:00	3	Encore	4 C	N
	BA8F6	SD-008-0006-001	F1	1123	Percent Moisture	Sediment	4/12/2012	10:00	1	4 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1125	CLP TCL Semivolatiles	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1126	CLP TCL Aroclors	Sediment	4/12/2012	10:05	1	8 oz Glass Jar	4 C	N
	BA8F7	SD-009-0006-001	C4	1127	CLP TCL Volatiles	Sediment	4/12/2012	10:05	3	Encore	4 C	N
	BA8F7	SD-009-0006-001	C4	1130	Percent Moisture	Sediment	4/12/2012	10:05	1	4 oz Glass Jar	4 C	N
	BA8F8	TB-041212	Trip Blank	1131	CLP TCL Volatiles	Deionized Water	4/12/2012	11:00	3	40 ml VOA	HCl pH<2	N
	BA8F9	SW-010-001	E3	1134	CLP TCL Volatiles	Surface Water	4/12/2012	11:20	3	40 ml VOA	HCl pH<2	N

Special Instructions: recd @ 1.3°C IR Gun SN00015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/13/12	FedEx	4/12/12	2100	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF			BA8D4		
				4/14/12	1023	SIGNATURE		DATE 4/14/12			

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8G9	SD-014-0006-001	E1	1191	CLP TCL Semivolatiles	Sediment	4/12/2012	15:00	1	8 oz Glass Jar	4 C	N
	BA8G9	SD-014-0006-001	E1	1192	CLP TCL Aroclors	Sediment	4/12/2012	15:00	1	8 oz Glass Jar	4 C	N
	BA8G9	SD-014-0006-001	E1	1193	CLP TCL Volatiles	Sediment	4/12/2012	15:00	3	Encore	4 C	N
	BA8G9	SD-014-0006-001	E1	1196	Percent Moisture	Sediment	4/12/2012	15:00	1	4 oz Glass Jar	4 C	N
	BA8H0	SD-015-0006-001	C1	1198	CLP TCL Semivolatiles	Sediment	4/12/2012	16:30	1	8 oz Glass Jar	4 C	N
	BA8H0	SD-015-0006-001	C1	1199	CLP TCL Aroclors	Sediment	4/12/2012	16:30	1	8 oz Glass Jar	4 C	N
	BA8H0	SD-015-0006-001	C1	1200	CLP TCL Volatiles	Sediment	4/12/2012	16:30	3	Encore	4 C	N
	BA8H0	SD-015-0006-001	C1	1203	Percent Moisture	Sediment	4/12/2012	16:30	1	4 oz Glass Jar	4 C	N
	BA8H1	SD-016-0006-001	D3	1205	CLP TCL Semivolatiles	Sediment	4/12/2012	14:55	1	8 oz Glass Jar	4 C	N
	BA8H1	SD-016-0006-001	D3	1206	CLP TCL Aroclors	Sediment	4/12/2012	14:55	1	8 oz Glass Jar	4 C	N
	BA8H1	SD-016-0006-001	D3	1207	CLP TCL Volatiles	Sediment	4/12/2012	14:55	3	Encore	4 C	N

Special Instructions: rec'd @ 1.3 °C IRGUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	FedEx	4/12/12	2100						
			[signature]	4/14/12	1023						

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- BA8D7
SIGNATURE [signature] DATE 4-24-12

cooler #11

35

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BABD7
BA865

EPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H1	SD-016-0006-001	D3	1210	Percent Moisture	Sediment	4/12/2012	14:55	1	4 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1212	CLP TCL Semivolatiles	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1213	CLP TCL Aroclors	Sediment	4/12/2012	15:55	1	8 oz Glass Jar	4 C	N
	BA8H2	SD-017-0006-001	D2	1214	CLP TCL Volatiles	Sediment	4/12/2012	15:55	3	Encore	4 C	N
	BA8H2	SD-017-0006-001	D2	1217	Percent Moisture	Sediment	4/12/2012	15:55	1	4 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1219	CLP TCL Semivolatiles	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1220	CLP TCL Aroclors	Sediment	4/12/2012	16:40	1	8 oz Glass Jar	4 C	N
	BA8H3	SD-018-0006-001	D1	1221	CLP TCL Volatiles	Sediment	4/12/2012	16:40	3	Encore	4 C	N
	BA8H3	SD-018-0006-001	D1	1224	Percent Moisture	Sediment	4/12/2012	16:40	1	4 oz Glass Jar	4 C	N
	BA8H4	SW-014-001	E1	1227	CLP TCL Volatiles	Surface Water	4/12/2012	14:40	3	40 ml VOA	HCl pH<2	N
	BA8H4	SW-014-001	E1	1228	CLP TCL Semivolatiles	Surface Water	4/12/2012	14:40	2	1 liter amber	4 C	N

Special Instructions: recd @ 1.3°C IR GUN SW0015

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analysis	Joel Petty	4/12/12	FedEx	4/12/12	2000	COPY ORIGINAL DOCUMENTS INCLUDED IN CSF			BABD7		
			[illegible] Doer	4/14/12	1023	SIGNATURE	[signature]	DATE	4/24/19		

Cooler #11

USEPA
DateShipped: 4/12/2012
CarrierName: FedEx
AirbillNo: 87417839

CHAIN OF CUSTODY RECORD
Site #: 02P9
Contact Name: Joel Petty
Contact Phone: 732-570-4943

BA8D7
BA8G5
BPW11032

No: 2-041212-184603-0009
Cooler #: 11
Lab: Liberty Analytical Corporation
Case #: 42434

Lab #	CLP Sample #	Sample #	Location	Tag	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	BA8H8	SW-018-001	D1	1248	CLP TCL Semivolatiles	Surface Water	4/12/2012	16:30	2	1 liter amber	4 C	N
	BA8H8	SW-018-001	D1	1249	CLP TCL Aroclors	Surface Water	4/12/2012	16:30	2	1 liter amber	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1251	CLP TCL Semivolatiles	Sediment	4/12/2012	17:50	1	8 oz Glass Jar	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1252	CLP TCL Aroclors	Sediment	4/12/2012	17:50	1	8 oz Glass Jar	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1253	CLP TCL Volatiles	Sediment	4/12/2012	17:50	3	Encore	4 C	N
	BA8H9	SD-019-0006-001	GSR-MID	1256	Percent Moisture	Sediment	4/12/2012	17:50	1	4 oz Glass Jar	4 C	N
	BA8J0	SW-019-001	GSR-MID	1259	CLP TCL Volatiles	Surface Water	4/12/2012	17:30	3	40 ml VOA	HCl pH<2	N
	BA8J0	SW-019-001	GSR-MID	1260	CLP TCL Semivolatiles	Surface Water	4/12/2012	17:30	2	1 liter amber	4 C	N
	BA8J0	SW-019-001	GSR-MID	1261	CLP TCL Aroclors	Surface Water	4/12/2012	17:30	2	1 liter amber	4 C	N
	BA8J1	PW-019-06-001	GSR-MID	1264	CLP TCL Volatiles	Pore Water	4/12/2012	17:40	3	40 ml VOA	HCl pH<2	N
	BA8J1	PW-019-06-001	GSR-MID	1265	CLP TCL Semivolatiles	Pore Water	4/12/2012	17:40	2	1 liter amber	4 C	N

Solutional Sample

Special Instructions: recd @ 1.3°C IRGUN SN0015

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
all samples all analyses	Joel Petty	4/12/12	[signature]	4/12/12	2100		COPY ORIGINAL DOCUMENTS INCLUDED IN CSF		BA8D7		
			[signature]	4/14/12	1023		SIGNATURE [signature]	DATE	4/24/12		

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-01

Sample wt/vol: 2.90 (g/mL) g Lab File ID: 1204022-0191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/10/2012

% Moisture: not dec. 73.8 Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	33	U
74-87-3	Chloromethane	33	U
75-01-4	Vinyl chloride	33	U
74-83-9	Bromomethane	33	U
75-00-3	Chloroethane	33	U
75-69-4	Trichlorofluoromethane	33	U
75-35-4	1,1-Dichloroethene	33	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	33	U
67-64-1	Acetone	66	U
75-15-0	Carbon disulfide	33	U
79-20-9	Methyl acetate	33	U
75-09-2	Methylene chloride	14	JB
156-60-5	trans-1,2-Dichloroethene	33	U
1634-04-4	Methyl tert-butyl ether	33	U
75-34-3	1,1-Dichloroethane	33	U
156-59-2	cis-1,2-Dichloroethene	33	U
78-93-3	2-Butanone	66	U
74-97-5	Bromochloromethane	33	U
67-66-3	Chloroform	33	U
71-55-6	1,1,1-Trichloroethane	33	U
110-82-7	Cyclohexane	33	U
56-23-5	Carbon tetrachloride	33	U
71-43-2	Benzene	33	U
107-06-2	1,2-Dichloroethane	33	U
123-91-1	1,4-Dioxane	660	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-01

Sample wt/vol: 2.90 (g/mL) g Lab File ID: 1204022-0191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/10/2012

% Moisture: not dec. 73.8 Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	33	U
108-87-2	Methylcyclohexane	33	U
78-87-5	1,2-Dichloropropane	33	U
75-27-4	Bromodichloromethane	33	U
10061-01-5	cis-1,3-Dichloropropene	33	U
108-10-1	4-Methyl-2-pentanone	66	U
108-88-3	Toluene	3.0	JB
10061-02-6	trans-1,3-Dichloropropene	33	U
79-00-5	1,1,2-Trichloroethane	33	U
127-18-4	Tetrachloroethene	4.1	J
591-78-6	2-Hexanone	66	U
124-48-1	Dibromochloromethane	33	U
106-93-4	1,2-Dibromoethane	33	U
108-90-7	Chlorobenzene	33	U
100-41-4	Ethylbenzene	33	U
95-47-6	o-Xylene	33	U
179601-23-1	m,p-Xylene	33	U
100-42-5	Styrene	33	U
75-25-2	Bromoform	33	U
98-82-8	Isopropylbenzene	33	U
79-34-5	1,1,2,2-Tetrachloroethane	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
95-50-1	1,2-Dichlorobenzene	33	U
96-12-8	1,2-Dibromo-3-chloropropane	33	U
120-82-1	1,2,4-Trichlorobenzene	33	U
87-61-6	1,2,3-Trichlorobenzene	33	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8D7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-01

Sample wt/vol: 2.90 (g/mL) g Lab File ID: 1204022-0191.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/10/2012

% Moisture: not dec. 73.8 Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-02

Sample wt/vol: 2.84 (g/mL) g Lab File ID: 1204022-0291.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/10/2012

% Moisture: not dec. 73.4 Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	33	U
74-87-3	Chloromethane	33	U
75-01-4	Vinyl chloride	33	U
74-83-9	Bromomethane	33	U
75-00-3	Chloroethane	33	U
75-69-4	Trichlorofluoromethane	33	U
75-35-4	1,1-Dichloroethene	33	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	33	U
67-64-1	Acetone	22	J
75-15-0	Carbon disulfide	33	U
79-20-9	Methyl acetate	33	U
75-09-2	Methylene chloride	11	JB
156-60-5	trans-1,2-Dichloroethene	33	U
1634-04-4	Methyl tert-butyl ether	33	U
75-34-3	1,1-Dichloroethane	33	U
156-59-2	cis-1,2-Dichloroethene	33	U
78-93-3	2-Butanone	23	J
74-97-5	Bromochloromethane	33	U
67-66-3	Chloroform	33	U
71-55-6	1,1,1-Trichloroethane	33	U
110-82-7	Cyclohexane	33	U
56-23-5	Carbon tetrachloride	33	U
71-43-2	Benzene	33	U
107-06-2	1,2-Dichloroethane	33	U
123-91-1	1,4-Dioxane	660	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8D8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-02

Sample wt/vol: 2.84 (g/mL) g Lab File ID: 1204022-0291.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/10/2012

% Moisture: not dec. 73.4 Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	33	U
108-87-2	Methylcyclohexane	33	U
78-87-5	1,2-Dichloropropane	33	U
75-27-4	Bromodichloromethane	33	U
10061-01-5	cis-1,3-Dichloropropene	33	U
108-10-1	4-Methyl-2-pentanone	66	U
108-88-3	Toluene	33	U
10061-02-6	trans-1,3-Dichloropropene	33	U
79-00-5	1,1,2-Trichloroethane	33	U
127-18-4	Tetrachloroethene	5.8	J
591-78-6	2-Hexanone	66	U
124-48-1	Dibromochloromethane	33	U
106-93-4	1,2-Dibromoethane	33	U
108-90-7	Chlorobenzene	33	U
100-41-4	Ethylbenzene	33	U
95-47-6	o-Xylene	33	U
179601-23-1	m,p-Xylene	33	U
100-42-5	Styrene	33	U
75-25-2	Bromoform	33	U
98-82-8	Isopropylbenzene	33	U
79-34-5	1,1,2,2-Tetrachloroethane	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
95-50-1	1,2-Dichlorobenzene	33	U
96-12-8	1,2-Dibromo-3-chloropropane	33	U
120-82-1	1,2,4-Trichlorobenzene	33	U
87-61-6	1,2,3-Trichlorobenzene	33	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8D8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-02

Sample wt/vol: 2.84 (g/mL) g Lab File ID: 1204022-0291.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/10/2012

% Moisture: not dec. 73.4 Date Analyzed: 04/10/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-04

Sample wt/vol: 2.82 (g/mL) g Lab File ID: 1204022-0491.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/11/2012

% Moisture: not dec. 74.9 Date Analyzed: 04/16/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	35	U
74-87-3	Chloromethane	35	U
75-01-4	Vinyl chloride	35	U
74-83-9	Bromomethane	35	U
75-00-3	Chloroethane	35	U
75-69-4	Trichlorofluoromethane	35	U
75-35-4	1,1-Dichloroethene	35	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	35	U
67-64-1	Acetone	36	J
75-15-0	Carbon disulfide	35	U
79-20-9	Methyl acetate	35	U
75-09-2	Methylene chloride	8.1	JB
156-60-5	trans-1,2-Dichloroethene	35	U
1634-04-4	Methyl tert-butyl ether	35	U
75-34-3	1,1-Dichloroethane	35	U
156-59-2	cis-1,2-Dichloroethene	35	U
78-93-3	2-Butanone	71	U
74-97-5	Bromochloromethane	35	U
67-66-3	Chloroform	35	U
71-55-6	1,1,1-Trichloroethane	35	U
110-82-7	Cyclohexane	35	U
56-23-5	Carbon tetrachloride	35	U
71-43-2	Benzene	35	U
107-06-2	1,2-Dichloroethane	35	U
123-91-1	1,4-Dioxane	710	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8E9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-04

Sample wt/vol: 2.82 (g/mL) g Lab File ID: 1204022-0491.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/11/2012

% Moisture: not dec. 74.9 Date Analyzed: 04/16/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichlcroethene	35	U
108-87-2	Methylcyclohexane	35	U
78-87-5	1,2-Dichloropropane	35	U
75-27-4	Bromodichloromethane	35	U
10061-01-5	cis-1,3-Dichloropropene	35	U
108-10-1	4-Methyl-2-pentanone	71	U
108-88-3	Toluene	5.2	JB
10061-02-6	trans-1,3-Dichloropropene	35	U
79-00-5	1,1,2-Trichloroethane	35	U
127-18-4	Tetrachloroethene	35	U
591-78-6	2-Hexanone	71	U
124-48-1	Dibromochloromethane	35	U
106-93-4	1,2-Dibromoethane	35	U
108-90-7	Chlorobenzene	35	U
100-41-4	Ethylbenzene	35	U
95-47-6	o-Xylene	35	U
179601-23-1	m,p-Xylene	35	U
100-42-5	Styrene	35	U
75-25-2	Bromoform	35	U
98-82-8	Isopropylbenzene	35	U
79-34-5	1,1,2,2-Tetrachloroethane	35	U
541-73-1	1,3-Dichlorobenzene	35	U
106-46-7	1,4-Dichlorobenzene	35	U
95-50-1	1,2-Dichlorobenzene	35	U
96-12-8	1,2-Dibromo-3-chloropropane	35	U
120-82-1	1,2,4-Trichlorobenzene	35	U
87-61-6	1,2,3-Trichlorobenzene	35	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8E9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-04

Sample wt/vol: 2.82 (g/mL) g Lab File ID: 1204022-0491.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/11/2012

% Moisture: not dec. 74.9 Date Analyzed: 04/16/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-05

Sample wt/vol: 3.02 (g/mL) g Lab File ID: 1204022-0591.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 82.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	48	U
74-87-3	Chloromethane	48	U
75-01-4	Vinyl chloride	48	U
74-83-9	Bromomethane	48	U
75-00-3	Chloroethane	48	U
75-69-4	Trichlorofluoromethane	48	U
75-35-4	1,1-Dichloroethene	48	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	48	U
67-64-1	Acetone	200	
75-15-0	Carbon disulfide	48	U
79-20-9	Methyl acetate	48	U
75-09-2	Methylene chloride	12	JB
156-60-5	trans-1,2-Dichloroethene	48	U
1634-04-4	Methyl tert-butyl ether	48	U
75-34-3	1,1-Dichloroethane	48	U
156-59-2	cis-1,2-Dichloroethene	4.4	J
78-93-3	2-Butanone	71	J
74-97-5	Bromochloromethane	48	U
67-66-3	Chloroform	48	U
71-55-6	1,1,1-Trichloroethane	48	U
110-82-7	Cyclohexane	48	U
56-23-5	Carbon tetrachloride	48	U
71-43-2	Benzene	48	U
107-06-2	1,2-Dichloroethane	48	U
123-91-1	1,4-Dioxane	960	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-05

Sample wt/vol: 3.02 (g/mL) g Lab File ID: 1204022-0591.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 82.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	48	U
108-87-2	Methylcyclohexane	48	U
78-87-5	1,2-Dichloropropane	48	U
75-27-4	Bromodichloromethane	48	U
10061-01-5	cis-1,3-Dichloropropene	48	U
108-10-1	4-Methyl-2-pentanone	96	U
108-88-3	Toluene	7.5	JB
10061-02-6	trans-1,3-Dichloropropene	48	U
79-00-5	1,1,2-Trichloroethane	48	U
127-18-4	Tetrachloroethene	48	U
591-78-6	2-Hexanone	96	U
124-48-1	Dibromochloromethane	48	U
106-93-4	1,2-Dibromoethane	48	U
108-90-7	Chlorobenzene	48	U
100-41-4	Ethylbenzene	48	U
95-47-6	o-Xylene	48	U
179601-23-1	m,p-Xylene	48	U
100-42-5	Styrene	48	U
75-25-2	Bromoform	48	U
98-82-8	Isopropylbenzene	48	U
79-34-5	1,1,2,2-Tetrachloroethane	48	U
541-73-1	1,3-Dichlorobenzene	48	U
106-46-7	1,4-Dichlorobenzene	48	U
95-50-1	1,2-Dichlorobenzene	48	U
96-12-8	1,2-Dibromo-3-chloropropane	48	U
120-82-1	1,2,4-Trichlorobenzene	48	U
87-61-6	1,2,3-Trichlorobenzene	48	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-05

Sample wt/vol: 3.02 (g/mL) g Lab File ID: 1204022-0591.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 82.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-06

Sample wt/vol: 4.94 (g/mL) g Lab File ID: 1204022-0691.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 26.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	6.9	U
74-87-3	Chloromethane	6.9	U
75-01-4	Vinyl chloride	6.9	U
74-83-9	Bromomethane	6.9	U
75-00-3	Chloroethane	6.9	U
75-69-4	Trichlorofluoromethane	6.9	U
75-35-4	1,1-Dichloroethene	6.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.9	U
67-64-1	Acetone	9.2	J
75-15-0	Carbon disulfide	6.9	U
79-20-9	Methyl acetate	6.9	U
75-09-2	Methylene chloride	1.6	JB
156-60-5	trans-1,2-Dichloroethene	6.9	U
1634-04-4	Methyl tert-butyl ether	6.9	U
75-34-3	1,1-Dichloroethane	6.9	U
156-59-2	cis-1,2-Dichloroethene	6.9	U
78-93-3	2-Butanone	14	U
74-97-5	Bromochloromethane	6.9	U
67-66-3	Chloroform	6.9	U
71-55-6	1,1,1-Trichloroethane	6.9	U
110-82-7	Cyclohexane	6.9	U
56-23-5	Carbon tetrachloride	6.9	U
71-43-2	Benzene	6.9	U
107-06-2	1,2-Dichloroethane	6.9	U
123-91-1	1,4-Dioxane	140	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-06

Sample wt/vol: 4.94 (g/mL) g Lab File ID: 1204022-0691.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 26.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	6.9	U
108-87-2	Methylcyclohexane	6.9	U
78-87-5	1,2-Dichloropropane	6.9	U
75-27-4	Bromodichloromethane	6.9	U
10061-01-5	cis-1,3-Dichloropropene	6.9	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	1.0	JB
10061-02-6	trans-1,3-Dichloropropene	6.9	U
79-00-5	1,1,2-Trichloroethane	6.9	U
127-18-4	Tetrachloroethene	1.6	J
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	6.9	U
106-93-4	1,2-Dibromoethane	6.9	U
108-90-7	Chlorobenzene	6.9	U
100-41-4	Ethylbenzene	6.9	U
95-47-6	o-Xylene	6.9	U
179601-23-1	m,p-Xylene	6.9	U
100-42-5	Styrene	6.9	U
75-25-2	Bromoform	6.9	U
98-82-8	Isopropylbenzene	6.9	U
79-34-5	1,1,2,2-Tetrachloroethane	6.9	U
541-73-1	1,3-Dichlorobenzene	6.9	U
106-46-7	1,4-Dichlorobenzene	6.9	U
95-50-1	1,2-Dichlorobenzene	6.9	U
96-12-8	1,2-Dibromo-3-chloropropane	6.9	U
120-82-1	1,2,4-Trichlorobenzene	6.9	U
87-61-6	1,2,3-Trichlorobenzene	6.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref.No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-06

Sample wt/vol: 4.94 (g/mL) g Lab File ID: 1204022-0691.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 26.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-07

Sample wt/vol: 3.10 (g/mL) g Lab File ID: 1204022-0791.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 76.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	35	U
74-87-3	Chloromethane	35	U
75-01-4	Vinyl chloride	35	U
74-83-9	Bromomethane	35	U
75-00-3	Chloroethane	35	U
75-69-4	Trichlorofluoromethane	35	U
75-35-4	1,1-Dichloroethene	35	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	35	U
67-64-1	Acetone	230	
75-15-0	Carbon disulfide	35	U
79-20-9	Methyl acetate	35	U
75-09-2	Methylene chloride	8.0	JB
156-60-5	trans-1,2-Dichloroethene	35	U
1634-04-4	Methyl tert-butyl ether	35	U
75-34-3	1,1-Dichloroethane	17	J
156-59-2	cis-1,2-Dichloroethene	67	
78-93-3	2-Butanone	110	
74-97-5	Bromochloromethane	35	U
67-66-3	Chloroform	35	U
71-55-6	1,1,1-Trichloroethane	35	U
110-82-7	Cyclohexane	35	U
56-23-5	Carbon tetrachloride	35	U
71-43-2	Benzene	35	U
107-06-2	1,2-Dichloroethane	35	U
123-91-1	1,4-Dioxane	690	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-07

Sample wt/vol: 3.10 (g/mL) g Lab File ID: 1204022-0791.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 76.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	47	
108-87-2	Methylcyclohexane	35	U
78-87-5	1,2-Dichloropropane	35	U
75-27-4	Bromodichloromethane	35	U
10061-01-5	cis-1,3-Dichloropropene	35	U
108-10-1	4-Methyl-2-pentanone	69	U
108-88-3	Toluene	5.1	JB
10061-02-6	trans-1,3-Dichloropropene	35	U
79-00-5	1,1,2-Trichloroethane	35	U
127-18-4	Tetrachloroethene	30	J
591-78-6	2-Hexanone	69	U
124-48-1	Dibromochloromethane	35	U
106-93-4	1,2-Dibromoethane	35	U
108-90-7	Chlorobenzene	35	U
100-41-4	Ethylbenzene	35	U
95-47-6	o-Xylene	35	U
179601-23-1	m,p-Xylene	35	U
100-42-5	Styrene	35	U
75-25-2	Bromoform	35	U
98-82-8	Isopropylbenzene	35	U
79-34-5	1,1,2,2-Tetrachloroethane	35	U
541-73-1	1,3-Dichlorobenzene	35	U
106-46-7	1,4-Dichlorobenzene	35	U
95-50-1	1,2-Dichlorobenzene	35	U
96-12-8	1,2-Dibromo-3-chloropropane	35	U
120-82-1	1,2,4-Trichlorobenzene	35	U
87-61-6	1,2,3-Trichlorobenzene	35	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-07

Sample wt/vol: 3.10 (g/mL) g Lab File ID: 1204022-0791.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 76.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-08

Sample wt/vol: 3.51 (g/mL) g Lab File ID: 1204022-0891.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 57.0 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	17	U
74-87-3	Chloromethane	17	U
75-01-4	Vinyl chloride	17	U
74-83-9	Bromomethane	17	U
75-00-3	Chloroethane	17	U
75-69-4	Trichlorofluoromethane	17	U
75-35-4	1,1-Dichloroethene	17	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	17	U
67-64-1	Acetone	43	
75-15-0	Carbon disulfide	17	U
79-20-9	Methyl acetate	17	U
75-09-2	Methylene chloride	4.6	JB
156-60-5	trans-1,2-Dichloroethene	17	U
1634-04-4	Methyl tert-butyl ether	17	U
75-34-3	1,1-Dichloroethane	17	U
156-59-2	cis-1,2-Dichloroethene	17	U
78-93-3	2-Butanone	33	U
74-97-5	Bromochloromethane	17	U
67-66-3	Chloroform	17	U
71-55-6	1,1,1-Trichloroethane	17	U
110-82-7	Cyclohexane	17	U
56-23-5	Carbon tetrachloride	17	U
71-43-2	Benzene	17	U
107-06-2	1,2-Dichloroethane	17	U
123-91-1	1,4-Dioxane	330	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-08

Sample wt/vol: 3.51 (g/mL) g Lab File ID: 1204022-0891.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 57.0 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	17	U
108-87-2	Methylcyclohexane	17	U
78-87-5	1,2-Dichloropropane	17	U
75-27-4	Bromodichloromethane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
108-10-1	4-Methyl-2-pentanone	33	U
108-88-3	Toluene	2.8	JB
10061-02-6	trans-1,3-Dichloropropene	17	U
79-00-5	1,1,2-Trichloroethane	17	U
127-18-4	Tetrachloroethene	3.8	J
591-78-6	2-Hexanone	33	U
124-48-1	Dibromochloromethane	17	U
106-93-4	1,2-Dibromoethane	17	U
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
95-47-6	o-Xylene	17	U
179601-23-1	m,p-Xylene	17	U
100-42-5	Styrene	17	U
75-25-2	Bromoform	17	U
98-82-8	Isopropylbenzene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
541-73-1	1,3-Dichlorobenzene	17	U
106-46-7	1,4-Dichlorobenzene	17	U
95-50-1	1,2-Dichlorobenzene	17	U
96-12-8	1,2-Dibromo-3-chloropropane	17	U
120-82-1	1,2,4-Trichlorobenzene	17	U
87-61-6	1,2,3-Trichlorobenzene	17	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-08

Sample wt/vol: 3.51 (g/mL) g Lab File ID: 1204022-0891.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 57.0 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
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25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-09

Sample wt/vol: 4.13 (g/mL) g Lab File ID: 1204022-0991.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 58.6 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	15	U
74-87-3	Chloromethane	15	U
75-01-4	Vinyl chloride	15	U
74-83-9	Bromomethane	15	U
75-00-3	Chloroethane	15	U
75-69-4	Trichlorofluoromethane	15	U
75-35-4	1,1-Dichloroethene	15	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	15	U
67-64-1	Acetone	20	J
75-15-0	Carbon disulfide	15	U
79-20-9	Methyl acetate	15	U
75-09-2	Methylene chloride	2.7	JB
156-60-5	trans-1,2-Dichloroethene	15	U
1634-04-4	Methyl tert-butyl ether	15	U
75-34-3	1,1-Dichloroethane	15	U
156-59-2	cis-1,2-Dichloroethene	15	U
78-93-3	2-Butanone	29	U
74-97-5	Bromochloromethane	15	U
67-66-3	Chloroform	15	U
71-55-6	1,1,1-Trichloroethane	15	U
110-82-7	Cyclohexane	15	U
56-23-5	Carbon tetrachloride	15	U
71-43-2	Benzene	15	U
107-06-2	1,2-Dichloroethane	15	U
123-91-1	1,4-Dioxane	290	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-09

Sample wt/vol: 4.13 (g/mL) g Lab File ID: 1204022-0991.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 58.6 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	15	U
108-87-2	Methylcyclohexane	15	U
78-87-5	1,2-Dichloropropane	15	U
75-27-4	Bromodichloromethane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
108-10-1	4-Methyl-2-pentanone	29	U
108-88-3	Toluene	1.6	JB
10061-02-6	trans-1,3-Dichloropropene	15	U
79-00-5	1,1,2-Trichloroethane	15	U
127-18-4	Tetrachloroethene	1.7	J
591-78-6	2-Hexanone	29	U
124-48-1	Dibromochloromethane	15	U
106-93-4	1,2-Dibromoethane	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
95-47-6	o-Xylene	15	U
179601-23-1	m,p-Xylene	15	U
100-42-5	Styrene	15	U
75-25-2	Bromoform	15	U
98-82-8	Isopropylbenzene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
541-73-1	1,3-Dichlorobenzene	15	U
106-46-7	1,4-Dichlorobenzene	15	U
95-50-1	1,2-Dichlorobenzene	15	U
96-12-8	1,2-Dibromo-3-chloropropane	15	U
120-82-1	1,2,4-Trichlorobenzene	15	U
87-61-6	1,2,3-Trichlorobenzene	15	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F5

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-09

Sample wt/vol: 4.13 (g/mL) g Lab File ID: 1204022-0991.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/12/2012

% Moisture: not dec. 58.6 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-10

Sample wt/vol: 3.57 (g/mL) g Lab File ID: 1204022-1091.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 51.3 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	14	U
74-87-3	Chloromethane	14	U
75-01-4	Vinyl chloride	14	U
74-83-9	Bromomethane	14	U
75-00-3	Chloroethane	14	U
75-69-4	Trichlorofluoromethane	14	U
75-35-4	1,1-Dichloroethene	14	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14	U
67-64-1	Acetone	49	
75-15-0	Carbon disulfide	14	U
79-20-9	Methyl acetate	14	U
75-09-2	Methylene chloride	2.7	JB
156-60-5	trans-1,2-Dichloroethene	14	U
1634-04-4	Methyl tert-butyl ether	14	U
75-34-3	1,1-Dichloroethane	14	U
156-59-2	cis-1,2-Dichloroethene	14	U
78-93-3	2-Butanone	26	J
74-97-5	Bromochloromethane	14	U
67-66-3	Chloroform	14	U
71-55-6	1,1,1-Trichloroethane	14	U
110-82-7	Cyclohexane	14	U
56-23-5	Carbon tetrachloride	14	U
71-43-2	Benzene	14	U
107-06-2	1,2-Dichloroethane	14	U
123-91-1	1,4-Dioxane	290	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-10

Sample wt/vol: 3.57 (g/mL) g Lab File ID: 1204022-1091.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 51.3 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	1.3	J
108-87-2	Methylcyclohexane	14	U
78-87-5	1,2-Dichloropropane	14	U
75-27-4	Bromodichloromethane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
108-10-1	4-Methyl-2-pentanone	29	U
108-88-3	Toluene	1.6	JB
10061-02-6	trans-1,3-Dichloropropene	14	U
79-00-5	1,1,2-Trichloroethane	14	U
127-18-4	Tetrachloroethene	2.5	J
591-78-6	2-Hexanone	29	U
124-48-1	Dibromochloromethane	14	U
106-93-4	1,2-Dibromoethane	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
95-47-6	o-Xylene	14	U
179601-23-1	m,p-Xylene	14	U
100-42-5	Styrene	14	U
75-25-2	Bromoform	14	U
98-82-8	Isopropylbenzene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
541-73-1	1,3-Dichlorobenzene	14	U
106-46-7	1,4-Dichlorobenzene	14	U
95-50-1	1,2-Dichlorobenzene	14	U
96-12-8	1,2-Dibromo-3-chloropropane	14	U
120-82-1	1,2,4-Trichlorobenzene	14	U
87-61-6	1,2,3-Trichlorobenzene	14	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8F6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-10

Sample wt/vol: 3.57 (g/mL) g Lab File ID: 1204022-1091.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 51.3 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
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25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-11

Sample wt/vol: 3.38 (g/mL) g Lab File ID: 1204022-1191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 59.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	18	U
74-87-3	Chloromethane	18	U
75-01-4	Vinyl chloride	18	U
74-83-9	Bromomethane	18	U
75-00-3	Chloroethane	18	U
75-69-4	Trichlorofluoromethane	18	U
75-35-4	1,1-Dichloroethene	18	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	18	U
67-64-1	Acetone	65	
75-15-0	Carbon disulfide	18	U
79-20-9	Methyl acetate	18	U
75-09-2	Methylene chloride	3.4	JB
156-60-5	trans-1,2-Dichloroethene	18	U
1634-04-4	Methyl tert-butyl ether	18	U
75-34-3	1,1-Dichloroethane	18	U
156-59-2	cis-1,2-Dichloroethene	18	U
78-93-3	2-Butanone	37	U
74-97-5	Bromochloromethane	18	U
67-66-3	Chloroform	18	U
71-55-6	1,1,1-Trichloroethane	18	U
110-82-7	Cyclohexane	18	U
56-23-5	Carbon tetrachloride	18	U
71-43-2	Benzene	18	U
107-06-2	1,2-Dichloroethane	18	U
123-91-1	1,4-Dioxane	370	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8F7

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-11

Sample wt/vol: 3.38 (g/mL) g Lab File ID: 1204022-1191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 59.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	18	U
108-87-2	Methylcyclohexane	18	U
78-87-5	1,2-Dichloropropane	18	U
75-27-4	Bromodichloromethane	18	U
10061-01-5	cis-1,3-Dichloropropene	18	U
108-10-1	4-Methyl-2-pentanone	37	U
108-88-3	Toluene	1.6	JB
10061-02-6	trans-1,3-Dichloropropene	18	U
79-00-5	1,1,2-Trichloroethane	18	U
127-18-4	Tetrachloroethene	5.4	J
591-78-6	2-Hexanone	37	U
124-48-1	Dibromochloromethane	18	U
106-93-4	1,2-Dibromoethane	18	U
108-90-7	Chlorobenzene	18	U
100-41-4	Ethylbenzene	18	U
95-47-6	o-Xylene	18	U
179601-23-1	m,p-Xylene	18	U
100-42-5	Styrene	18	U
75-25-2	Bromoform	18	U
98-82-8	Isopropylbenzene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
541-73-1	1,3-Dichlorobenzene	18	U
106-46-7	1,4-Dichlorobenzene	18	U
95-50-1	1,2-Dichlorobenzene	18	U
96-12-8	1,2-Dibromo-3-chloropropane	18	U
120-82-1	1,2,4-Trichlorobenzene	18	U
87-61-6	1,2,3-Trichlorobenzene	18	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BA8F7

Lab Name: COMPUCHEM | Contract: EPW11032

Lab Code: LIBRTY | Case No.: 42434 | Mod. Ref No.: | SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: 1204022-11

Sample wt/vol: 3.38 (g/mL) g | Lab File ID: 1204022-1191.d

Level: (TRACE or LOW/MED) LOW | Date Received: 04/13/2012

% Moisture: not dec. 59.5 | Date Analyzed: 04/17/2012

GC Column: SPB-624 | ID: 0.32 (mm) | Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg | Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-12

Sample wt/vol: 2.90 (g/mL) g Lab File ID: 1204022-1291.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 77.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	39	U
74-87-3	Chloromethane	39	U
75-01-4	Vinyl chloride	39	U
74-83-9	Bromomethane	39	U
75-00-3	Chloroethane	39	U
75-69-4	Trichlorofluoromethane	39	U
75-35-4	1,1-Dichloroethene	39	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	39	U
67-64-1	Acetone	190	
75-15-0	Carbon disulfide	39	U
79-20-9	Methyl acetate	39	U
75-09-2	Methylene chloride	7.4	JB
156-60-5	trans-1,2-Dichloroethene	39	U
1634-04-4	Methyl tert-butyl ether	39	U
75-34-3	1,1-Dichloroethane	8.8	J
156-59-2	cis-1,2-Dichloroethene	8.4	J
78-93-3	2-Butanone	82	
74-97-5	Bromochloromethane	39	U
67-66-3	Chloroform	39	U
71-55-6	1,1,1-Trichloroethane	8.5	J
110-82-7	Cyclohexane	39	U
56-23-5	Carbon tetrachloride	39	U
71-43-2	Benzene	39	U
107-06-2	1,2-Dichloroethane	39	U
123-91-1	1,4-Dioxane	770	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-12

Sample wt/vol: 2.90 (g/mL) g Lab File ID: 1204022-1291.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 77.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	19	J
108-87-2	Methylcyclohexane	39	U
78-87-5	1,2-Dichloropropane	39	U
75-27-4	Bromodichloromethane	39	U
10061-01-5	cis-1,3-Dichloropropene	39	U
108-10-1	4-Methyl-2-pentanone	77	U
108-88-3	Toluene	39	U
10061-02-6	trans-1,3-Dichloropropene	39	U
79-00-5	1,1,2-Trichloroethane	39	U
127-18-4	Tetrachloroethene	76	
591-78-6	2-Hexanone	77	U
124-48-1	Dibromochloromethane	39	U
106-93-4	1,2-Dibromoethane	39	U
108-90-7	Chlorobenzene	39	U
100-41-4	Ethylbenzene	39	U
95-47-6	o-Xylene	39	U
179601-23-1	m,p-Xylene	39	U
100-42-5	Styrene	39	U
75-25-2	Bromoform	39	U
98-82-8	Isopropylbenzene	39	U
79-34-5	1,1,2,2-Tetrachloroethane	39	U
541-73-1	1,3-Dichlorobenzene	39	U
106-46-7	1,4-Dichlorobenzene	39	U
95-50-1	1,2-Dichlorobenzene	39	U
96-12-8	1,2-Dibromo-3-chloropropane	39	U
120-82-1	1,2,4-Trichlorobenzene	39	U
87-61-6	1,2,3-Trichlorobenzene	39	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-12

Sample wt/vol: 2.90 (g/mL) g Lab File ID: 1204022-1291.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 77.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-13

Sample wt/vol: 4.40 (g/mL) g Lab File ID: 1204022-1391.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 32.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	8.4	U
74-87-3	Chloromethane	8.4	U
75-01-4	Vinyl chloride	8.4	U
74-83-9	Bromomethane	8.4	U
75-00-3	Chloroethane	8.4	U
75-69-4	Trichlorofluoromethane	8.4	U
75-35-4	1,1-Dichloroethene	8.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	8.4	U
67-64-1	Acetone	26	
75-15-0	Carbon disulfide	8.4	U
79-20-9	Methyl acetate	8.4	U
75-09-2	Methylene chloride	1.6	JB
156-60-5	trans-1,2-Dichloroethene	8.4	U
1634-04-4	Methyl tert-butyl ether	8.4	U
75-34-3	1,1-Dichloroethane	8.4	U
156-59-2	cis-1,2-Dichloroethene	8.4	U
78-93-3	2-Butanone	17	U
74-97-5	Bromochloromethane	8.4	U
67-66-3	Chloroform	8.4	U
71-55-6	1,1,1-Trichloroethane	8.4	U
110-82-7	Cyclohexane	8.4	U
56-23-5	Carbon tetrachloride	8.4	U
71-43-2	Benzene	8.4	U
107-06-2	1,2-Dichloroethane	8.4	U
123-91-1	1,4-Dioxane	170	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-13

Sample wt/vol: 4.40 (g/mL) g Lab File ID: 1204022-1391.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 32.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	0.95	J
108-87-2	Methylcyclohexane	8.4	U
78-87-5	1,2-Dichloropropane	8.4	U
75-27-4	Bromodichloromethane	8.4	U
10061-01-5	cis-1,3-Dichloropropene	8.4	U
108-10-1	4-Methyl-2-pentanone	17	U
108-88-3	Toluene	8.4	U
10061-02-6	trans-1,3-Dichloropropene	8.4	U
79-00-5	1,1,2-Trichloroethane	8.4	U
127-18-4	Tetrachloroethene	21	
591-78-6	2-Hexanone	17	U
124-48-1	Dibromochloromethane	8.4	U
106-93-4	1,2-Dibromoethane	8.4	U
108-90-7	Chlorobenzene	8.4	U
100-41-4	Ethylbenzene	8.4	U
95-47-6	o-Xylene	8.4	U
179601-23-1	m,p-Xylene	8.4	U
100-42-5	Styrene	8.4	U
75-25-2	Bromoform	8.4	U
98-82-8	Isopropylbenzene	8.4	U
79-34-5	1,1,2,2-Tetrachloroethane	8.4	U
541-73-1	1,3-Dichlorobenzene	8.4	U
106-46-7	1,4-Dichlorobenzene	8.4	U
95-50-1	1,2-Dichlorobenzene	8.4	U
96-12-8	1,2-Dibromo-3-chloropropane	8.4	U
120-82-1	1,2,4-Trichlorobenzene	8.4	U
87-61-6	1,2,3-Trichlorobenzene	8.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G4

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-13

Sample wt/vol: 4.40 (g/mL) g Lab File ID: 1204022-1391.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 32.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-14

Sample wt/vol: 5.73 (g/mL) g Lab File ID: 1204022-1491.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 21.9 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.6	U
74-87-3	Chloromethane	5.6	U
75-01-4	Vinyl chloride	5.6	U
74-83-9	Bromomethane	5.6	U
75-00-3	Chloroethane	5.6	U
75-69-4	Trichlorofluoromethane	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.6	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.6	U
79-20-9	Methyl acetate	5.6	U
75-09-2	Methylene chloride	1.2	JB
156-60-5	trans-1,2-Dichloroethene	5.6	U
1634-04-4	Methyl tert-butyl ether	5.6	U
75-34-3	1,1-Dichloroethane	5.6	U
156-59-2	cis-1,2-Dichloroethene	1.5	J
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.6	U
67-66-3	Chloroform	5.6	U
71-55-6	1,1,1-Trichloroethane	5.6	U
110-82-7	Cyclohexane	5.6	U
56-23-5	Carbon tetrachloride	5.6	U
71-43-2	Benzene	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-14

Sample wt/vol: 5.73 (g/mL) g Lab File ID: 1204022-1491.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 21.9 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	1.7	J
108-87-2	Methylcyclohexane	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
75-27-4	Bromodichloromethane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	0.60	JB
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
127-18-4	Tetrachloroethene	11	
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.6	U
106-93-4	1,2-Dibromoethane	5.6	U
108-90-7	Chlorobenzene	5.6	U
100-41-4	Ethylbenzene	5.6	U
95-47-6	o-Xylene	5.6	U
179601-23-1	m,p-Xylene	5.6	U
100-42-5	Styrene	5.6	U
75-25-2	Bromoform	5.6	U
98-82-8	Isopropylbenzene	5.6	U
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U
541-73-1	1,3-Dichlorobenzene	5.6	U
106-46-7	1,4-Dichlorobenzene	5.6	U
95-50-1	1,2-Dichlorobenzene	5.6	U
96-12-8	1,2-Dibromo-3-chloropropane	5.6	U
120-82-1	1,2,4-Trichlorobenzene	5.6	U
87-61-6	1,2,3-Trichlorobenzene	5.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G6

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-14

Sample wt/vol: 5.73 (g/mL) g Lab File ID: 1204022-1491.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 21.9 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-15

Sample wt/vol: 3.33 (g/mL) g Lab File ID: 1204022-1591.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 81.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	40	U
74-87-3	Chloromethane	40	U
75-01-4	Vinyl chloride	40	U
74-83-9	Bromomethane	40	U
75-00-3	Chloroethane	40	U
75-69-4	Trichlorofluoromethane	40	U
75-35-4	1,1-Dichloroethene	40	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	40	U
67-64-1	Acetone	81	U
75-15-0	Carbon disulfide	40	U
79-20-9	Methyl acetate	40	U
75-09-2	Methylene chloride	7.5	JB
156-60-5	trans-1,2-Dichloroethene	40	U
1634-04-4	Methyl tert-butyl ether	40	U
75-34-3	1,1-Dichloroethane	31	J
156-59-2	cis-1,2-Dichloroethene	80	
78-93-3	2-Butanone	81	U
74-97-5	Bromochloromethane	40	U
67-66-3	Chloroform	40	U
71-55-6	1,1,1-Trichloroethane	280	
110-82-7	Cyclohexane	40	U
56-23-5	Carbon tetrachloride	40	U
71-43-2	Benzene	40	U
107-06-2	1,2-Dichloroethane	40	U
123-91-1	1,4-Dioxane	810	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-15

Sample wt/vol: 3.33 (g/mL) g Lab File ID: 1204022-1591.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 81.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	140	
108-87-2	Methylcyclohexane	40	U
78-87-5	1,2-Dichloropropane	40	U
75-27-4	Bromodichloromethane	40	U
10061-01-5	cis-1,3-Dichloropropene	40	U
108-10-1	4-Methyl-2-pentanone	81	U
108-88-3	Toluene	40	U
10061-02-6	trans-1,3-Dichloropropene	40	U
79-00-5	1,1,2-Trichloroethane	40	U
127-18-4	Tetrachloroethene	1200	
591-78-6	2-Hexanone	81	U
124-48-1	Dibromochloromethane	40	U
106-93-4	1,2-Dibromoethane	40	U
108-90-7	Chlorobenzene	40	U
100-41-4	Ethylbenzene	40	U
95-47-6	o-Xylene	40	U
179601-23-1	m,p-Xylene	40	U
100-42-5	Styrene	40	U
75-25-2	Bromoform	40	U
98-82-8	Isopropylbenzene	40	U
79-34-5	1,1,2,2-Tetrachloroethane	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
95-50-1	1,2-Dichlorobenzene	40	U
96-12-8	1,2-Dibromo-3-chloropropane	40	U
120-82-1	1,2,4-Trichlorobenzene	40	U
87-61-6	1,2,3-Trichlorobenzene	40	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G8

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-15

Sample wt/vol: 3.33 (g/mL) g Lab File ID: 1204022-1591.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 81.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-16

Sample wt/vol: 5.11 (g/mL) g Lab File ID: 1204022-1691.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 17.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	8.2	J
75-15-0	Carbon disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	1.2	JB
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	3.0	J
156-59-2	cis-1,2-Dichloroethene	0.81	J
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	100	
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-16

Sample wt/vol: 5.11 (g/mL) g Lab File ID: 1204022-1691.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 17.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	54	
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	0.51	JB
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	510	E
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
95-47-6	o-Xylene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-16

Sample wt/vol: 5.11 (g/mL) g Lab File ID: 1204022-1691.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 17.4 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G9ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-16

Sample wt/vol: 4.84 (g/mL) g Lab File ID: 1204022-16D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 17.4 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	370	U
74-87-3	Chloromethane	370	U
75-01-4	Vinyl chloride	370	U
74-83-9	Bromomethane	370	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	370	U
75-35-4	1,1-Dichloroethene	370	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	370	U
67-64-1	Acetone	730	U
75-15-0	Carbon disulfide	370	U
79-20-9	Methyl acetate	370	U
75-09-2	Methylene chloride	370	U
156-60-5	trans-1,2-Dichloroethene	370	U
1634-04-4	Methyl tert-butyl ether	370	U
75-34-3	1,1-Dichloroethane	370	U
156-59-2	cis-1,2-Dichloroethene	370	U
78-93-3	2-Butanone	730	U
74-97-5	Bromochloromethane	370	U
67-66-3	Chloroform	370	U
71-55-6	1,1,1-Trichloroethane	370	U
110-82-7	Cyclohexane	370	U
56-23-5	Carbon tetrachloride	370	U
71-43-2	Benzene	370	U
107-06-2	1,2-Dichloroethane	370	U
123-91-1	1,4-Dioxane	7300	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8G9ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-16

Sample wt/vol: 4.84 (g/mL) g Lab File ID: 1204022-16D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 17.4 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	370	U
108-87-2	Methylcyclohexane	370	U
78-87-5	1,2-Dichloropropane	370	U
75-27-4	Bromodichloromethane	370	U
10061-01-5	cis-1,3-Dichloropropene	370	U
108-10-1	4-Methyl-2-pentanone	730	U
108-88-3	Toluene	370	U
10061-02-6	trans-1,3-Dichloropropene	370	U
79-00-5	1,1,2-Trichloroethane	370	U
127-18-4	Tetrachloroethene	930	
591-78-6	2-Hexanone	730	U
124-48-1	Dibromochloromethane	370	U
106-93-4	1,2-Dibromoethane	370	U
108-90-7	Chlorobenzene	370	U
100-41-4	Ethylbenzene	370	U
95-47-6	o-Xylene	370	U
179601-23-1	m,p-Xylene	370	U
100-42-5	Styrene	370	U
75-25-2	Bromoform	370	U
98-82-8	Isopropylbenzene	370	U
79-34-5	1,1,2,2-Tetrachloroethane	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
96-12-8	1,2-Dibromo-3-chloropropane	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
87-61-6	1,2,3-Trichlorobenzene	370	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8G9ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-16

Sample wt/vol: 4.84 (g/mL) g Lab File ID: 1204022-16D91.d

Level: (TRACE or LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 17.4 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-17

Sample wt/vol: 5.83 (g/mL) g Lab File ID: 1204022-1791.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 19.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	1.1	JB
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	1.3	J
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	0.83	J
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-17

Sample wt/vol: 5.83 (g/mL) g Lab File ID: 1204022-1791.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 19.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	13	
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	410	E
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
95-47-6	o-Xylene	5.3	U
179601-23-1	m,p-Xylene	5.3	U
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	0.98	JB
87-61-6	1,2,3-Trichlorobenzene	5.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H0

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-17

Sample wt/vol: 5.83 (g/mL) g Lab File ID: 1204022-1791.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 19.7 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H0ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-17

Sample wt/vol: 5.64 (g/mL) g Lab File ID: 1204022-17D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 19.7 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	340	U
74-87-3	Chloromethane	340	U
75-01-4	Vinyl chloride	340	U
74-83-9	Bromomethane	340	U
75-00-3	Chloroethane	340	U
75-69-4	Trichlorofluoromethane	340	U
75-35-4	1,1-Dichloroethene	340	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	340	U
67-64-1	Acetone	670	U
75-15-0	Carbon disulfide	340	U
79-20-9	Methyl acetate	340	U
75-09-2	Methylene chloride	340	U
156-60-5	trans-1,2-Dichloroethene	340	U
1634-04-4	Methyl tert-butyl ether	340	U
75-34-3	1,1-Dichloroethane	340	U
156-59-2	cis-1,2-Dichloroethene	340	U
78-93-3	2-Butanone	560	J
74-97-5	Bromochloromethane	340	U
67-66-3	Chloroform	340	U
71-55-6	1,1,1-Trichloroethane	340	U
110-82-7	Cyclohexane	340	U
56-23-5	Carbon tetrachloride	340	U
71-43-2	Benzene	340	U
107-06-2	1,2-Dichloroethane	340	U
123-91-1	1,4-Dioxane	6700	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H0ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-17

Sample wt/vol: 5.64 (g/mL) g Lab File ID: 1204022-17D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 19.7 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	340	U
108-87-2	Methylcyclohexane	340	U
78-87-5	1,2-Dichloropropane	340	U
75-27-4	Bromodichloromethane	340	U
10061-01-5	cis-1,3-Dichloropropene	340	U
108-10-1	4-Methyl-2-pentanone	670	U
108-88-3	Toluene	340	U
10061-02-6	trans-1,3-Dichloropropene	340	U
79-00-5	1,1,2-Trichloroethane	340	U
127-18-4	Tetrachloroethene	180	J
591-78-6	2-Hexanone	670	U
124-48-1	Dibromochloromethane	340	U
106-93-4	1,2-Dibromoethane	340	U
108-90-7	Chlorobenzene	340	U
100-41-4	Ethylbenzene	340	U
95-47-6	o-Xylene	340	U
179601-23-1	m,p-Xylene	340	U
100-42-5	Styrene	340	U
75-25-2	Bromoform	340	U
98-82-8	Isopropylbenzene	340	U
79-34-5	1,1,2,2-Tetrachloroethane	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
96-12-8	1,2-Dibromo-3-chloropropane	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
87-61-6	1,2,3-Trichlorobenzene	340	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H0ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-17

Sample wt/vol: 5.64 (g/mL) g Lab File ID: 1204022-17D91.d

Level: (TRACE or LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 19.7 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-18

Sample wt/vol: 3.82 (g/mL) g Lab File ID: 1204022-1891.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 73.8 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	25	U
74-87-3	Chloromethane	25	U
75-01-4	Vinyl chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	42	
75-69-4	Trichlorofluoromethane	25	U
75-35-4	1,1-Dichloroethene	25	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	25	U
67-64-1	Acetone	280	
75-15-0	Carbon disulfide	2.2	J
79-20-9	Methyl acetate	25	U
75-09-2	Methylene chloride	4.3	JB
156-60-5	trans-1,2-Dichloroethene	25	U
1634-04-4	Methyl tert-butyl ether	25	U
75-34-3	1,1-Dichloroethane	25	U
156-59-2	cis-1,2-Dichloroethene	3.6	J
78-93-3	2-Butanone	91	
74-97-5	Bromochloromethane	25	U
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	25	U
110-82-7	Cyclohexane	25	U
56-23-5	Carbon tetrachloride	25	U
71-43-2	Benzene	25	U
107-06-2	1,2-Dichloroethane	25	U
123-91-1	1,4-Dioxane	500	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-18

Sample wt/vol: 3.82 (g/mL) g Lab File ID: 1204022-1891.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 73.8 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	2.1	J
108-87-2	Methylcyclohexane	25	U
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
108-10-1	4-Methyl-2-pentanone	50	U
108-88-3	Toluene	2.4	JB
10061-02-6	trans-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
127-18-4	Tetrachloroethene	2.4	J
591-78-6	2-Hexanone	50	U
124-48-1	Dibromochloromethane	25	U
106-93-4	1,2-Dibromoethane	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
95-47-6	o-Xylene	25	U
179601-23-1	m,p-Xylene	25	U
100-42-5	Styrene	25	U
75-25-2	Bromoform	25	U
98-82-8	Isopropylbenzene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
541-73-1	1,3-Dichlorobenzene	25	U
106-46-7	1,4-Dichlorobenzene	25	U
95-50-1	1,2-Dichlorobenzene	25	U
96-12-8	1,2-Dibromo-3-chloropropane	25	U
120-82-1	1,2,4-Trichlorobenzene	25	U
87-61-6	1,2,3-Trichlorobenzene	25	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H1

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-18

Sample wt/vol: 3.82 (g/mL) g Lab File ID: 1204022-1891.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 73.8 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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16					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: _____ SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-19

Sample wt/vol: 4.45 (g/mL) g Lab File ID: 1204022-1991.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 15.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	6.6	U
74-87-3	Chloromethane	6.6	U
75-01-4	Vinyl chloride	6.6	U
74-83-9	Bromomethane	6.6	U
75-00-3	Chloroethane	6.6	U
75-69-4	Trichlorofluoromethane	6.6	U
75-35-4	1,1-Dichloroethene	6.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.6	U
67-64-1	Acetone	6.4	J
75-15-0	Carbon disulfide	6.6	U
79-20-9	Methyl acetate	6.6	U
75-09-2	Methylene chloride	1.3	JB
156-60-5	trans-1,2-Dichloroethene	6.6	U
1634-04-4	Methyl tert-butyl ether	6.6	U
75-34-3	1,1-Dichloroethane	14	
156-59-2	cis-1,2-Dichloroethene	1.1	J
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.6	U
67-66-3	Chloroform	6.6	U
71-55-6	1,1,1-Trichloroethane	280	E
110-82-7	Cyclohexane	6.6	U
56-23-5	Carbon tetrachloride	6.6	U
71-43-2	Benzene	6.6	U
107-06-2	1,2-Dichloroethane	6.6	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-19

Sample wt/vol: 4.45 (g/mL) g Lab File ID: 1204022-1991.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 15.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	91	
108-87-2	Methylcyclohexane	6.6	U
78-87-5	1,2-Dichloropropane	6.6	U
75-27-4	Bromodichloromethane	6.6	U
10061-01-5	cis-1,3-Dichloropropene	6.6	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.61	J
10061-02-6	trans-1,3-Dichloropropene	6.6	U
79-00-5	1,1,2-Trichloroethane	0.54	J
127-18-4	Tetrachloroethene	1200	E
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.6	U
106-93-4	1,2-Dibromoethane	6.6	U
108-90-7	Chlorobenzene	6.6	U
100-41-4	Ethylbenzene	6.6	U
95-47-6	o-Xylene	6.6	U
179601-23-1	m,p-Xylene	6.6	U
100-42-5	Styrene	6.6	U
75-25-2	Bromoform	6.6	U
98-82-8	Isopropylbenzene	6.6	U
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U
541-73-1	1,3-Dichlorobenzene	6.6	U
106-46-7	1,4-Dichlorobenzene	6.6	U
95-50-1	1,2-Dichlorobenzene	6.6	U
96-12-8	1,2-Dibromo-3-chloropropane	6.6	U
120-82-1	1,2,4-Trichlorobenzene	6.6	U
87-61-6	1,2,3-Trichlorobenzene	6.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H2

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-19

Sample wt/vol: 4.45 (g/mL) g Lab File ID: 1204022-1991.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 15.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H2ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-19

Sample wt/vol: 4.38 (g/mL) g Lab File ID: 1204022-19D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 15.5 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	380	U
74-87-3	Chloromethane	380	U
75-01-4	Vinyl chloride	380	U
74-83-9	Bromomethane	380	U
75-00-3	Chloroethane	380	U
75-69-4	Trichlorofluoromethane	380	U
75-35-4	1,1-Dichloroethene	380	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	380	U
67-64-1	Acetone	770	U
75-15-0	Carbon disulfide	380	U
79-20-9	Methyl acetate	380	U
75-09-2	Methylene chloride	380	U
156-60-5	trans-1,2-Dichloroethene	380	U
1634-04-4	Methyl tert-butyl ether	380	U
75-34-3	1,1-Dichloroethane	380	U
156-59-2	cis-1,2-Dichloroethene	380	U
78-93-3	2-Butanone	540	J
74-97-5	Bromochloromethane	380	U
67-66-3	Chloroform	380	U
71-55-6	1,1,1-Trichloroethane	580	
110-82-7	Cyclohexane	380	U
56-23-5	Carbon tetrachloride	380	U
71-43-2	Benzene	380	U
107-06-2	1,2-Dichloroethane	380	U
123-91-1	1,4-Dioxane	7700	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H2ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-19

Sample wt/vol: 4.38 (g/mL) g Lab File ID: 1204022-19D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 15.5 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	200	J
108-87-2	Methylcyclohexane	380	U
78-87-5	1,2-Dichloropropane	380	U
75-27-4	Bromodichloromethane	380	U
10061-01-5	cis-1,3-Dichloropropene	380	U
108-10-1	4-Methyl-2-pentanone	770	U
108-88-3	Toluene	380	U
10061-02-6	trans-1,3-Dichloropropene	380	U
79-00-5	1,1,2-Trichloroethane	380	U
127-18-4	Tetrachloroethene	6000	
591-78-6	2-Hexanone	770	U
124-48-1	Dibromochloromethane	380	U
106-93-4	1,2-Dibromoethane	380	U
108-90-7	Chlorobenzene	380	U
100-41-4	Ethylbenzene	380	U
95-47-6	o-Xylene	380	U
179601-23-1	m,p-Xylene	380	U
100-42-5	Styrene	380	U
75-25-2	Bromoform	380	U
98-82-8	Isopropylbenzene	380	U
79-34-5	1,1,2,2-Tetrachloroethane	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
96-12-8	1,2-Dibromo-3-chloropropane	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
87-61-6	1,2,3-Trichlorobenzene	380	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H2ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-19

Sample wt/vol: 4.38 (g/mL) g Lab File ID: 1204022-19D91.d

Level: (TRACE or LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 15.5 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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16					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-20

Sample wt/vol: 2.74 (g/mL) g Lab File ID: 1204022-2091.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 70.8 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	31	U
74-87-3	Chloromethane	31	U
75-01-4	Vinyl chloride	31	U
74-83-9	Bromomethane	31	U
75-00-3	Chloroethane	31	U
75-69-4	Trichlorofluoromethane	31	U
75-35-4	1,1-Dichloroethene	31	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	31	U
67-64-1	Acetone	190	
75-15-0	Carbon disulfide	31	U
79-20-9	Methyl acetate	31	U
75-09-2	Methylene chloride	6.6	JB
156-60-5	trans-1,2-Dichloroethene	3.6	J
1634-04-4	Methyl tert-butyl ether	31	U
75-34-3	1,1-Dichloroethane	180	
156-59-2	cis-1,2-Dichloroethene	230	
78-93-3	2-Butanone	63	U
74-97-5	Bromochloromethane	31	U
67-66-3	Chloroform	31	U
71-55-6	1,1,1-Trichloroethane	3000	E
110-82-7	Cyclohexane	31	U
56-23-5	Carbon tetrachloride	31	U
71-43-2	Benzene	31	U
107-06-2	1,2-Dichloroethane	31	U
123-91-1	1,4-Dioxane	630	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-20

Sample wt/vol: 2.74 (g/mL) g Lab File ID: 1204022-2091.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 70.8 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	1000	
108-87-2	Methylcyclohexane	31	U
78-87-5	1,2-Dichloropropane	31	U
75-27-4	Bromodichloromethane	31	U
10061-01-5	cis-1,3-Dichloropropene	31	U
108-10-1	4-Methyl-2-pentanone	63	U
108-88-3	Toluene	31	U
10061-02-6	trans-1,3-Dichloropropene	31	U
79-00-5	1,1,2-Trichloroethane	6.2	J
127-18-4	Tetrachloroethene	11000	E
591-78-6	2-Hexanone	63	U
124-48-1	Dibromochloromethane	31	U
106-93-4	1,2-Dibromoethane	31	U
108-90-7	Chlorobenzene	31	U
100-41-4	Ethylbenzene	31	U
95-47-6	o-Xylene	31	U
179601-23-1	m,p-Xylene	31	U
100-42-5	Styrene	31	U
75-25-2	Bromoform	31	U
98-82-8	Isopropylbenzene	31	U
79-34-5	1,1,2,2-Tetrachloroethane	31	U
541-73-1	1,3-Dichlorobenzene	31	U
106-46-7	1,4-Dichlorobenzene	31	U
95-50-1	1,2-Dichlorobenzene	31	U
96-12-8	1,2-Dibromo-3-chloropropane	31	U
120-82-1	1,2,4-Trichlorobenzene	5.4	J
87-61-6	1,2,3-Trichlorobenzene	31	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H3

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-20

Sample wt/vol: 2.74 (g/mL) g Lab File ID: 1204022-2091.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 70.8 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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16					
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18					
19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H3ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-20

Sample wt/vol: 4.90 (g/mL) g Lab File ID: 1204022-20D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 70.8 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	1500	U
75-01-4	Vinyl chloride	1500	U
74-83-9	Bromomethane	1500	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1500	U
75-35-4	1,1-Dichloroethene	1500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U
67-64-1	Acetone	2000	J
75-15-0	Carbon disulfide	1500	U
79-20-9	Methyl acetate	1500	U
75-09-2	Methylene chloride	1500	U
156-60-5	trans-1,2-Dichloroethene	1500	U
1634-04-4	Methyl tert-butyl ether	1500	U
75-34-3	1,1-Dichloroethane	1500	U
156-59-2	cis-1,2-Dichloroethene	1500	U
78-93-3	2-Butanone	2000	J
74-97-5	Bromochloromethane	1500	U
67-66-3	Chloroform	1500	U
71-55-6	1,1,1-Trichloroethane	810	J
110-82-7	Cyclohexane	1500	U
56-23-5	Carbon tetrachloride	1500	U
71-43-2	Benzene	1500	U
107-06-2	1,2-Dichloroethane	1500	U
123-91-1	1,4-Dioxane	30000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H3ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-20

Sample wt/vol: 4.90 (g/mL) g Lab File ID: 1204022-20D91.d

Level: (TRACE/LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 70.8 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	1500	U
108-87-2	Methylcyclohexane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
75-27-4	Bromodichloromethane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
108-10-1	4-Methyl-2-pentanone	3000	U
108-88-3	Toluene	1500	U
10061-02-6	trans-1,3-Dichloropropene	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
127-18-4	Tetrachloroethene	6600	
591-78-6	2-Hexanone	3000	U
124-48-1	Dibromochloromethane	1500	U
106-93-4	1,2-Dibromoethane	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
95-47-6	o-Xylene	1500	U
179601-23-1	m,p-Xylene	1500	U
100-42-5	Styrene	1500	U
75-25-2	Bromoform	1500	U
98-82-8	Isopropylbenzene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
96-12-8	1,2-Dibromo-3-chloropropane	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U
87-61-6	1,2,3-Trichlorobenzene	1500	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H3ME

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-20

Sample wt/vol: 4.90 (g/mL) g Lab File ID: 1204022-20D91.d

Level: (TRACE or LOW/MED) MED Date Received: 04/13/2012

% Moisture: not dec. 70.8 Date Analyzed: 04/19/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
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24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-21

Sample wt/vol: 5.08 (g/mL) g Lab File ID: 1204022-2191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 18.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	6.0	U
74-87-3	Chloromethane	6.0	U
75-01-4	Vinyl chloride	6.0	U
74-83-9	Bromomethane	6.0	U
75-00-3	Chloroethane	6.0	U
75-69-4	Trichlorofluoromethane	6.0	U
75-35-4	1,1-Dichloroethene	6.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.0	U
67-64-1	Acetone	3.9	J
75-15-0	Carbon disulfide	6.0	U
79-20-9	Methyl acetate	6.0	U
75-09-2	Methylene chloride	1.1	JB
156-60-5	trans-1,2-Dichloroethene	6.0	U
1634-04-4	Methyl tert-butyl ether	6.0	U
75-34-3	1,1-Dichloroethane	6.0	U
156-59-2	cis-1,2-Dichloroethene	6.0	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	6.0	U
67-66-3	Chloroform	6.0	U
71-55-6	1,1,1-Trichloroethane	6.0	U
110-82-7	Cyclohexane	6.0	U
56-23-5	Carbon tetrachloride	6.0	U
71-43-2	Benzene	6.0	U
107-06-2	1,2-Dichloroethane	6.0	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BA8H9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-21

Sample wt/vol: 5.08 (g/mL) g Lab File ID: 1204022-2191.d

Level: (TRACE/LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 18.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	6.0	U
108-87-2	Methylcyclohexane	6.0	U
78-87-5	1,2-Dichloropropane	6.0	U
75-27-4	Bromodichloromethane	6.0	U
10061-01-5	cis-1,3-Dichloropropene	6.0	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	0.66	J
10061-02-6	trans-1,3-Dichloropropene	6.0	U
79-00-5	1,1,2-Trichloroethane	6.0	U
127-18-4	Tetrachloroethene	2.2	J
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	6.0	U
106-93-4	1,2-Dibromoethane	6.0	U
108-90-7	Chlorobenzene	6.0	U
100-41-4	Ethylbenzene	6.0	U
95-47-6	o-Xylene	6.0	U
179601-23-1	m,p-Xylene	6.0	U
100-42-5	Styrene	6.0	U
75-25-2	Bromoform	6.0	U
98-82-8	Isopropylbenzene	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U
541-73-1	1,3-Dichlorobenzene	6.0	U
106-46-7	1,4-Dichlorobenzene	6.0	U
95-50-1	1,2-Dichlorobenzene	6.0	U
96-12-8	1,2-Dibromo-3-chloropropane	6.0	U
120-82-1	1,2,4-Trichlorobenzene	6.0	U
87-61-6	1,2,3-Trichlorobenzene	6.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BA8H9

Lab Name: COMPUCHEM Contract: EPW11032

Lab Code: LIBRTY Case No.: 42434 Mod. Ref No.: SDG No.: BA8D7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1204022-21

Sample wt/vol: 5.08 (g/mL) g Lab File ID: 1204022-2191.d

Level: (TRACE or LOW/MED) LOW Date Received: 04/13/2012

% Moisture: not dec. 18.5 Date Analyzed: 04/17/2012

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
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24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

REFERENCE 75

LAB NAME: CHEMTECH CONSULTING GROUP
CASE# 42450
SDG# B49W0
CONTRACT# EPW11030
LAB CODE: CHEM
CHEMTECH PROJECT # D2254
MODIFICATION REF. NUMBER: NA

Lab Sample Number	Client Sample Number	Test
D2254-01	B49W0	pH<2
D2254-02	B49W1	pH<2
D2254-03	B4A31	pH<2
D2254-05	B49T8	pH<2
D2254-06*	B49T9	pH<2
D2254-07	B49W2	pH<2
D2254-08	B4A29	pH<2
D2254-11	B4A30	pH<2
D2254-12	B49W3	pH<2
D2254-13	B4A26	pH<2
D2254-14	B4A27	pH<2
D2254-15	B4A28	pH<2

3 Water samples were delivered to the laboratory intact on 04/17/2012.
7 Water samples were delivered to the laboratory intact on 04/18/2012.
4 Water samples were delivered to the laboratory intact on 04/19/2012.

Tests requested on the Chain of Custody were Low Level Volatile Organic ,Semi-Volatile Organic and PCB by Method SOM01.2.

Samples for Volatile Organic analyses were transferred unopened to the Volatile Laboratory.

The temperature of the samples was measured using an I R Gun. Samples were received in a vial/ampule and the temperature of the samples was 4 degrees C, 5 degrees C and 4 degrees C for the shipment received on 04/17/2012, 04/18/2012 and 04/19/2012 respectively.

Shipping Discrepancies and/or QC issues:
Issue 1: The laboratory indicated that they received 1 out of 9 ambers broken for sample B4A29; however, the laboratory has sufficient volume remaining to perform analysis and laboratory QC.

Resolution 1: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples. If re-

1

extraction/reanalysis is necessary, the laboratory will contact the SMO coordinator and wait for a resolution.

Issue 2: We are sending this email with reference to SDG (B49W0), Case (42450) and fraction Low Medium Volatile.

Lab has analyzed neat analysis of sample (B4A26) as 25X dilution. Sample (B4A26) has following compounds present.

Target Compound (B4A26)	Concentration (ug/L)
Tetrachloroethene	90.63

We would like to notify that the lab want to use 25X dilution for Sample (B4A26) as a neat analysis. Lab will not analyze undiluted analysis of Sample (B4A26). Lab will report 25X dilution as a neat analysis for sample (B4A26) in hard copy as well as EDD. This decision may create a defect in EDD. We would request to remove that EDD defect at the time of review.

Resolution 2: The correspondence below has been documented for SDG B49W0 / Case 42450 and an ROC has been created for this issue

Low Volatiles:
The analyses for Low Volatile Organics Water sample was performed on instrument MSVOA_T using GC column RXI-624SIL MS 30m 0.25mm 1.4um. The Trap was supplied by OI Analytical, OI #130107 Trap , OI.
Samples were analyzed within hold time.
The Surrogate recoveries met the acceptable criteria
The Surrogate recoveries met the acceptable criteria except for B4A26 [trans-1,3-Dichloropropene-d4 - 71%].
As per method, up to 3 surrogates can fail, so no corrective action was taken
Instrument Performance Check met requirements.
Retention Times met requirements.
Internal Standard Areas met requirements.
Initial Calibration did not meet requirements for Bromoform (23.3%), the % RSD is less than 40%.
The Continuing Calibration (VSTD05060) met the requirements except for Bromoform (27.3%).
As per method, %RSD and %D of 2 compounds can be within 40%, so no corrective action taken.
1-4 Dioxane and 1-4 Dioxane-d8 did not meet the criteria for Minimum RRF in Initial and continuing calibrations.
Blank analysis did not indicate any contamination.
If the concentration of target compound is below Method detection limits, it is not reported as Hit in Form1.
Sample B4A26 was initially analyzed with Dilution. The concentration of Tetrachloroethane is high. This Sample was not re-analyzed undiluted. Client is notified that this sample will not be re-analyzed undiluted.

Sample B4A30 was diluted due to high concentration. Instrument Blank was not analyzed following the analysis of this sample. The sample which was analyzed following the analysis of this sample was not associated with this project.

Manual integration was performed for the following:

Low-Level Water Concentration Calculation:

$$\text{Concentration in ug/L} = \frac{(Ax)\,(Is)\,(DF)}{(Ais)\,(\overline{RRF})\,(Vo)}$$

Where,
Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = Area of the characteristic ion (EICP) for the internal standard.
Is = Amount of internal standard added in ng.

$\overline{RRF}$ = Mean Relative Response Factor from the initial calibration standard.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor.

Semivolatiles:

Semi volatile Organic samples were extracted by Method SOM01.2 on 04/18/2012 and 04/19/12. The samples were extracted and analyzed within holding time.

The samples were analyzed on instrument BNA_G using GC Column ZB-5MS which is 30 meters, 0.25 mm ID, 0.50 um df.The stationary phase is a silarylene phase.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for B49W0 [4-Chloroaniline-d4 - 0%, 4-Nitrophenol-d4 - 16%, Phenol-d5 - 18%], B4A31 [4-Nitrophenol-d4 - 16%, Phenol-d5 - 20%], B49T8 [4-Nitrophenol-d4 - 22%, Phenol-d5 - 25%], B49T9 [4-Nitrophenol-d4 - 16%, Phenol-d5 - 22%], B4A29 [4-Chloroaniline-d4 - 0%, 4-Nitrophenol-d4 - 22%, Phenol-d5 - 27%], B4A30 [4-Nitrophenol-d4 - 17%, Phenol-d5 - 21%], B4A26 [4-Nitrophenol-d4 - 27%, Phenol-d5 - 31%], B4A27 [4-Nitrophenol-d4 - 30%, Phenol-d5 - 29%], B4A27DL [4-Nitrophenol-d4 - 28%, Phenol-d5 - 27%], B4A28 [Phenol-d5 - 30%], B4A28DL [4-Nitrophenol-d4 - 27%, Anthracene-d10 - 111% and Phenol-d5 - 29%]. As per Method four Surrogates are allowed to fail. No further corrective action was taken.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Initial Calibration met the requirements.
The Blank analysis did not indicate the presence of lab contamination.
The Tuning criteria met requirements.

Samples B4A27, B4A28 were diluted due to high concentrations.

Butyl Benzyl Phthalate is not reported on form01 for sample B4A27 and B4A28 As the concentration detected is below the MDL value.

Concentration of Water Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

Where,
Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL

$\overline{RRF}$ = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

Aroclors:

The analyses of Aroclors were performed on instrument ECD O. The front column is ZB-Multi-Residue-1 which is 30 meters, 0.32 mm ID, 0.5 um df. The rear column ZB-Multi-Residue-2 which is 30 meters, 0.32 mm ID, 0.5 um df.

Samples were analyzed on a single injection dual column system. To distinguish the second column analysis from the first column a -2 suffix was added to the file id on the form 8 and form 1. Aroclor sample were extracted by Method SOM01.2 on 04/18 & 19/2012 and analyzed on 04/19/2012. All the samples were subjected to a Sulfuric acid cleanup. The samples were extracted and analyzed within contractual holding time.
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times met the requirements.
The MS recoveries met the requirements.
The MSD recoveries met requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements.
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements.
The Continuous Calibration met the requirements.

Calculation for Concentration in Water Samples:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Vt)\,(DF)\,(GPC)}{(CF)\,(Vo)\,(Vi)}$$

Where,
Ax = Response (peak area or height) of the compound to be measured.
CF = Mean Calibration Factor from the initial calibration (area/ng).
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
Vin = Volume of extract loaded onto GPC column.
Vout = Volume of extract collected after GPC cleanup.
DF = Dilution Factor.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature Mildred V Reyes Name: Mildred V. Reyes

Date: 5/2/12 Title: Document Control Officer

5

EPW11030

SDG # B49W0

USEPA CLP Organics COC (LAB COPY)

DateShipped: 4/16/2012

CarrierName: FedEx

AirbillNo: 869740301491

CHAIN OF CUSTODY RECORD

Case #: 42450

Cooler #: 1

No: 2-041612-175222-0001

Lab: ChemTech Consulting Group

Lab Contact: Divya Mehta

Lab Phone: 908-789-8900

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	For Lab Use Only
B49W0	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	~~1040~~ (HCl to pH<2, Cool to 4 C), ~~1041~~ (Cool to 4 C), ~~1042~~ (Cool to 4 C) (7)	1645-RIN01	04/16/2012 15:20	MB49W0	
B49W1	Ground Water/ WESTON/SAT2	Grab	VOA(14)	1045 (HCl to pH<2, Cool to 4 C) (3)	1645-TB01	04/16/2012 12:30		
B4A31	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	~~1025~~ (HCl to pH<2, Cool to 4 C), ~~1026~~ (Cool to 4 C), ~~1027~~ (Cool to 4 C) (7)	1645-GW10	04/16/2012 16:05	MB4A31	

Special Instructions: Temp 4°C

Shipment for Case Complete? N

Samples Transferred From Chain of Custody # NA

Analysis Key: VOA=CLP TCL Volatiles, BNA=CLP TCL Semivolatiles, PCB=CLP TCL Aroclors

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
—	[signature]	4/16/12	FedEx	4/16/12	2000	—			PS	4/17/12	9:10

EPW11030

SDG # B49W0

USEPA CLP Organics COC (LAB COPY)
DateShipped: 4/17/2012
CarrierName: FedEx
AirbillNo: 875810436612

CHAIN OF CUSTODY RECORD

Case #: 42450
Cooler #: 1

No: 2-041712-125614-0003
Lab: ChemTech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	For Lab Use Only
B49T8	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	~~1030~~ (HCl to pH<2, Cool to 4 C), ~~1031~~ (Cool to 4 C), ~~1032~~ (Cool to 4 C) (7)	1645-GW05	04/17/2012 11:00	MB49T8	
B49T9	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	~~1035~~ (HCl to pH<2, Cool to 4 C), ~~1036~~ (Cool to 4 C), ~~1037~~ (Cool to 4 C) (7)	1645-GW22	04/17/2012 08:45	MB49T9	
B49W2	Ground Water/ WESTON/SAT2	Grab	VOA(14)	~~1050~~ (HCl to pH<2, Cool to 4 C) (3)	1645-TB02	04/17/2012 07:45		

Special Instructions: Temp 5°C

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #
NA

Analysis Key: VOA=CLP TCL Volatiles, BNA=CLP TCL Semivolatiles, PCB=CLP TCL Aroclors

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
—	[signature]	4/17/12	FedEx	4/17/12	1800				PS	4/18/12	9:15

10

EPW11030

SDG# B49W0

USEPA CLP Organics COC (LAB COPY)

DateShipped: 4/17/2012

CarrierName: FedEx

AirbillNo: 875810436612

CHAIN OF CUSTODY RECORD

Case #: 42450

Cooler #: 2

No: 2-041712-125616-0004

Lab: ChemTech Consulting Group

Lab Contact: Divya Mehta

Lab Phone: 908-789-8900

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	For Lab Use Only
B4A29	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	~~1015~~ (HCl to pH<2, Cool to 4 C), ~~1016~~ (Cool to 4 C), ~~1017~~ (Cool to 4 C) (11)	1645-GW15	04/17/2012 12:30	MB4A29	
B4A30	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	~~1020~~ (HCl to pH<2, Cool to 4 C), ~~1021~~ (Cool to 4 C), ~~1022~~ (Cool to 4 C) (7)	1645-GW24	04/17/2012 16:00	MB4A30	

Sample(s) to be used for Lab QC: B4A29 Temp 5°C

Shipment for Case Complete? N

Samples Transferred From Chain of Custody # N/A

Analysis Key: VOA=CLP TCL Volatiles, BNA=CLP TCL Semivolatiles, PCB=CLP TCL Aroclors

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
—	[signature]	4/17/12	FedEx	4/17/12	1800	—	—	—	PS	4/18/12	9:25

EPW11030

SDG# B49W0

USEPA CLP Organics COC (LAB COPY)

DateShipped: 4/18/2012

CarrierName: FedEx

AirbillNo: 875810436634

CHAIN OF CUSTODY RECORD

Case #: 42450

Cooler #: 1

No: 2-041812-053116-0007

Lab: ChemTech Consulting Group

Lab Contact: Divya Mehta

Lab Phone: 908-789-8900

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	For Lab Use Only
B49W3	Ground Water/ WESTON/SAT2	Grab	VOA(14)	DC ~~1055~~ (HCl to pH<2, Cool to 4 C) (3)	1645-TB03	04/18/2012 08:15		
B4A26	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	DC ~~1000~~ (HCl to pH<2, Cool to 4 C), DC ~~1001~~ (Cool to 4 C), DC ~~1002~~ (Cool to 4 C) (7)	1645-GW02	04/18/2012 13:20	MB4A26	
B4A27	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	DC ~~1005~~ (HCl to pH<2, Cool to 4 C), DC ~~1006~~ (Cool to 4 C), DC ~~1007~~ (Cool to 4 C) (7)	1645-GW06	04/18/2012 09:10	MB4A27	
B4A28	Ground Water/ WESTON/SAT2	Grab	VOA(14), BNA(14), PCB(14)	DC ~~1010~~ (HCl to pH<2, Cool to 4 C), DC ~~1011~~ (Cool to 4 C), DC ~~1012~~ (Cool to 4 C) (7)	1645-GW06A	04/18/2012 09:15	MB4A28	

Special Instructions: Temp: 4°C

Shipment for Case Complete? Y

Samples Transferred From Chain of Custody #

Analysis Key: VOA=CLP TCL Volatiles, BNA=CLP TCL Semivolatiles, PCB=CLP TCL Aroclors

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
—	Paul Lash	4/18/12	FedEx	4/18/12	1530	—			Ken Lewis	4/19/12	9:15

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W0

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-01

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003540.D

Level (TRACE/LOW/MED): LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	6.3	J
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W0

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-01

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003540.D

Level (TRACE/LOW/MED): LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B49W0

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-01

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003540.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W1

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-02

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003541.D

Level (TRACE/LOW/MED): LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	6.4	J
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W1

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-02

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003541.D

Level (TRACE/LOW/MED): LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B49W1

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-02

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003541.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A31

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-03

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003546.D

Level (TRACE/LOW/MED): LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A31

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-03

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003546.D

Level (TRACE/LOW/MED): LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A31

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-03

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003546.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/17/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49T8

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-05

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003547.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49T8

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-05

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003547.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B49T8

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-05

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003547.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49T9

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-06

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003548.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49T9

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-06

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003548.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B49T9

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-06

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003548.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
14.					
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16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W2

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-07

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003559.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	11	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W2

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-07

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003559.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B49W2

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-07

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003559.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
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20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A29

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-08

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003560.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A29

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-08

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003560.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A29

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-08

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003560.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A30

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-11

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003543.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	32	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	90	
156-59-2	cis-1,2-Dichloroethene	5.3	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	1800	E
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	1.7	J
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A30

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-11

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003543.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	230	E
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	1.5	J
127-18-4	Tetrachloroethene	3500	E
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A30

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-11

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003543.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
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27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A30DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-11DL

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003561.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

GC Column: RXI-624 ID: 0.25 (mm) Dilution Factor: 25.0

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	120	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	120	U
74-83-9	Bromomethane	120	U
75-00-3	Chloroethane	120	U
75-69-4	Trichlorofluoromethane	120	U
75-35-4	1,1-Dichloroethene	120	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon disulfide	120	U
79-20-9	Methyl acetate	120	U
75-09-2	Methylene chloride	120	U
156-60-5	trans-1,2-Dichloroethene	120	U
1634-04-4	Methyl tert-Butyl ether	120	U
75-34-3	1,1-Dichloroethane	76	JD
156-59-2	cis-1,2-Dichloroethene	120	U
78-93-3	2-Butanone	250	U
74-97-5	Bromochloromethane	120	U
67-66-3	Chloroform	120	U
71-55-6	1,1,1-Trichloroethane	950	D
110-82-7	Cyclohexane	120	U
56-23-5	Carbon Tetrachloride	120	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	120	U
123-91-1	1,4-Dioxane	2500	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A30DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-11DL

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003561.D

Level (TRACE/LOW/MED): LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

GC Column: RXI-624 ID: 0.25 (mm) Dilution Factor: 25.0

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	160	D
108-87-2	Methylcyclohexane	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	120	U
79-00-5	1,1,2-Trichloroethane	120	U
127-18-4	Tetrachloroethene	3000	D
591-78-6	2-Hexanone	250	U
124-48-1	Dibromochloromethane	120	U
106-93-4	1,2-Dibromoethane	120	U
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	120	U
95-47-6	o-Xylene	120	U
179601-23-1	m,p-Xylene	120	U
100-42-5	Styrene	120	U
75-25-2	Bromoform	120	U
98-82-8	Isopropylbenzene	120	U
79-34-5	1,1,2,2-Tetrachloroethane	120	U
541-73-1	1,3-Dichlorobenzene	120	U
106-46-7	1,4-Dichlorobenzene	120	U
95-50-1	1,2-Dichlorobenzene	120	U
96-12-8	1,2-Dibromo-3-chloropropane	120	U
120-82-1	1,2,4-Trichlorobenzene	120	U
87-61-6	1,2,3-Trichlorobenzene	120	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A30DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-11DL

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003561.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/18/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

GC Column: RXI-624 ID: 0.25 (mm) Dilution Factor: 25.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
11.					
12.					
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19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W3

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-12

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003542.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B49W3

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-12

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003542.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B49W3

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-12

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003542.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
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25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A26

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-13

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003558.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

GC Column: RXI-624 ID: 0.25 (mm) Dilution Factor: 25.0

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	120	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	120	U
74-83-9	Bromomethane	120	U
75-00-3	Chloroethane	120	U
75-69-4	Trichlorofluoromethane	120	U
75-35-4	1,1-Dichloroethene	120	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon disulfide	120	U
79-20-9	Methyl acetate	120	U
75-09-2	Methylene chloride	120	U
156-60-5	trans-1,2-Dichloroethene	120	U
1634-04-4	Methyl tert-Butyl ether	120	U
75-34-3	1,1-Dichloroethane	120	U
156-59-2	cis-1,2-Dichloroethene	120	U
78-93-3	2-Butanone	250	U
74-97-5	Bromochloromethane	120	U
67-66-3	Chloroform	120	U
71-55-6	1,1,1-Trichloroethane	120	U
110-82-7	Cyclohexane	120	U
56-23-5	Carbon Tetrachloride	120	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	120	U
123-91-1	1,4-Dioxane	2500	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A26

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-13

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003558.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

GC Column: RXI-624 ID: 0.25 (mm) Dilution Factor: 25.0

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	120	U
108-87-2	Methylcyclohexane	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	120	U
79-00-5	1,1,2-Trichloroethane	120	U
127-18-4	Tetrachloroethene	2300	
591-78-6	2-Hexanone	250	U
124-48-1	Dibromochloromethane	120	U
106-93-4	1,2-Dibromoethane	120	U
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	120	U
95-47-6	o-Xylene	120	U
179601-23-1	m,p-Xylene	120	U
100-42-5	Styrene	120	U
75-25-2	Bromoform	120	U
98-82-8	Isopropylbenzene	120	U
79-34-5	1,1,2,2-Tetrachloroethane	120	U
541-73-1	1,3-Dichlorobenzene	120	U
106-46-7	1,4-Dichlorobenzene	120	U
95-50-1	1,2-Dichlorobenzene	120	U
96-12-8	1,2-Dibromo-3-chloropropane	120	U
120-82-1	1,2,4-Trichlorobenzene	120	U
87-61-6	1,2,3-Trichlorobenzene	120	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A26

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-13

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003558.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

GC Column: RXI-624 ID: 0.25 (mm) Dilution Factor: 25.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.					
02.					
03.					
04.					
05.					
06.					
07.					
08.					
09.					
10.					
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22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A27

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-14

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003550.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	14	
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	2.8	J
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	42	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	1.9	J
156-59-2	cis-1,2-Dichloroethene	30	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	13	
107-06-2	1,2-Dichloroethane	2.0	J
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A27

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-14

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003550.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	2.5	J
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	14	
108-88-3	Toluene	2.3	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	1.8	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	3.0	J
100-41-4	Ethylbenzene	5.7	
95-47-6	o-Xylene	2.1	J
179601-23-1	m,p-Xylene	1.7	J
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.8	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	7.4	
87-61-6	1,2,3-Trichlorobenzene	2.3	J

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A27

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-14

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003550.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	000103-65-1	Benzene, propyl-	12.41	7.8	JN
02.	000620-14-4	Benzene, 1-ethyl-3-methyl-	12.51	5.5	JN
03.	000611-14-3	Benzene, 1-ethyl-2-methyl-	12.71	6.0	JN
04.	000526-73-8	Benzene, 1,2,3-trimethyl-	12.87	26	JN
05.	000141-93-5	Benzene, 1,3-diethyl-	13.36	5.5	JN
06.	000934-80-5	Benzene, 4-ethyl-1,2-dimethy	13.66	6.2	JN
07.	000099-87-6	Benzene, 1-methyl-4-(1-methy	13.70	5.3	JN
08.	001758-88-9	Benzene, 2-ethyl-1,4-dimethy	13.76	8.8	JN
09.	000934-74-7	Benzene, 1-ethyl-3,5-dimethy	14.14	6.1	JN
10.	000095-93-2	Benzene, 1,2,4,5-tetramethyl	14.50	7.0	JN
11.					
12.					
13.					
14.					
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27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A28

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-15

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003552.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	13	
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	2.7	J
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	40	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	1.9	J
156-59-2	cis-1,2-Dichloroethene	29	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	12	
107-06-2	1,2-Dichloroethane	1.8	J
123-91-1	1,4-Dioxane	100	U

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4A28

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: D2254-15

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003552.D

Level (TRACE/LOW/MED): LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

Purge Volume: 5 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	2.4	J
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	13	
108-88-3	Toluene	2.3	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	2.0	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	3.1	J
100-41-4	Ethylbenzene	5.6	
95-47-6	o-Xylene	2.1	J
179601-23-1	m,p-Xylene	1.6	J
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.7	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.1	
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	7.9	
87-61-6	1,2,3-Trichlorobenzene	2.3	J

Report 1,4 -Dioxane for Low-Medium VOA analysis only.

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4A28

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 42450 Mod. Ref No.: SDG No.: B49W0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: D2254-15

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: VT003552.D

Level: (TRACE or LOW/MED) LOW Date Received: 04/19/2012

% Moisture: not dec. Date Analyzed: 04/21/2012

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

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 5 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	000060-29-7	Ethyl ether	3.16	39	JN
02.	000103-65-1	Benzene, propyl-	12.41	7.8	JN
03.	000611-14-3	Benzene, 1-ethyl-2-methyl-	12.51	5.6	JN
04.	000622-96-8	Benzene, 1-ethyl-4-methyl-	12.71	6.0	JN
05.	000526-73-8	Benzene, 1,2,3-trimethyl-	12.86	26	JN
06.	000527-84-4	Benzene, 1-methyl-2-(1-methy	13.07	5.1	JN
07.	000105-05-5	Benzene, 1,4-diethyl-	13.36	5.3	JN
08.	001758-88-9	Benzene, 2-ethyl-1,4-dimethy	13.66	6.6	JN
09.	000874-41-9	Benzene, 1-ethyl-2,4-dimethy	13.69	5.1	JN
10.	000933-98-2	Benzene, 1-ethyl-2,3-dimethy	13.75	8.9	JN
11.	000934-74-7	Benzene, 1-ethyl-3,5-dimethy	14.13	6.2	JN
12.	001587-04-8	Benzene, 1-methyl-2-(2-prope	14.50	7.0	JN
13.					
14.					
15.					
16.					
17.					
18.					
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20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
	[1]E966796	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

HYDROGEOLOGY OF THE REGION OF GREENWICH TOWNSHIP, GLOUCESTER COUNTY, NEW JERSEY

By Cynthia Barton and Jane Kozinski

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 90-4198

The HRS Document uses the original report pagination when referencing this document.

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West Trenton, New Jersey

1991

U.S. DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey
Mountain View Office Park
810 Bear Tavern Road
Suite 206
West Trenton, NJ 08628

Copies of this report can be
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Denver, CO 80225

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CONVERSION FACTORS

Multiply	By	To obtain
	Length	
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
foot per mile (ft/mi)	0.1894	meter per kilometer (m/km)
	Area	
square mile (mi^2)	2.590	square kilometer (km^2)
	Flow	
foot squared per day (ft^2/d)	0.09290	meter squared per day (m^2/d)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
gallon per minute (gal/min)	0.06309	liter per second (L/s)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m^3/s)
	Temperature	
degree Celsius (°C)	°F = 1.8 x °C + 32	degree Fahrenheit (°F)

GLOSSARY

Aquifer. A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Arkosic sand. Sand containing 25 percent or more feldspar usually derived from the disintegration of granitic rocks.

Cone of depression. A low area in the potentiometric surface usually centered in the area of greatest concentration of withdrawals.

Confining unit. A body of relatively impermeable material stratigraphically adjacent to one or more aquifers. The hydraulic conductivity may range from nearly zero to some value several orders of magnitude lower than that of the aquifer.

Dip. The angle at which the formation or bed is inclined from the horizontal, measured at a right angle to the strike (trend of the formation or bed). Downdip indicates a direction that is downward and parallel to the dip inclination, and updip indicates the upward direction.

Equipotential line. A line on a map or section along which total heads are the same.

Flow line. The idealized path followed by particles of water.

Graywacke sand. Sand that is dark in color, contains a predominant clay matrix, and has a large percentage of rock fragments such as chert, quartzite, phyllite, and igneous rocks.

Head, static. The height above a standard datum of the surface of a column of water (or other liquid) that can be supported by the pressure at a given point. Head, when used alone in this report, is understood to mean static head.

Hydraulic conductivity. A measure of the ability of a material to transmit water.

Hydraulic gradient. The change in static head per unit of distance in a given direction. If not specified, the direction is understood to be that of the maximum rate of change in head.

Lunar day. The period of the moon's rotation about the Earth. (The mean lunar day is equal to 24 hours and 50 minutes.)

Potentiometric surface. A surface that represents the static head in an aquifer. The potentiometric surface is defined by the levels to which water will rise in tightly cased wells open to the aquifer. See head, static.

Sea level. Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Sea Level Datum of 1929." It is the average sea level based on tidal observations at various stations along the coasts during 1900-29.

Solar day. The period of the Earth's rotation on its axis. (The mean solar day is equal to 24 hours.)

Specific capacity (of a well). The rate of discharge of water from the well divided by the drawdown in the well; used to estimate the aquifer's transmissivity.

Stage. Elevation of a water surface above any chosen datum plane.

HYDROGEOLOGY OF THE REGION OF GREENWICH TOWNSHIP, GLOUCESTER COUNTY, NEW JERSEY

By Cynthia Barton and Jane Kozinski

ABSTRACT

The U.S. Geological Survey in cooperation with Greenwich Township and the New Jersey Department of Environmental Protection studied the hydrogeology of, and hydrologic conditions in, a 115-square-mile area in and near Greenwich Township in northern Gloucester County, New Jersey.

In the study area, a veneer of upper Cenozoic alluvium overlies a regional system of aquifers and confining units that consists of a southeastward-dipping (40-60 feet per mile), seaward-thickening wedge of Cretaceous delta-plain deposits. The Merchantville-Woodbury confining unit overlies the Potomac-Raritan-Magothy aquifer system, which consists of three aquifers that together are the source of 99 percent of the region's ground-water withdrawals. The confining unit between the upper and middle aquifers is discontinuous, and a third confining unit that consists of extensive clay beds divides the middle aquifer into upper and lower parts. This aquifer system is underlain by lower Paleozoic and Precambrian bedrock.

Water levels in the shallow and regional ground-water systems have declined since the late 1800's as a result of pumpage. The study area lies within the northwestern part of a large regional cone of depression in the potentiometric surface of the aquifer system. Hydraulic gradients indicate a potential for induced recharge from the Delaware River, downward movement of water in the aquifer system, and east-southeastward flow in the confined aquifer toward pumping centers at a gradient of 3 to 15 feet per mile. Water levels in wells are below sea level where connection to the river is limited by dikes and floodgates. Ground-water levels fluctuate less than 2.5 feet due to tides and 5 feet as a result of seasonal use of ground water.

A steady-state water budget for 1976-86 of 60.4 million gallons per day, includes recharge, induced recharge, subsurface lateral flow across regional boundaries, vertical leakage through the overlying confining unit, pumpage, base flow, and discharge to wetlands. Because water loss through pumping and subsurface flow to the southeast, induced by pumping outside the study area, is replaced primarily by river recharge and subsurface flow across northeastern and southwestern boundaries, the quality of river recharge and the potential for migration of saltwater from the confined system are critical factors in the maintenance of ground-water quality.

INTRODUCTION

Contamination originating from spills of organic chemicals, such as gasoline and chlorinated solvents, has been identified as a major threat to the ground-water resources of the State of New Jersey (Tucker, 1981). The problem is particularly acute in the Greenwich Township region--a 115-mi^2 (square mile) area adjacent to the Delaware River estuary, principally in northern Gloucester County, New Jersey (fig. 1). The region lies primarily on, or a few miles downdip from, the outcrop of the Potomac-Raritan-Magothy aquifer system. This aquifer system is the major source of water in the New Jersey Coastal Plain (Vowinkel, 1984) and is the principal source of potable ground water in the Greenwich Township region. An industrial complex within the recharge area includes at least five industries that have onsite ground-water contamination possibly resulting from the use, production, storage, and disposal of hazardous organic and inorganic substances (Fusillo and others, 1984, table 6). Offsite, subsurface migration of contaminants could ultimately force the closing of one of the six public-supply wells in Greenwich Township and Paulsboro Borough (well 15-347). Water samples from four more of these wells have contained low concentrations (generally below drinking-water standards) of purgeable organic compounds since 1985.

Parts of the Potomac-Raritan-Magothy aquifer system within the region contain saline water (concentrations greater than 250 milligrams of chloride per liter of water) (Barksdale and others, 1958, p. 124-128, fig. 24; Hardt and Hilton, 1969, p. 12-15, fig. 5; J.C. Lewis, U.S. Geological Survey, written commun., 1986). The presence of saline water in the aquifer system is caused by the intrusion of saltwater from the Delaware River estuary and (or) from deeper confined parts of the aquifer system in the southwestern part of the region (Barksdale and others, 1958, p. 125, fig. 24; Hardt and Hilton, 1969, fig. 4). Hence, the potential for saltwater intrusion into the aquifers that are used to supply potable water is an additional issue of concern for the communities in the Greenwich Township region.

Water managers in Greenwich Township and Paulsboro Borough need quantitative information regarding the quantity and quality of water resources in the region. They also need to know the potential for contamination of existing water supplies and to be aware of alternatives for development of these supplies if one or more of the wells in the region becomes unusable. To address this concern, the U.S. Geological Survey, in cooperation with Greenwich Township and the New Jersey Department of Environmental Protection, conducted a comprehensive assessment of the ground-water resources in the region from 1986-88. The objectives of this study were to (1) characterize the hydrogeology of, and hydrologic conditions in, the Greenwich Township region; (2) assess the ground-water quality; (3) develop a ground-water-flow model; (4) evaluate the potential for contamination of the potable-water supplies; and (5) evaluate alternatives for the development of the ground-water resources. This report addresses the first objective.

Purpose and Scope

This report describes the hydrogeology of, and hydrologic conditions in, the Greenwich Township region. The report contains hydrogeologic sections, maps of the altitude of the top of hydrogeologic units, and

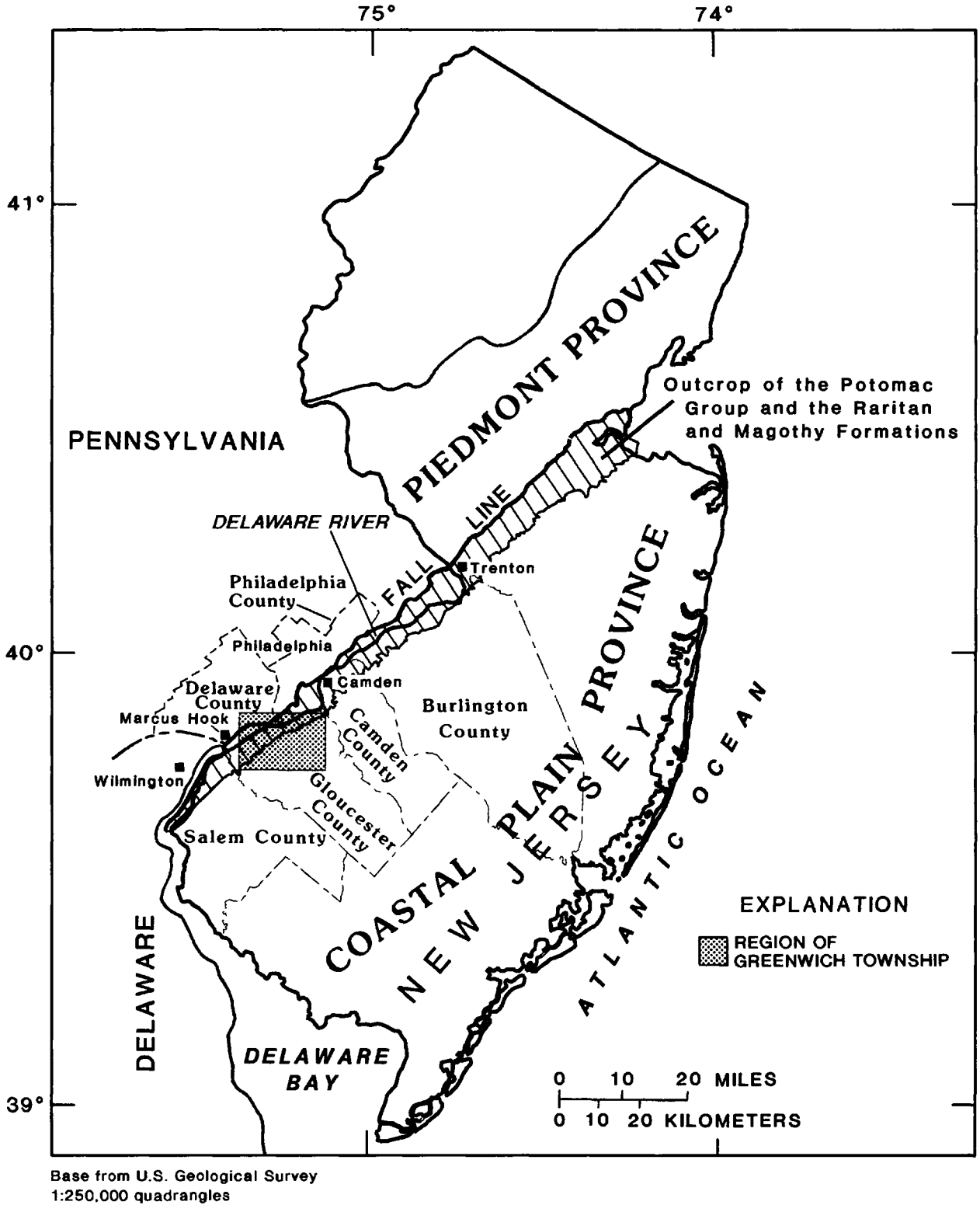

Figure 1.--Location of the region of Greenwich Township, Gloucester County, New Jersey.

estimates of the hydraulic properties of the aquifers and confining units. It includes a description of surface water in the region; a determination of the amount and distribution of ground-water withdrawals during 1956-86; a comparison of 1986 ground-water levels and flow directions with those in 1983; an evaluation of long-term and seasonal changes in ground-water levels; an evaluation of the influence of tidal changes on ground-water levels; and a quantitative, steady-state description of the regional water budget. This report does not include an assessment of ground-water quality.

Previous Investigations

Studies in areas adjacent to or including the Greenwich Township region have focused primarily on assessing ground-water resources or simulating regional ground-water flow in the Potomac-Raritan-Magothy aquifer system. These investigations were conducted in the lower Delaware River valley (Barksdale and others, 1958), the Coastal Plain of southeastern Pennsylvania (Greenman and others, 1961), the Delaware River basin (Parker and others, 1964), Gloucester County (Hardt and Hilton, 1969), Salem County (Rosenau and others, 1969), Camden County and vicinity (Farlekas and others, 1976; A.S. Navoy, U.S. Geological Survey, written commun., 1986), Logan Township (Andres, 1984; J.C. Lewis, U.S. Geological Survey, written commun., 1986), Philadelphia, Pennsylvania (Sloto, 1986), Delaware County, Pennsylvania (W.T. Balmer and D.K. Davis, U.S. Geological Survey, written commun., 1988), and the Coastal Plain of New Jersey (Gill and Farlekas, 1976; Luzier, 1980; Harbaugh and others, 1980; Zapecza, 1989; and Martin, 1987).

Geologic studies in southern New Jersey and the northern Delmarva Peninsula include descriptions of the stratigraphy of post-Magothy Formation Upper Cretaceous (Owens and others, 1970) and upper Cenozoic sediments (Owens and Minard, 1979). Evaluations of water levels in the aquifers of the region include maps of the water table in Philadelphia, Pennsylvania (Paulachok and Wood, 1984), and in southern Gloucester County, New Jersey (P.J. Lacombe, U.S. Geological Survey, written commun., 1988), and maps of the potentiometric surfaces of the major aquifers of the New Jersey Coastal Plain in 1983 (Eckel and Walker, 1986).

Well-Numbering System

Two systems are used by the U.S. Geological Survey in New Jersey to identify wells. One is based on a 15-digit station number or U.S. Geological Survey National Water Data Storage and Retrieval System (WATSTORE) identifier. The first six digits represent degrees, minutes, and seconds of latitude, and the next seven digits represent degrees, minutes, and seconds of longitude. The remaining two digits indicate the sequence in which wells with the same latitude and longitude were inventoried. The WATSTORE identifier is used throughout the United States to access water-quality information, and also is used in the National Water Information System data base maintained by the U.S. Geological Survey.

The second numbering system is based on a six-digit number developed by the New Jersey District of the U.S. Geological Survey. The well number consists of a two-digit county code and a four-digit sequence number that indicates the order in which wells within the county were inventoried. The county code used in this report is 15 for Gloucester County.

Acknowledgments

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DESCRIPTION OF STUDY AREA

Location and Physiography

The Greenwich Township region comprises approximately 115 mi^2 (square miles) in and near Greenwich Township, Gloucester County, New Jersey (pl. 1a). More than 85 percent of the Greenwich Township region, including all or part of Deptford, East Greenwich, Greenwich, Harrison, Logan, Mantua, West Deptford, and Woolwich Townships, Woodbury City, and Paulsboro Borough, is in northern Gloucester County, New Jersey. The region also includes the City of Chester and Tinicum Township, on the northwestern bank of the Delaware River in southern Delaware and Philadelphia Counties, Pennsylvania; however, little data are available for these areas.

The Greenwich Township region includes parts of two major physiographic provinces (fig. 1). In the extreme northwestern part of the region in Pennsylvania, Precambrian and lower Paleozoic crystalline metamorphic and igneous rocks of the Piedmont physiographic province underlie the surface. The Piedmont is bounded to the southeast by the Fall Line (fig. 1), which generally separates the Piedmont from the Atlantic Coastal Plain physiographic province. The Atlantic Coastal Plain, which extends across the remainder of the study area, is a southeastward-dipping, seaward-thickening wedge of unconsolidated to loosely consolidated sediments.

The New Jersey part of the Coastal Plain consists of three physiographic subprovinces--lowlands, intermediate uplands, and uplands (Owens and Minard, 1979, p. D3, fig. 3). All of the Coastal Plain in the Greenwich Township region lies within the lowland subprovince. In this region, land surface slopes gently northwestward toward the Delaware River. Land-surface altitude ranges from sea level near the Delaware River to 140 ft (feet) above sea level in the southeastern part of the study area. The lowest point in the dredged channel of the Delaware River is about 45 ft below sea level (Luzier, 1980, p. 21). An area of about 2.7 mi^2 in the Repaupo Creek drainage basin in the central part of the region (fig. 2) is below sea level. Areas less than 25 ft above sea level generally are covered by tidal-marsh deposits and vegetation; in Greenwich Township, however, tidal flooding is limited by dikes and floodgates.

Climate

The climate of the Greenwich Township region is predominantly continental, with warm summers and moderately cold winters. Prevailing winds are from the northwest. The region lies in the southwest climatic zone of New Jersey (Ludlum, 1983, p. 35). This zone, located in the lower Delaware River drainage basin, is characterized by low elevation, low relief, and tidal creeks. Frequent nightly fogs occur because of the proximity of the Delaware River. These fogs insulate the surface and reduce radiant heat losses from the earth, resulting in mean temperatures for this zone that are higher than in other climatic zones of New Jersey (Ludlum, 1983, p. 35). At the National Weather Service station at Marcus Hook, Pennsylvania (fig. 1), the mean annual temperature is 56.1 °F (degrees Fahrenheit) for the period from 1941-70. The extreme low mean monthly temperature of 33.9 °F occurred in January and the extreme mean high of 78.0 °F occurred in July.

Annual precipitation tends to be much lower in the southwest climatic zone than in more topographically varied regions of New Jersey (Ludlum, 1983, p. 35). Figure 2, a bar graph of annual precipitation at the Marcus Hook, Pennsylvania, weather station from 1931-86, illustrates long-term precipitation trends in the region. The mean annual precipitation at this station for this period is 42.3 in. (inches). The most severe and prolonged drought in this area, and throughout New Jersey, since precipitation measurement began in the early 1820's, took place from 1961 to 1966 (Anderson and others, 1972, p. 375). Analysis of monthly precipitation trends from 1931 to 1986 indicates that the driest month is October, with a mean precipitation of 2.63 in., and the wettest month is July, with a mean precipitation of 4.18 in.

METHODS OF STUDY

Hydrogeology

The hydrogeology of the Greenwich Township region was investigated to assess the ground-water resources in the region. Except for Cenozoic surficial deposits (table 1), hydrogeologic units overlying the Englishtown aquifer system, such as the Wenonah-Mount Laurel aquifer, are not discussed in this report. A description of these units can be found in a report on the hydrogeologic framework of the New Jersey Coastal Plain by Zapecza (1989).

In general, the outcrop of a hydrogeologic unit is considered to be an approximation of the surface configuration of an aquifer or confining unit if vegetation, structures, and paved surfaces were removed; the subcrop of a unit underlies other deposits. In some parts of the Greenwich Township region, aquifers and confining units are not covered by other deposits, so that use of the term "outcrop" is appropriate. In most of the region, however, aquifers and confining units underlie upper Cenozoic deposits so that use of the term "subcrop" is appropriate.

The location of the Fall Line (fig. 1) was originally mapped at a scale of 1:250,000 (U.S. Geological Survey, 1967). The outcrops of the geologic units within the region were compiled at a scale of 1:63,360 (1 in. = 1 mi)

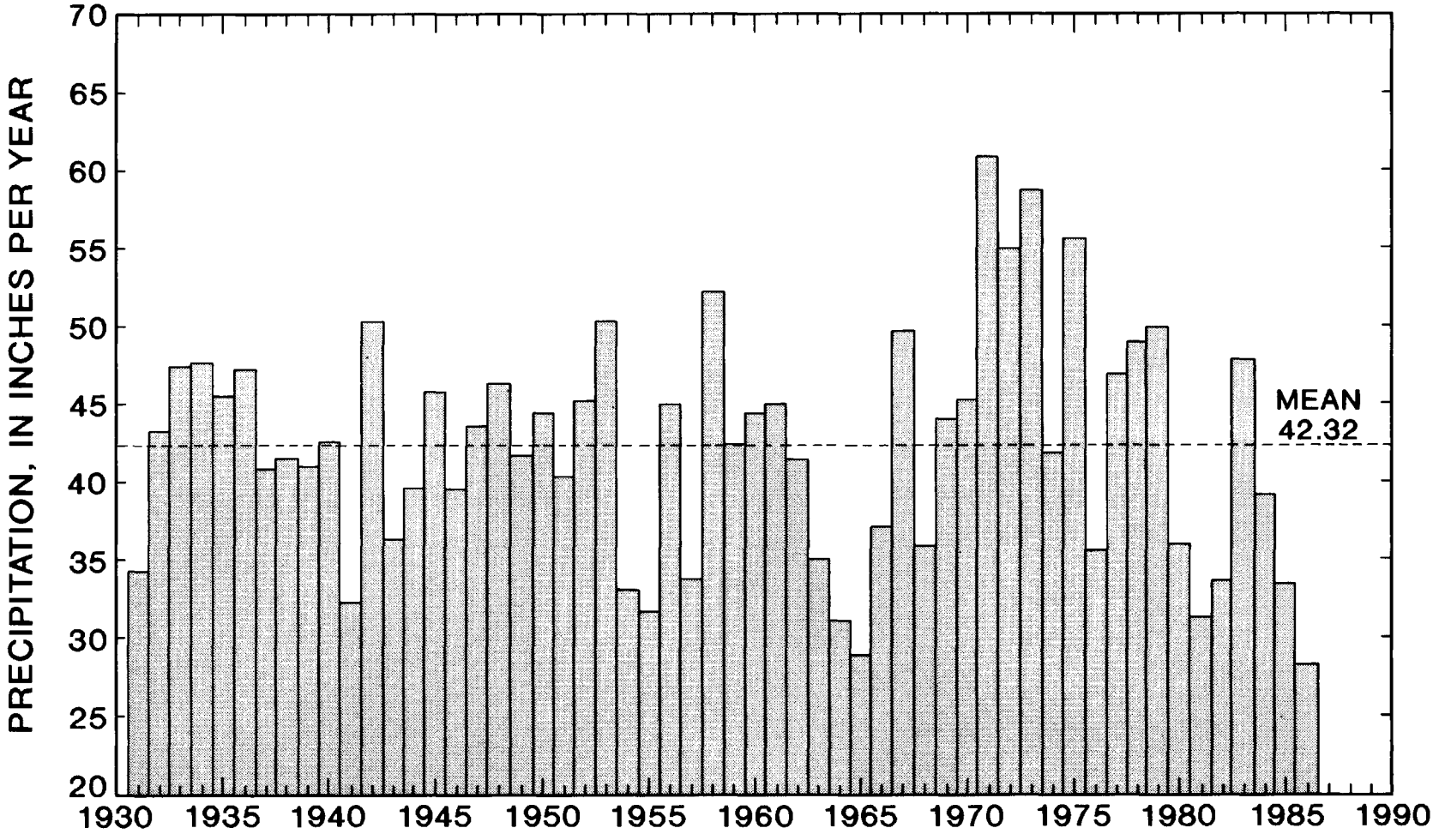


Figure 2.--Annual precipitation at Marcus Hook, Pennsylvania, weather station, 1931-86.

Table 1.--Geologic and hydrogeologic units in the region of Greenwich Township, Gloucester County, New Jersey

[Modified from Zapecza (1989, table 2)]

Era	System	Series	Geologic unit		Hydrogeologic unit	
Cenozoic	Quaternary	Holocene	Trenton Gravel	Alluvial deposits	Surficial material, commonly hydraulically connected to underlying aquifers. Locally some units may act as confining units. Thick sands are capable of yielding large quantities of water.	
		Pleistocene		Van Sciver Lake beds		
				Spring Lake beds		
	Tertiary	Miocene	Pensauken Formation			
			Bridgeton Formation			
		Eocene	Other geologic units are found in the southeastern corner of the region but are not discussed in this report. See Zapecza (1989) for detailed discussion of these units.		Hydrogeologic units not discussed in this report.	
		Paleocene				
Mesozoic	Cretaceous	Upper Cretaceous	Englishtown Formation		Englishtown aquifer system	
			Woodbury Clay		Merchantville-Woodbury confining unit	
			Merchantville Formation			
			Magothy Formation		Potomac-Raritan-Magothy aquifer system	Upper aquifer
			Raritan Formation*			Confining unit
						Middle aquifer
			Potomac Group			Confining unit
		Lower Cretaceous				Lower aquifer
Paleozoic and Precambrian	Pre-Cretaceous		Wissahickon Formation		Bedrock confining unit	

* Raritan Formation may be absent in southern New Jersey (Owens and others, 1970, fig. 5, p. 9)

by the New Jersey Geological Survey in the 1970's (New Jersey Geological Survey, undated). Outcrops or subcrops of the hydrogeologic units in the Potomac-Raritan-Magothy aquifer system were defined at a map scale of 1:24,000 and are presented in this report at a smaller scale of 1:48,000. Refinement of the outcrops or subcrops of hydrogeologic units of the Potomac-Raritan-Magothy aquifer system was accomplished by projecting updip the top surfaces of units from subsurface interpretations and modifying those projections with geologic logs from wells in the hypothesized subcrop. Marine electromagnetic geophysical surveys (Duran, 1986; A.S. Navoy, U.S. Geological Survey, written commun., 1987) provided additional hydrogeologic information on the subcrops beneath the Delaware River (pl. 1a).

Upper Cenozoic deposits were not differentiated from Cretaceous deposits by rigorous stratigraphic methods. Field observations, lithologic descriptions in geologic or drillers' logs, regional trends of hydrogeologic units in Cretaceous deposits, and present-day geomorphology were used to approximate contacts between upper Cenozoic and Cretaceous deposits. In general, differentiation was difficult where upper Cenozoic deposits are coarse-grained and overlie the subcrop of an aquifer in Cretaceous deposits. In some cases, all sands and gravels between land surface and a regionally defined confining unit were included in the configuration of the aquifer in Cretaceous deposits. Where these deposits overlie the subcrop of a confining unit in Cretaceous deposits, they were more easily differentiated from the confining unit.

Similarly, differentiation also was difficult where upper Cenozoic deposits are fine-grained and overlie the subcrop of a confining unit in Cretaceous deposits. In some cases, all silts and clays between land surface and a regionally defined aquifer were included in the configuration of the Cretaceous confining unit. Where these deposits overlie the subcrop of an aquifer, they were more easily differentiated from the aquifer. Hence, descriptions of the extent and thickness of upper Cenozoic deposits in this region are approximations.

Beneath and adjacent to the Delaware River estuary, aquifers and confining units in Cretaceous deposits have been eroded extensively and replaced by upper Cenozoic deposits. In many places, upper Cenozoic deposits appear to be reworked Cretaceous materials. Hence, differentiation of aquifers and confining units and determination of unit subcrops are particularly difficult in these areas. Hydrogeologic subcrops were identified on the basis of updip projections from hydrogeologic sections and hydrogeologic data from beneath and adjacent to the Delaware River. Without additional detailed mapping of upper Cenozoic deposits, however, interpretations within these areas should be viewed as approximations.

The subsurface location and configuration of selected hydrogeologic units within the Greenwich Township region are represented on maps of the altitudes of the tops of hydrogeologic units and in four hydrogeologic sections. Maps of the thickness of aquifers and confining units can be derived from these maps. Maximum and average thicknesses of hydrogeologic units used in this report were estimated from discretized (23 x 35 grid with cell dimensions of 2,000 ft x 2,000 ft) top-surface maps generated with a Geographic Information System.

Maps, sections, and well-log interpretations from previous regional investigations of the hydrogeologic units throughout New Jersey (Zapecza, 1989) and in the Camden, New Jersey, region (A.S. Navoy, U.S. Geological Survey, written commun., 1985) were used to determine a preliminary framework that was refined during this study. A total of 105 geophysical logs and 191 drillers' logs from 207 wells were interpreted (table 2, at end of report). The logs were selected on the basis of their location, and quality and the pertinence of the hydrogeologic data. Selected information about the wells from which these logs were derived is given in table 3. Seismic and electromagnetic geophysical surveys in the Delaware River (P.B. Duran, 1986; A.S. Navoy, U.S. Geological Survey, written commun., 1987) and in northwestern Greenwich Township (P.B. Duran, U.S. Geological Survey, written commun., 1986) provided additional subsurface hydrogeologic information. (Locations of surveys are shown in pl. 1a).

Estimates of the hydraulic properties of the hydrogeologic units were determined from aquifer tests (with observation wells), from laboratory permeability tests on cores from clay-rich zones of confining units, and from the results of regional ground-water-flow modeling simulations. Data collected and estimates of hydraulic properties reported by sources other than the U.S. Geological Survey are identified herein and were not verified.

Laboratory permeability tests and hydrometer analysis of particle size were performed on cores from clay-rich zones of confining units at three sites (150615, 150622, and 150712, pl. 1a). All permeability tests were performed by a private laboratory using a constant-volume close-loop variable-head triaxial system (E.N. Manuel, Woodward Clyde Consultants, written commun., 1985, 1986). For samples from wells 15-615 and 15-622, permeability was measured three times at an effective pressure equivalent to the depth of burial; an average permeability for these tests is reported. For samples from well 15-712, incremental effective pressure was applied until the limit of the compressor was reached. Permeability tests were conducted at each interval, and the permeability measured at the final degree of saturation is reported.

Data from specific-capacity or well-acceptance tests (with no observation wells) conducted at the time of well installation provided specific-capacity values that also were used to estimate the hydraulic properties of aquifers. Horizontal hydraulic conductivity was estimated by the method of Bennett (1976, p. 8), based on the equation,

$$K = 212\frac{Q}{sd},$$

where K is horizontal hydraulic conductivity,
Q is discharge in gallons per minute,
s is drawdown in the well in feet, and
d is the length of the screen in feet.

Only data for specific-capacity tests that were conducted for 6 hours or longer and in wells with a screen diameter of 6 in. or greater were included in the analysis. These estimates are lower than the actual horizontal hydraulic conductivity because Bennett's approximation method does not take into account well losses or the fact that well screens only partially penetrate the aquifer.

Hydrologic Conditions

The occurrence and flow of ground water in the Greenwich Township region was evaluated by using maps of the potentiometric surface of the upper, middle, and lower aquifers of the Potomac-Raritan-Magothy aquifer system in 1986. These potentiometric-surface maps were generated from static water-level measurements at 60 wells during August 25-September 3, 1986; regional water-level trends in Philadelphia, Pennsylvania (Paulachok and Wood, 1984), and southern Gloucester County, New Jersey (P.J. Lacombe, U.S. Geological Survey, written commun., 1988); and regional water-level trends in the confined part of the Potomac-Raritan-Magothy aquifer system in the Camden region (A.S. Navoy, U.S. Geological Survey, written commun., 1988) and the New Jersey Coastal Plain (Eckel and Walker, 1986). The wells chosen for the measurement of water levels include 20 screened in the upper aquifer, 23 screened in the middle aquifer, and 17 screened in the lower aquifer.

Water levels were measured by the wetted-steel-tape, electric-tape, or air-line method. The wetted-steel-tape method was preferred because it is the most direct and accurate method. Where a steel-tape could not be used, water levels were measured with the electric-tape or air-line method. Withdrawal wells were shut down for at least 1 hour prior to measurement. Where possible, withdrawal wells located within a 0.25-mi (mile) radius of a measured well also were shut down at least 1 hour prior to measurement. Although water in some parts of the aquifer system is slightly saline, measured water levels are not corrected for water density. All corrections are on the order of a hundredth of a foot and are smaller than measurement error.

During the measurement period, precipitation was at or near the seasonal low (fig. 2), and the effects of heavy summer pumping on ground-water levels were at a maximum. Most of the measured wells screened in the confined part of the aquifer system experienced some fluctuations in water levels caused by tides. No attempt was made to account for tidal fluctuations when static water levels were measured. Water levels in 19 of these wells with continuous water-level recorders fluctuate as much as 2.5 ft daily; however, the median fluctuation in ground-water levels is on the order of a tenth of a foot. Thus, equipotential lines are associated with a zone of error that is not shown on the potentiometric-surface maps. The width of the zone of error depends on the amplitude of the tidal fluctuation in the ground-water level, which decreases with distance from the Delaware River. Horizontal and vertical hydraulic gradients among the 19 wells were determined at hourly intervals during a tide cycle. Although horizontal and vertical hydraulic gradients among these wells change during a tide cycle, no reversals in gradient were detected. Thus, the hydraulic gradients on the potentiometric-surface maps approximate the net gradients in the region.

Water-level measurements were taken in only two wells screened in the Englishtown aquifer system (wells 15-188 and 15-676). Ground-water levels in the Englishtown aquifer system were estimated from topography and from water levels mapped in 1983 (Eckel and Walker, 1986) and 1988 (R. Rosman, U.S. Geological Survey, written commun., 1989).

HYDROGEOLOGY

The hydrogeology of the Greenwich Township region is depicted in plates 1b and 2. Plate 1b shows the approximate locations of the outcrops or subcrops of the various hydrogeologic units in the region; plate 2 (a-d) shows four hydrogeologic sections through these units.

Upper Cenozoic Deposits

A detailed study of upper Cenozoic deposits in the Greenwich Township region would be needed in order to accurately define their extent, lithology, and relation to underlying Cretaceous deposits. The general description of these deposits within the region that follows was obtained primarily from Owens and Minard (1979). Upper Cenozoic deposits in the Greenwich Township region range in age from Quaternary to Tertiary (table 1, pl. 3a) and consist of four geologic units: Holocene and upper Pleistocene Delaware River alluvial deposits and fill, the Pleistocene "Trenton Gravel," the upper Miocene Pensauken Formation, and the upper Miocene Bridgeton Formation.

Throughout most of the Greenwich Township region, upper Cenozoic deposits occur in an essentially flat-lying veneer (generally less than 30 ft thick) which lies unconformably on southeastward-dipping, unconsolidated Cretaceous deposits that constitute the regional system of aquifers and confining units. Previous investigators, including Bascom and others (1909), Parker and others (1964, pl. 7), Hardt and Hilton (1969, pl. 1a), and Owens and Minard (1979, p. D11), have indicated that geologic units that comprise the upper Cenozoic deposits are discontinuous across the region; however, an examination of well logs during this study indicated that the upper Cenozoic deposits may be more extensive than previously mapped. Plate 3a, a map of upper Cenozoic deposits in the region, is a modified compilation of the previous work. The major modifications to these previously published maps include addition of Holocene alluvial deposits in and adjacent to stream channels to heads of tide, and addition of Quaternary deposits in Paulsboro Borough, northeastern Greenwich Township, and northern West Deptford Township.

Geophysical and drillers' logs of wells in northern Paulsboro Borough, northeastern Greenwich Township, and northwestern West Deptford Township indicate that some confining units in the Potomac-Raritan-Magothy aquifer system (the confining unit between the upper and middle aquifers and the confining unit dividing the middle aquifer) cannot be traced laterally throughout this area; instead, up to 100 ft of sand and gravel have been logged in 20 wells in this area. Regional trends in the location of subcrops suggest that these confining units subcrop in parts of this area, but in fact they are absent. The absence of confining-unit subcrops and the proximity of the area to the Delaware River suggest that Cretaceous deposits may have been eroded. Erosion of Cretaceous deposits in this area and deposition of sand and gravel during the Pleistocene Epoch has been suggested by previous investigators of the region (Owens and others, 1974; Andres, 1984, p. 14). Based on Owens and Minard's (1979) map and discussion of geologic units that comprise the upper Cenozoic deposits in the lower

Delaware River Valley and the northern Delmarva Peninsula, upper Cenozoic sand and gravel deposits located in this area are probably the Van Sciver Lake beds of Pleistocene age (table 1).

In addition to this area of possible extensive Pleistocene erosion, detailed hydrogeologic investigations by the U.S. Geological Survey in Logan Township (J.C. Lewis, U.S. Geological Survey, written commun., 1989) indicate that erosion and replacement by thick (as much as 60 ft) upper Cenozoic deposits also may have occurred in areas adjacent to Raccoon Creek, especially where the creek empties into the Delaware River. In these areas, however, upper Cenozoic deposits are fine-grained.

Holocene and upper Pleistocene alluvial deposits and fill are limited primarily to the Delaware River channel and tidal wetlands within the region (pl. 3a). Marine geophysical surveys (Duran, 1986; A.S. Navoy, U.S. Geological Survey, written commun., 1987) indicate that in most of the region Delaware River channel deposits are predominantly silt and sand; however, near National Park Borough and Logan Township, deposits are mostly clay and fine silt. Channel deposits may retard the movement of water from the Delaware River into the Potomac-Raritan-Magothy aquifer system; however, dredging to a depth of at least 40 ft to maintain a shipping channel may allow river water to flow unimpeded into the aquifer system.

Tidal wetlands comprise more than 5 percent of the region. Significant wetlands regions include Cedar Swamp in northern Logan Township, and areas near the mouths of the Repaupo Creek and Clonmell Creek drainage basins in Greenwich Township (pl. 1a). These wetland regions contain marsh and swamp deposits of dark silt and clay mixed with organic matter that may be sufficiently permeable to allow appreciable amounts of recharge and discharge to pass through them (Parker and others, 1964, p. 65). Some tidal wetlands adjacent to the Delaware River have been diked and filled with dredge spoils from the river (Evans and others, 1974, p. 41-42). Potential effects of this filling include a reduction in the capacity of the land to store flood waters, reduction in the capacity of naturally occurring upper Cenozoic deposits to transmit recharge to underlying aquifers in Cretaceous deposits, and degradation of the quality of water by contaminated dredge spoils.

The Pleistocene "Trenton Gravel" is a predominantly gray to pale-reddish-brown, gravelly graywacke sand, which was deposited in a broad valley that can be traced from near Trenton southward along the present-day Delaware River channel. Owens and Minard (1979, p. D29) divided this deposit into two units--Spring Lake beds at altitudes of about 40 to 60 ft above sea level and the Van Sciver Lake beds at about 20 ft above sea level. In the Greenwich Township region, these deposits are of estuarine origin and are found primarily in the northwestern part of the region adjacent to the Delaware River in New Jersey (Owens and Minard, 1979) and Pennsylvania (Berg and others, 1980). Van Sciver Lake beds crosscut Spring Lake beds and underlie much of the low-lying parts of the river valley. Little is known about the lithology of the "Trenton Gravel" in the region; however, regional trends (Owens and Minard, 1979, p. D38) indicate that these deposits may be finer grained and have a lower feldspar content than those mapped in Trenton.

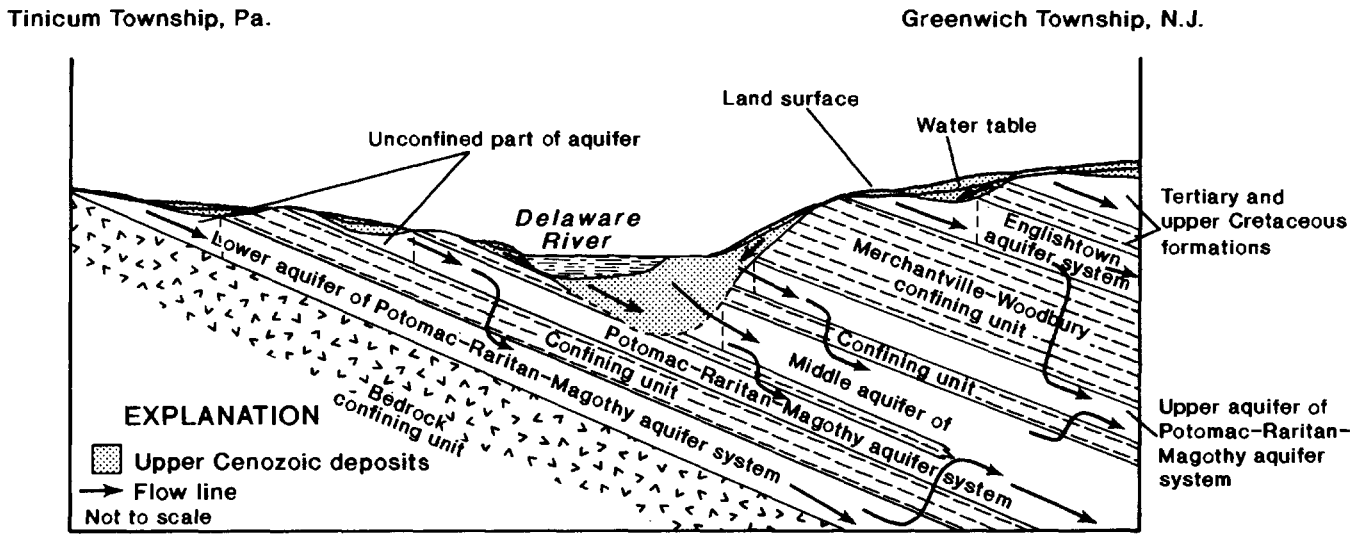
The Pensauken Formation is present in the central part of the Greenwich Township region (pl. 3a) in a band that trends southwest-northeast (Owens and Minard, 1979, p. D44, fig. 40). Pensauken Formation deposits are approximately 40 ft thick (Owens and Minard, 1979, p. D25-26, figs. 21 and 22), lie at altitudes of between about 25 to 70 ft above sea level (Owens and Minard, 1979, p. D20), and disconformably overlie the Bridgeton Formation (Owens and Minard, 1979, p. D18). The Pensauken Formation generally is divided into two units (Owens and Minard, 1979, p. D20-21). The upper unit consists of thin horizontal beds of glauconitic sand with a low feldspar content. These deposits may be primarily reworked Coastal Plain deposits. The lower unit consists of yellow or dark-reddish-brown, iron-oxide-stained and partially cemented, arkosic sands which may be derived primarily from non-Coastal Plain deposits. Both units are present near Swedesboro Borough.

The Bridgeton Formation, found in the southeastern and northwestern parts of the Greenwich Township region (pl. 3a), consists predominantly of massive, yellow or dark-reddish-brown, feldspathic clayey sands overlying lighter colored, coarsely stratified sands (Owens and Minard, 1979, p. D9). These deposits are discontinuous and typically are found on scattered hills at altitudes of 90 to 150 ft (Owens and Minard, 1979, p. D10).

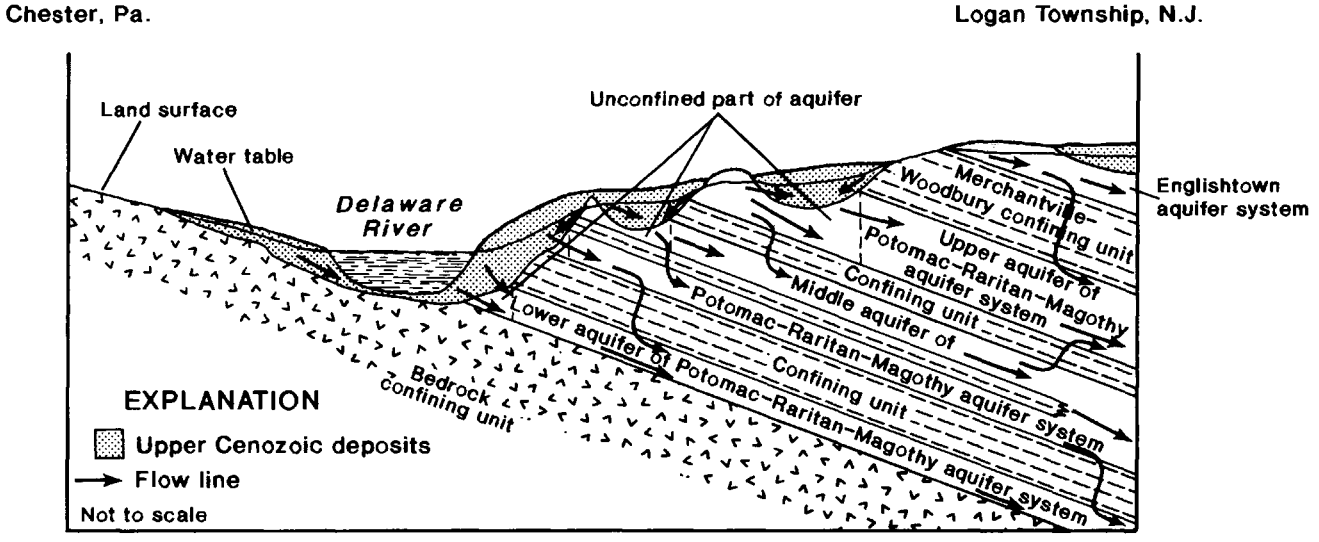
The hydraulic characteristics of upper Cenozoic deposits are not well known, and the hydrologic connection between these deposits and the underlying aquifer systems in Cretaceous deposits is complex (fig. 3). Where upper Cenozoic deposits are coarse-grained and overlie the subcrop of a confining unit in Cretaceous deposits, the upper Cenozoic deposits generally are not sufficiently thick to provide large supplies of ground water. Nevertheless, in some areas wells in these deposits yield from 10 to 50 gal/min (gallons per minute)--sufficient for domestic or small-farm uses (Hardt and Hilton, 1969, p. 31; Parker and others, 1964, p. 64). Where coarse-grained upper Cenozoic deposits overlie the subcrop of an aquifer, they probably transmit recharge to the underlying aquifer. Well yields in these areas may be higher than 50 gal/min. Where upper Cenozoic deposits are fine-grained and overlie the subcrop of a confining unit, they probably retard the transmission of ground water as does the confining unit. Where fine-grained upper Cenozoic deposits overlie the subcrop of an aquifer, water in the underlying aquifer is most likely confined and recharge to the aquifer is probably reduced.

Englishtown Aquifer System

The Englishtown aquifer system consists of the Englishtown Formation of Late Cretaceous age (table 1). Coarse-grained upper Cenozoic deposits overlying the subcrop of the Englishtown Formation may transmit recharge to the aquifer system (Barksdale and others, 1958, p. 137, 138). As mapped by Owens (U.S. Geological Survey, 1967), the Englishtown Formation subcrops in the southeastern part of the study area (pl. 1b) and generally is composed of less than 40 ft (Zapecza, 1989, p. B13; Owens and others, 1970, p. 6) of intercalated, thin-bedded sand-clay sequences (Owens and others, 1970, p. 6, 10). Southwest of the study area, the formation changes first to thick-bedded, and then massive, silt and fine sand. Major sand constituents in the formation include quartz, feldspar, glauconite, and mica; clay beds and massive dark-colored beds contain large concentrations of micas and lignite.



a. Hydrogeologic section from Tinicum Township, Pennsylvania, to Greenwich Township, New Jersey.



b. Hydrogeologic section from Chester, Pennsylvania, to Logan Township, New Jersey.

Figure 3.--Idealized hydrogeologic sections illustrating ground-water flow in the region of Greenwich Township, Gloucester County, New Jersey.

Fossiliferous pale-gray sideritic concentrations are present in the base of the intercalated sequences. Throughout most of the region, the Englishtown Formation dips to the southeast at about 40 ft/mi (feet per mile) (Barksdale and others, 1958, p. 137) and grades downward into the Woodbury Clay (table 1). In the southwest, where the Woodbury Clay is absent (Minard, 1965), the Englishtown Formation overlies and grades downward into the Merchantville Formation (Owens and others, 1970, p. 10).

Within the study area, the Englishtown aquifer system is not a major source of water supply because the aquifer is thin and has a large proportion of fine-grained sediments, which results in lower yields, and because more productive aquifers are available (Zapecza, 1989, p. 13). The aquifer system has been developed primarily for domestic or small-farm irrigation use. Well yields in southern New Jersey range from about 50 to 500 gal/min (Parker and others, 1964, p. 54; Barksdale and others, 1958, p. 137). Aquifer tests in the Englishtown aquifer system (Martin, 1987, table 3) indicate that transmissivity of the aquifer system generally is less than 2,000 ft^2/d (feet squared per day) throughout southern New Jersey. Based on Martin's (1987, fig. 58) calibration of a regional ground-water-flow model, transmissivity of the aquifer system in the Greenwich Township region probably is less than 500 ft^2/d.

Merchantville-Woodbury Confining Unit

In the southeastern part of the Greenwich Township region, the Potomac-Raritan-Magothy aquifer system is confined from above by the Merchantville-Woodbury confining unit. This confining unit consists of the Woodbury Clay and thick interbedded clay, silt, and sand of the Merchantville Formation, both of Late Cretaceous age (table 1). The subcrop of the confining unit covers approximately 27.5 mi^2 of the Greenwich Township region (pl. 1b).

The Woodbury Clay subcrops in a narrow belt (0.1 to 1 mile in width) that parallels the subcrop of the Merchantville Formation but pinches out southwest of Repaupo (U.S. Geological Survey, 1967). In the Greenwich Township region, the Woodbury Clay is a dark-blue to black, very micaeous, fossiliferous silty clay (Hardt and Hilton, 1969, p. 18). The Woodbury Clay dips to the southeast at 38 to 44 ft/mi and has an average thickness of about 50 ft (Hardt and Hilton, 1969, p. 18). The Woodbury Clay is the least permeable confining unit in the New Jersey Coastal Plain (Barksdale and others, 1958, p. 136). No wells in Gloucester County are known to obtain water from this unit (Hardt and Hilton, 1969, p. 18).

The Woodbury Clay is conformably underlain by the Merchantville Formation (table 1). In the Greenwich Township region, the Merchantville Formation consists of green to black, glauconitic and micaceous silt and clay, or quartzose or glauconitic sandy clay (Hardt and Hilton, 1969, p. 15). Near Swedesboro Borough and Mantua and Wenonah Townships (pl. 1a) the upper part of the Merchantville Formation is composed of fine- to coarse-grained glauconitic sand (Hardt and Hilton, 1969, p. 15). The formation dips to the southeast at about 43 ft/mi and ranges in thickness from 45 to 70 ft (Hardt and Hilton, 1969, p. 17). The Merchantville Formation functions chiefly as a confining unit, but the upper, sandy part of the formation is a minor aquifer in the Greenwich Township region. Wells tapping this aquifer are generally domestic-supply wells that range in depth

from 100 to 155 ft, yield from 15 to 90 gal/min, and are distributed in a narrow belt from Swedesboro Borough to Wenonah Township (Hardt and Hilton, 1969, p. 17).

Together, the Woodbury Clay and Merchantville Formation comprise the Merchantville-Woodbury confining unit (table 1), the most extensive confining unit in the New Jersey Coastal Plain (Zapecza, 1989, p. B12). The top surface of the Merchantville-Woodbury confining unit ranges in altitude from greater than 40 ft above sea level to greater than 100 ft below sea level (pl. 3b). The surface slopes uniformly to the southeast at about 55 ft/mi. The combined thickness of the two formations averages about 100 ft and reaches a maximum of about 160 ft in the Greenwich Township region. In general, the confining unit thickens toward the southeast. In northwestern West Deptford Township along Little Mantua Creek, the subcrop of the confining unit probably has been eroded and partially replaced by late Cenozoic-age sand and gravel.

In general, the Merchantville-Woodbury confining unit is an effective confining layer between overlying aquifers and the upper aquifer of the Potomac-Raritan-Magothy aquifer system (Zapecza, 1989, p. B12; Barksdale and others, 1958, p. 136). Hydrometer analysis of the particle size of core materials taken from a clay-rich zone in the lower part of the unit at two sites within the region (wells 15-615 and 15-712, pl. 1a) indicates a clay content of only 15 percent by weight. Results of permeability tests on materials from the same cores indicate that vertical hydraulic conductivity values range from 6.8×10^{-4} to 7.1×10^{-3} ft/d (feet per day) (table 4). Vertical leakance of the confining unit within the study area was estimated to be 5×10^{-7} per day on the basis of results of a calibrated regional ground-water-flow model (Martin, 1987, fig. 67). Multiplying this value by the maximum thickness of the confining unit determined for this region (160 ft) yields a vertical hydraulic conductivity of 8×10^{-5} ft/d, somewhat lower than the range indicated by the permeability tests. Higher conductivities may be indicated by permeability tests because the unit generally is sandier in this region than throughout the rest of the New Jersey Coastal Plain (Hardt and Hilton, 1969, p. 15).

Potomac-Raritan-Magothy Aquifer System

The oldest Coastal Plain deposits in New Jersey, the Magothy and Raritan Formations and the Potomac Group (table 1), lie unconformably beneath the Merchantville-Woodbury confining unit. Together, these deposits form the Potomac-Raritan-Magothy aquifer system (Gill and Farlekas, 1976; Luzier, 1980). The aquifer system subcrops in a 3- to 5-mi-wide band (fig. 1 and pl. 1b) and covers about 44 mi^2 in the Greenwich Township region. In the northeast, the aquifer system underlies the Delaware River and subcrops in Pennsylvania (pl. 1b). The aquifer system is wedge-shaped, strikes northeast-southwest, and dips to the southeast at about 40 to 60 ft/mi. It is predominantly composed of nonmarine, delta-plain deposits of interbedded gravel, sand, silt, and clay (Owens and Sohl, 1969, p. 235-242).

Table 4.--Summary of data on the vertical hydraulic conductivities of selected confining units in or near the region of Greenwich Township, Gloucester County, New Jersey

['P' indicates data obtained from a permeability test; 'M' indicates data obtained from a ground-water-flow model; * indicates hydraulic conductivity calculated by multiplying the maximum thickness of the confining unit in the Greenwich Township region by the minimum leakance estimated for the region by using the referenced model; data not referenced are from current study. Location of wells shown in plate 1a]

Well number	Vertical hydraulic conductivity (feet per day)	Type of data	Location	Reference
		Merchantville-Woodbury confining unit		
15-712	7.1×10^{-3}	P	Greenwich Township, New Jersey	
15-615	6.8×10^{-4}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
--	5.2×10^{-4} to 1.7×10^{-3}	M	New Jersey Coastal Plain	Luzier (1980, p. 29, fig. 9)
--	$*8.0 \times 10^{-5}$	M	New Jersey Coastal Plain	Martin (1987, fig. 67) maximum thickness = 160 feet
		Confining unit between the upper and middle aquifers of the Potomac-Raritan-Magothy aquifer system		
15-712	1.8×10^{-5}	P	Greenwich Township, New Jersey	
15-615	9.4×10^{-5}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
15-622	3.3×10^{-5}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
--	$*4.0 \times 10^{-4}$	M	New Jersey Coastal Plain	Martin (1987, fig. 66) maximum thickness = 90 feet
		Confining unit dividing the middle aquifer of the Potomac-Raritan-Magothy aquifer system		
15-712	3.9×10^{-5}	P	Greenwich Township, New Jersey	
15-615	3.2×10^{-5}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
15-622	1.5×10^{-4}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
		Confining unit between the middle and lower aquifers of the Potomac-Raritan-Magothy aquifer system		
15-712	1.5×10^{-5}	P	Greenwich Township, New Jersey	
15-615	2.5×10^{-5} to 1.1×10^{-4}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
15-622	8.8×10^{-5} to 1.3×10^{-4}	P	Logan Township, New Jersey	J.C. Lewis, U.S. Geological Survey, written commun., 1986
--	$*1.0 \times 10^{-3}$	M	New Jersey Coastal Plain	Martin (1987, fig. 65) maximum thickness = 101 feet
--	3.5×10^{-3}	M	Philadelphia, Pennsylvania	Sloto (1986, p. 23, table 2)

In most of southern New Jersey, the Potomac-Raritan-Magothy aquifer system generally is considered to consist of three major aquifers and two confining units--the upper aquifer, the confining unit between the upper and middle aquifers, the middle aquifer, the confining unit between the middle and lower aquifers, and the lower aquifer (Zapecza, 1989, p. B8). Where the aquifer system subcrops in the Greenwich Township region, differentiation of these hydrogeologic units is difficult. In general, confining units are less continuous or lens-like in this region than in areas downdip. The most significant departures from the regional description of the aquifer system are the presence of (1) a sandier, thinner, and hence, in some areas, less impermeable, confining unit between the upper and middle aquifers; and (2) laterally extensive clay-rich beds which locally divide the middle aquifer into two parts and comprise a third confining unit. In addition, as mentioned above, differentiation of hydrogeologic units in the aquifer system is particularly difficult beneath and adjacent to the Delaware River. Erosion and superposition of upper Cenozoic deposits disrupts the lateral continuity of the Cretaceous units, and because upper Cenozoic and Cretaceous deposits have similar lithologies, areas of upper Cenozoic deposition generally are not apparent without detailed study.

Upper Aquifer

The approximate subcrop area of the upper aquifer is shown in plate 4a. The upper aquifer consists predominantly of the Magothy Formation (Zapecza, 1989, p. 11), which consists of white, coarse-grained, quartzo-feldspathic, micaceous, and pyritic sand and gravel interbedded with white, gray, and black lignitic, silty clay. Coarse-grained upper Cenozoic deposits overlying the subcrop of the upper aquifer may transmit recharge to this aquifer. Individual clay beds within the upper aquifer commonly are a few feet thick, but can be as thick as 30 ft. The upper aquifer has an average thickness of 72 ft and generally thickens to the southeast; it is thickest (164 ft) near Clarksboro. In Paulsboro Borough, Greenwich Township, and northwestern West Deptford Township, the upper aquifer probably has been eroded and replaced by thick upper Cenozoic sand and gravel deposits (pls. 2 and 4a). The top surface of the aquifer ranges in altitude from greater than 20 ft above sea level in the subcrop to greater than 260 ft below sea level in the southeastern part of the study area. In general, the top surface slopes uniformly to the southeast at 50 ft/mi.

Estimates of the hydraulic properties of the upper aquifer within the Greenwich Township region are listed in tables 5 and 6. Table 5 lists estimates of transmissivity determined from calibration results of regional ground-water-flow models (Martin, 1987, fig. 57; Luzier, 1980, p. 23-24, fig. 7), which range from 4,000 to 30,000 ft^2/d (table 5), increasing with aquifer thickness in a downdip direction. Table 6 lists the results of 22 specific-capacity tests conducted in the Greenwich Township region and the resultant hydraulic conductivity values. Results of the specific-capacity tests indicate that wells tapping the upper aquifer can sustain pumping rates greater than 1,000 gal/min. The specific capacities of the 22 wells range from 4 to 46 gal/min per foot of drawdown; the median is 20 gal/min per foot of drawdown. The median hydraulic conductivity of the upper aquifer is estimated to be 122 ft/d (table 6). In general, hydraulic conductivity values are highest in the southeast and adjacent to Mantua Creek. Multiplying the median hydraulic conductivity by the average

thickness of the aquifer in this region (72 ft) yields a transmissivity of about 9,000 ft^2/d for the upper aquifer, a value within the range suggested by Martin (1987).

Confining Unit between the Upper and Middle Aquifers

The confining unit between the upper and middle aquifers (table 1) is composed of gray and white silty clay with interbedded silt and sand, and is part of the deposits mapped as the undivided Raritan Formation and Potomac Group (Owens and others, 1970, p. 9, fig. 5; U.S. Geological Survey, 1967). Beneath and along the bank of the Delaware River near National Park Borough and West Deptford Township, fine-grained deposits included in the subcrop of the confining unit may be predominantly late Cenozoic in age. Hydrometer analysis of the particle size of core materials taken from clay-rich zones in this unit at three sites indicate a clay content ranging from 27 to 57 percent by weight. (See methods section for a more detailed discussion.) Throughout most of southern Greenwich and eastern Logan Townships, the confining unit is sandy. The top surface of the confining unit between the upper and middle aquifers, shown in plate 4b, generally slopes toward the southeast at about 40 ft/mi. Altitudes range from as high as 10 ft above sea level in the subcrop to approximately 320 ft below sea level in the southeastern part of the region. The unit generally thickens towards the south to a maximum of about 90 ft. In many areas, however, the confining unit is thinner than 20 ft and locally may be discontinuous. In Paulsboro Borough and Greenwich and northwestern West Deptford Townships, the confining unit is absent and probably was eroded and replaced by upper Cenozoic sand and gravel. Adjacent to and west of Raccoon Creek in Logan Township, confining materials probably are predominantly late Cenozoic in age (pls. 2 and 4b).

Available data on the hydraulic properties of the confining unit between the upper and middle aquifers include results of laboratory permeability tests conducted on core materials taken from clay-rich parts of the unit at three sites. Minimum vertical hydraulic conductivity estimated from these tests ranges from 1.8×10^{-5} to 9.4×10^{-5} ft/d (table 4). Minimum vertical leakance of the confining unit in the Greenwich Township region, estimated from calibration results of the regional ground-water-flow model developed by Martin (1987, fig. 66), is 5×10^{-6} per day. An estimate of the minimum vertical hydraulic conductivity of the confining unit, determined by multiplying vertical leakance by the maximum thickness of the confining unit in this region (90 ft), is 4×10^{-4} ft/d, higher than the range estimated from results of permeability tests, which may yield lower values because they reflect only the properties of a clay-rich zone of this unit.

Middle Aquifer

The approximate subcrop area of the middle aquifer is shown in plate 1b. Most of the subcrop lies within New Jersey, adjacent to the Delaware River. In the north, the aquifer subcrops beneath the Delaware River and in Pennsylvania. The middle aquifer consists predominantly of medium- to coarse-grained white and brown sand and gravel interbedded with gray silt and clay, and is part of the deposits mapped as undifferentiated Raritan Formation and Potomac Group (Owens and others, 1970, p. 9, fig. 5; U.S.

Table 5.--Summary of data on transmissivity, horizontal hydraulic conductivity, and storage coefficients for selected aquifers in or near the region of Greenwich Township, Gloucester County, New Jersey

['A' indicates data obtained from an aquifer test; 'M' indicates data obtained from a ground-water-flow model; dashes indicate no data available]

Transmissivity (feet squared per day)	Horizontal hydraulic conductivity (feet per day)	Storage coefficient (dimensionless)	Type of data	Location	Reference
Upper aquifer of the Potomac-Raritan-Magothy aquifer system					
15,000 to 30,000	--	8.0×10^{-5} to 2.0×10^{-4}	M	New Jersey Coastal Plain	Luzier (1980, p. 23-24, fig. 7)
4,000 to 10,000	--	--	M	New Jersey Coastal Plain	Martin (1987, fig. 57)
Middle aquifer of the Potomac-Raritan-Magothy aquifer system					
6,280	198	1.5×10^{-4}	A	E.I. Dupont, Gibbstown, New Jersey	Barksdale and others (1958, p. 97)
6,950	--	--	A	Borough of National Park, New Jersey	Hardt and Hilton (1969, p. 11)
2,000 to 9,000	--	--	M	New Jersey Coastal Plain	Martin (1987, fig. 56)
Lower aquifer of the Potomac-Raritan-Magothy aquifer system					
6,800 to 9,100	140 to 190	9.0×10^{-5} to 1.7×10^{-4}	A	Eagle Point, Westville, New Jersey	Barksdale and others (1958, p. 97)
5,600	50 to 60	--	A	Borough of National Park, New Jersey	Hardt and Hilton (1969, p. 11)
6,000 to 10,000	--	--	M	New Jersey Coastal Plain	Martin (1987, fig. 55)
--	138	3.0×10^{-4}	M	Philadelphia, Pennsylvania	Sloto (1986, p. 23, table 2)

Table 6.--Summary of specific-capacity-test data and estimated hydraulic conductivity for the Potomac-Raritan-Magothy aquifer system in the region of Greenwich Township, Gloucester County, New Jersey

[Hydraulic conductivity (K) was calculated by use of the approximation method of Bennett (1976, p. 8), based on the equation

$$K = 212 \frac{Q}{sd},$$

where Q is discharge in gallons per minute (gal/min); s is drawdown in the well, in feet, calculated by subtracting static water level from production level (level measured during the test); and d is the length of the screen, in feet. Location of wells is shown in plate 1a. Information about wells is listed in table 3. "--" indicates missing data]

Well number	Date of test	Duration (hours)	Discharge (gal/min)	Drawdown (feet)	Specific capacity [(gal/min) /ft]	Screen length (feet)	Estimated hydraulic conductivity (feet per day)
			Upper aquifer				
15-006	11/07/1967	8	1,150	25	46	19	218
15-008	03/28/1973	8	1,023	33	31	63	105
15-011	01/14/1958	8	1,018	59	17	26	141
15-015	11/30/1948	8	100	10	10	19	112
15-016	12/27/1955	8	503	12	42	21	425
15-028	02/17/1956	12	536	20	27	25	228
15-065	05/15/1950	8	700	50	14	29	103
15-189	07/16/1951	24	600	50	12	25	102
15-192	02/22/1957	8	533	13	41	22	397
15-194	03/10/1969	6	513	20	26	32	171
15-206	09/12/1950	8	500	59	8	21	86
15-240	05/01/1963	8	650	40	16	41	84
15-274	05/20/1944	24	500	30	17	37	96
15-275	02/05/1951	8	1,200	40	30	42	152
15-276	03/14/1963	8	608	24	25	46	117
15-284	01/11/1962	8	1,000	27	37	30	263
15-290	11/01/1960	8	525	26	20	31	139
15-295	01/29/1973	8	250	19	13	20	140
15-330	10/01/1973	24	1,001	53	19	45	89
15-332	04/--/1946	10	1,100	54	20	40	108
15-333	01/26/1953	8	1,056	47	22	38	126
15-392	08/13/1964	8	37	10	4	10	79
Median		8	604	28.5	20	29.5	121.5
			Middle aquifer				
15-022	06/09/1949	8	300	20	15	19	167
15-023	07/31/1967	8	100	14	7	21	72
15-069	07/08/1959	8	1,007	29	35	60	123
15-070	02/03/1944	8	524	22	24	20	252
15-071	10/03/1949	24	180	13	14	10	293
15-072	04/15/1950	24	700	45	16	10	330
15-073	09/10/1951	16	800	60	13	20	141
15-077	10/27/1949	24	183	15	12	9	287
15-079	10/24/1967	24	754	41	18	25	156
15-080	06/--/1946	24	650	54	12	16	159
15-087	10/14/1949	24	205	12	17	10	362
15-093	12/15/1950	8	602	53	11	25	96
15-140	05/26/1970	24	402	22	18	52	74
15-165	06/02/1930	36	150	15	10	10	212
15-170	05/16/1970	7	125	7	18	20	189
15-171	04/19/1972	24	175	34	5	20	55
15-178	02/09/1972	36	69	32	2	20	23
15-211	08/01/1973	12	205	50	4	20	43
15-212	03/10/1951	24	1,000	120	8	30	63
15-213	09/12/1957	8	900	38	24	40	125
15-216	05/--/1950	8	800	33	24	25	205
15-348	05/24/1978	12	800	40	20	30	143
15-368	03/14/1963	8	608	24	25	47	114
15-391	12/15/1950	8	126	59	2	25	18
15-413	03/22/1979	24	105	59	2	20	19
15-431	05/--/1980	34	1,007	28	36	94	80
15-435	07/24/1981	72	1,130	55	21	60	73
15-569	12/09/1981	72	1,002	63	16	40	85
Median		24	568	33.5	15.5	20.5	124

Table 6.--Summary of specific-capacity-test data and estimated hydraulic conductivity for the Potomac-Raritan-Magothy aquifer system in the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Date of test	Duration (hours)	Discharge (gal/min)	Drawdown (feet)	Specific capacity [(gal/min) /ft]	Screen length (feet)	Estimated hydraulic conductivity (feet per day)
			Lower aquifer				
15-091	06/05/1949	24	140	65	2	19	24
15-103	12/28/1945	24	860	13	66	20	700
15-104	06/30/1940	24	1,000	18	56	30	406
15-107	12/10/1945	24	840	9	93	30	659
15-139	05/20/1970	10	412	15	27	44	132
15-173	03/14/1972	25	406	19	21	47	96
15-174	03/16/1972	24	175	29	6	30	43
15-175	02/01/1972	21	300	54	6	20	59
15-176	01/17/1972	24	205	12	17	40	90
15-177	01/25/1977	36	250	18	14	40	74
15-181	03/01/1972	72	510	46	11	20	117
15-217	10/29/1976	56	100	3	33	10	815
15-220	05/26/1954	8	500	16	31	22	301
15-221	03/20/1970	8	602	14	43	28	325
15-283	12/05/1961	8	1,000	105	10	25	81
15-285	10/04/1961	8	1,000	36	28	30	196
15-304	04/04/1970	8	1,500	31	48	52	197
15-306	03/02/1970	8	1,515	65	23	42	118
15-308	04/21/1969	24	457	27	17	40	90
15-313	02/15/1961	8	752	37	20	46	94
15-314	01/03/1949	48	1,200	76	16	38	88
15-317	03/16/1973	8	1,001	25	40	40	212
15-318	01/12/1948	24	1,100	59	19	30	132
15-319	03/10/1948	90	1,100	52	21	30	149
15-320	10/23/1947	8	1,110	34	33	40	173
15-321	10/29/1948	8	1,029	44	23	40	124
15-322	12/17/1947	24	1,012	43	24	30	166
15-327	12/05/1957	8	1,205	95	13	27	99
15-331	04/27/1960	10	1,016	24	42	52	172
15-373	12/08/1980	72	1,280	81	16	40	84
15-401	01/12/1972	24	151	11	14	20	140
15-410	08/19/1978	8	1,000	41	24	40	129
15-414	02/06/1979	24	201	17	12	19	130
15-439	04/24/1970	8	542	16	34	20	359
15-533	12/07/1981	24	750	37	20	32	134
Median		24	840	31	21	30	132

Geological Survey, 1967). Beneath the Delaware River and adjacent to the river in northeastern Greenwich Township and Paulsboro Borough, parts of the middle aquifer probably were eroded and replaced by upper Cenozoic sand and gravel (pl. 4b). These coarse-grained upper Cenozoic deposits probably transmit recharge to the underlying aquifer. Adjacent to Raccoon Creek in Logan Township and adjacent to Repaupo Creek in Greenwich Township, the middle aquifer probably was eroded and replaced by fine-grained upper Cenozoic deposits that may retard the transmission of recharge to the underlying aquifer. Locally the middle aquifer is divided into two parts by a clay confining unit (pls. 1b and 2).

Plate 5a shows the subsurface configuration of the top of the upper, water-bearing part of the middle aquifer, which ranges in altitude from above sea level to greater than 360 ft below sea level in the southeastern part of the region. In general, the top surface of the aquifer slopes uniformly to the southeast at approximately 50 ft/mi. The surface has a southeast-trending valley in the area of Mantua Creek. The total thickness of the middle aquifer averages 87 ft, reaching a maximum of more than 160 ft near both southern Greenwich Township and Woodbury Heights. The aquifer has a lobate shape, with two lobes trending south and east where the thickness is greater than 80 ft.

The subcrop of the confining unit dividing the middle aquifer is shown in plate 5b. Geologic logs indicate that this unit consists primarily of gray or red and white mottled clay. This confining unit consists predominantly of deposits mapped as undivided Raritan Formation and Potomac Group (Owens and others, 1970, p. 9, fig. 5; U.S. Geological Survey, 1967). Hydrometer analysis of the particle size of core materials taken from clay-rich zones of this unit at three sites indicate that the clay content ranges from 45 to 70 percent by weight. As shown in plate 5b, the confining unit is discontinuous and is mappable as two south-trending lobes. Altitudes of the top surface of the confining unit range from above sea level in the subcrop to greater than 415 ft below sea level in the southeastern part of the study area. In general, the surface slopes uniformly at approximately 60 ft/mi. Zones in which the confining unit could not be differentiated are shown in plate 5b. Where present, the unit's average thickness is 20 ft; in northwestern West Deptford Township, it is thicker than 60 ft. Beneath the Delaware River and adjacent to the river in Paulsboro Borough and in Greenwich and West Deptford Townships, upper Cenozoic sand and gravel deposits may replace the confining unit. Near Raccoon Island in Logan Township and in Tinicum Township in Pennsylvania, confining materials may be predominantly late Cenozoic in age. Regional mapping of the aquifer system by Zapecza (1989) suggests that the confining unit dividing the middle aquifer pinches out downdip (pl. 2).

Plate 6a shows the extent and subsurface configuration of the top of the lower, water-bearing part of the middle aquifer. This surface is the same as the base of the confining unit dividing the middle aquifer. Areas in which the middle aquifer cannot be differentiated into two parts by a confining unit are indicated in plate 6a. Where the unit is present, the thickness of the lower part of the middle aquifer in the Greenwich Township region averages 36 ft and reaches a maximum of about 100 ft.

Estimates of the hydraulic properties of the middle aquifer are listed in tables 5 and 6. Table 5 lists the results of two aquifer tests conducted in the Greenwich Township region; transmissivities range from 6,280 to 6,950 ft^2/d, and a storage coefficient of 1.5×10^{-4} was reported for one test. Table 6 lists the results of specific-capacity tests and the resultant estimated hydraulic conductivities for 29 wells tapping the middle aquifer. The results of the specific-capacity tests indicate that pumping rates in excess of 1,000 gal/min can be sustained locally. For example, well 15-569 was pumped at a rate of 1,002 gal/min for 72 hours, resulting in 63 ft of drawdown and a specific capacity of 16 gal/min per foot of drawdown (table 6), which is the median specific capacity of the 28 wells tested. The specific capacities of these wells range from 2 to 36 gal/min per foot of drawdown. The median hydraulic conductivity, estimated from the specific-capacity-test data (Bennett, 1976, p.8), is 124 ft/d (table 6). Estimated hydraulic conductivities increase toward the Delaware River. From the median hydraulic conductivity and average thickness of the middle aquifer (87 ft), transmissivity is estimated to be 10,788 ft^2/d.

Another estimate of the transmissivity of the middle aquifer, determined from calibration results of a regional ground-water-flow model (Martin, 1987, fig. 56), ranged from 2,000 to 9,000 ft^2/d (table 5), increasing with aquifer thickness in the downdip direction within the Greenwich Township region. This range spans the values reported for aquifer tests but is lower than the estimate based on specific-capacity-test data. Aquifer tests conducted in the middle aquifer by ground-water consultants working in the region (Legette, Brashears and Graham, Inc., 1984; Environmental Resources Management, 1986; D.E. Choate, Mobil Oil Corporation, written commun., 1986) suggest an even wider range of hydraulic properties, with estimates of horizontal hydraulic conductivity ranging from 90 to 423 ft/d, transmissivity ranging from 990 to 25,537 ft^2/d, and storage coefficients ranging from 5.0×10^{-5} to 1.0×10^{-3}.

Hydraulic properties of the confining unit dividing the middle aquifer were estimated from results of laboratory permeability tests conducted on undisturbed cores of clay-rich parts of this unit collected from two sites in Logan Township and one in Greenwich Township (table 4). Estimates of minimum vertical hydraulic conductivity based on the results of these tests range from 3.9×10^{-5} to 1.5×10^{-4} ft/d. Aquifer-test results and differences in water quality and ground-water levels between aquifers above and below this confining unit measured during this study suggest that locally the unit may be effective in limiting ground-water flow.

Confining Unit between the Middle and Lower Aquifers

Plate 6b shows the approximate subcrop or outcrop area of the confining unit between the middle and lower aquifers. Geologic logs indicate that this confining unit consists primarily of very fine-grained, red and white mottled clay and silt. This confining unit comprises deposits mapped as undivided Raritan Formation and Potomac Group (Owens and others, 1970, p. 9, fig. 5; U.S. Geological Survey, 1967). Fine-grained upper Cenozoic deposits overlying the subcrop are thickest in areas adjacent to the Delaware River channel, particularly adjacent to Raccoon Creek in Logan Township.

Particle-size analyses by hydrometer of materials from seven cores taken from clay-rich zones of this unit at three sites in the Greenwich Township region indicate that clay content ranges from 25 to 55 percent by weight. The top surface of the confining unit dips toward the southeast at 50 to 100 ft/mi (pl. 6b). Steeper slopes generally are found in areas adjacent to the subcrop and in northern West Deptford Township. A broad valley in the top surface of the confining unit is found in the area near Mantua Creek. The northeastern part of the region has an additional surface depression. The thickness of the confining unit ranges up to a maximum of 101 ft (well 15-312) and averages 45 ft (pl. 6a). The unit generally thickens toward the south, but has a lobate configuration similar to that of the middle aquifer. Near Raccoon Island in Logan Township, Cretaceous clay-rich material in combination with overlying upper Cenozoic silt and clay is more than 60 ft thick.

The hydraulic properties of the confining unit between the middle and lower aquifers were estimated from laboratory permeability tests on seven cores from clay-rich zones of the unit at three sites in the Greenwich Township region (table 4). Estimates of vertical hydraulic conductivity based on the results of these tests range from 1.5×10^{-5} to 1.3×10^{-4} ft/d (table 4). Estimates made by consultants working in the region (D.E. Choate, Mobil Oil Corporation, written commun., 1986) indicate that vertical hydraulic conductivity values may be higher (2.8×10^{-4} to 1.2×10^{-3} ft/d) in some areas adjacent to the Delaware River in Paulsboro Borough and Greenwich Township. Minimum vertical hydraulic conductivity in the region (1×10^{-3} ft/d, table 4) was estimated by multiplying the maximum thickness of the unit (101 ft) by minimum vertical leakance of the unit (1×10^{-5} per day), which was estimated from calibration results of a regional ground-water-flow model (Martin, 1987, fig. 65). This estimate is an order of magnitude higher than the range estimated on the basis of permeability-test results. A higher regional estimate is expected because permeability tests were conducted only on clay-rich zones of the unit. On the basis of aquifer-test results and differences between water levels and water quality in the middle and lower aquifers measured during this study, this confining unit is considered to be locally effective at limiting vertical flow.

Lower Aquifer

The lower aquifer overlies weathered bedrock throughout the Greenwich Township region. Geologic logs indicate that, in the Greenwich Township region, the lower aquifer consists predominantly of white, yellow, or brown quartzo-feldspathic, micaceous, coarse sand interbedded with gravel and red and gray lignitic silt and clay. Individual clay beds within the lower aquifer generally are less than 25 ft thick. This aquifer consists primarily of deposits mapped as undivided Raritan Formation and Potomac Group. Coarse-grained upper Cenozoic deposits overlying the subcrop are particularly thick on and near Monds Island in Greenwich Township. According to Zapecza's regional study (1989, p. 10 and pl. 6), the lower aquifer does not crop out in southern New Jersey, but pinches out against bedrock. Updip projections of the lower aquifer on the hydrogeologic sections shown in plate 2, however, suggest that the lower aquifer may subcrop in New Jersey adjacent to and beneath the Delaware River, as well as on the northwestern side of the river in Pennsylvania. In these areas, the

lower aquifer is truncated by thick upper Cenozoic deposits. Hence, if upper Cenozoic deposits are permeable and ground-water gradients are appropriate, water movement from the river to the lower aquifer is possible.

Plate 7a shows the subsurface configuration of the top of the lower aquifer. Altitudes range from about sea level in the subcrop area to greater than 660 ft below sea level in the southeastern part of the study area. The top surface slopes to the southeast at 40 to 110 ft/mi. A small southeast-trending valley is found in the area near the mouth of Mantua Creek. The thickness of the lower aquifer averages about 100 ft and reaches a maximum of more than 340 ft. Although the aquifer generally thickens toward the southeast, two deviations from this trend are noted. The lower aquifer thins in the area near Nehonsey Brook and, in combination with overlying upper Cenozoic sands, thickens in the subcrop area adjacent to the Delaware River.

Estimates of the hydraulic properties of the lower aquifer in the Greenwich Township region are listed in tables 5 and 6. Table 5 lists the results of two aquifer tests conducted in the Greenwich Township region; hydraulic conductivities range from 50 to 190 ft/d, transmissivities range from 5,600 to 9,100 ft^2/d, and storage coefficients range from 9.0×10^{-5} to 1.7×10^{-4}. Aquifer tests conducted by consultants working in the region (D.E. Choate, Mobil Oil Corporation, written commun., 1986) show similar ranges in hydraulic properties. Table 6 lists the results of specific-capacity tests and corresponding hydraulic-conductivity values estimated from these tests (Bennett, 1976, p. 8) for 35 wells tapping the lower aquifer. The specific-capacity tests indicate that pumping rates in excess of 1,500 gal/min can be sustained locally. For example, well 15-306 was pumped at a rate of 1,515 gal/min for 8 hours, resulting in a drawdown of 65 ft and a specific capacity of 23 gal/min per foot of drawdown (table 5). The specific capacities of the 35 wells range from 2 to 48 gal/min per foot of drawdown; the median specific capacity is 21 gal/min per foot of drawdown. Hydraulic-conductivity values in the lower aquifer increase both toward the Delaware River and toward Deptford Township. A median hydraulic conductivity of 132 ft/d was determined for these wells. By multiplying the median hydraulic conductivity by the average thickness of the lower aquifer (98 ft), the average transmissivity for the Greenwich Township region is estimated to be 12,940 ft^2/d.

Another estimate of the transmissivity of the lower aquifer in the Greenwich Township region was determined from calibration results of a regional ground-water-flow model (Martin, 1987, fig. 55). This estimate ranges from 6,000 to 10,000 ft^2/d (table 5)--slightly lower than the estimate based on specific-capacity-test data but similar to estimates based on aquifer-test results.

Bedrock

In southern New Jersey, the lower confining unit beneath the Potomac-Raritan-Magothy aquifer system (table 1) consists of lower Paleozoic and Precambrian metamorphic and igneous bedrock (Zapecza, 1989). In the Greenwich Township region, the bedrock is composed of micaceous and feldspathic schist and gneiss of the Wissahickon Formation (Barksdale and others, 1958, p. 69; Hardt and Hilton, 1969, p. 9). Fractures, joints,

foliation, and folds are characteristic structural features of this formation. Although the thickness of the Wissahickon Formation is unknown, it is probably several thousand feet (Hardt and Hilton, 1969, p. 9). Overlying solid bedrock, there is a gradational zone of weathered bedrock which may range up to 100 ft in thickness. The weathered-bedrock material grades from chemically unaltered but highly fractured bedrock to a saprolite--a light to dark gray, micaceous clay containing gravel-sized fragments of underlying bedrock.

Plate 7b shows the subcrop area of the bedrock beneath the upper Cenozoic deposits and the subsurface configuration of the bedrock surface. Because the contact between solid bedrock and unconsolidated material is gradational, the altitude of the top surface is subject to error on the order of tens of feet. Altitude of the bedrock surface ranges from more than 50 ft above sea level in the subcrop area in the northwestern part of the Greenwich Township region (in Pennsylvania) to more than 900 ft below sea level in the southeastern part. In general, the bedrock surface dips at a rate of approximately 60 to 100 ft/mi. Near Nehonsey Brook, a broad, northwest-trending valley is present in the bedrock surface.

In the Greenwich Township region, the Wissahickon Formation is the lower confining unit of the Potomac-Raritan-Magothy aquifer system. In its unweathered state, the Wissahickon Formation is relatively impervious to water (Barksdale and others, 1958, p. 73). Open joints and fractures can provide for storage, however; where interconnected, the unit can transmit ground water. Recharge from the overlying sand-and-gravel aquifers provides essentially all of the ground water in the bedrock that flows through the unfilled and interconnected joints and fractures within the weathered zone (Hardt and Hilton, 1969, p. 9). According to Barksdale and others (1958, p. 74), storage coefficients for the weathered-bedrock zone range from 5×10^{-3} to 2×10^{-2}. These values are comparable to those for the Potomac-Raritan-Magothy aquifer system; however, 7 wells tapping the weathered bedrock have an average specific capacity of 1.70 gal/min per foot of drawdown and 12 wells have an average yield of 45 gal/min (Barksdale and others, 1958, p. 74-75). These values are low compared to those for the overlying unconsolidated deposits.

HYDROLOGIC CONDITIONS

Surface water and ground water are not separate resources but different components of the same resource. Where they are hydraulically connected, changes in surface-water levels, such as those induced by tides, may change ground-water levels. Recharge of surface water to the aquifer system may affect the quality of ground water. Therefore, an assessment of the ground-water resources in Greenwich Township requires a basic understanding of the surface-water system, especially with regard to tidal influences and saltwater intrusion from the Delaware River and its tributaries.

Surface Water

Surface water, which comprises 10 to 15 percent of the area of the Greenwich Township region, drains northwestward from New Jersey and southeastward from Pennsylvania into the Delaware River. The major streams in the New Jersey part of the region are Raccoon Creek in the southwest and

Mantua Creek in the northeast; the main stream in the Pennsylvania part of the region is Darby Creek (pl. 1a). Little Timber Creek, Repaupo Creek, Nehonsey Brook, Clonmell Creek, and Woodbury Creek in New Jersey, and Crum Creek, Ridley Creek, and Chester Creek in Pennsylvania also flow into the Delaware River. Many small tributaries to these streams complete the drainage pattern. Because most of the streams are perennial, many streams probably receive ground-water discharge from the water-table aquifer. During a drought, however, the water table may fall to a level that causes streams, particularly Clonmell Creek, Nehonsey Brook, and some of the tributaries of Repaupo Creek in Greenwich Township (Hardt and Hilton, 1969, p. 44-47, table 5), to cease or to have discontinuous flow. In addition, vertical hydraulic gradients between unconfined and confined aquifers in the region indicate that surface water in many stream reaches recharges the shallow ground-water system where streambeds are permeable; however, ground-water contributions to streamflow and streamflow losses to the ground-water system were not estimated because of regional water-level fluctuations caused by tides.

The Delaware River is an estuary from Trenton, New Jersey, to the Delaware Bay at the Atlantic Ocean. The Delaware River and the lower reaches of its tributaries in the Greenwich Township region are affected daily by tides. Stage in the Delaware River, recorded at a U.S. Geological Survey tide gage at Bramell Point in Paulsboro Borough, fluctuates daily with an amplitude of 5.8 ft from an average of 2.4 ft below sea level to 3.4 ft above sea level (A.J. Velnich, U.S. Geological Survey, written commun., 1987). Tidal reaches of the tributaries experience similar but smaller stage fluctuations. Head of tide in each tributary is indicated in plate 1a. Because these streams have extremely low gradients and wide floodplains, their channels are bounded by extensive tidal wetlands throughout the region.

Lowlands adjacent to the Delaware River in much of the region are subject to tidal flooding (Federal Emergency Management Agency, 1982). High tides flood these lowlands to approximately the same elevation as that of the Delaware River. Flooding is most likely to occur in late summer and fall when storm surges from hurricanes are most frequent and increase tides.

Flood hazards and flood-protection measures in the region are discussed in detail by the Federal Emergency Management Agency (1982). The most extensive flood-protection structures were constructed in Greenwich Township to reclaim tidal wetlands for agricultural use. Currently (1990), more than 5 mi of continuous dike is maintained to protect Gibbstown and about 1.6 mi^2 of industrial land from the tides. A system of channels and floodgate structures on Repaupo Creek, White Sluice Race, Sand Ditch, and Clonmell Creek (pl. 1a) controls drainage in the area behind the floodgates and mitigates tidal flooding. The wooden flapgates of the floodgates open when water levels in the tributaries are higher than that in the Delaware River and close when the hydraulic gradient reverses (M. Peterson, U.S. Dept. of Agriculture, Soil Conservation Service, written commun., 1986). Average stage in tributaries at the floodgates is 1.5 to 2.5 ft below sea level (M. Peterson, U.S. Dept. of Agriculture, Soil Conservation Service, written commun., 1986; J. Redmond, Greenwich Township, written commun., 1986).

Dikes along the Delaware River in Logan Township protect additional lowland areas from tidal flooding. In West Deptford Township, most of the industries in the tidal lowlands between Mantua Creek and Woodbury Creek have been built on fill higher than the 100-year-flood elevation.

Saltwater moves upstream and downstream in the Delaware River twice daily with the ebb and flood of the tide and mixes with freshwater that flows into the estuary. Freshwater flowing into the estuary both dilutes the saltwater and tends to flush it downstream. The long-term mean annual invasion point of saline water in the Delaware River is within the Greenwich Township region at Chester, Pennsylvania (Anderson and others, 1972, p. 381, fig. 7); however, when freshwater flow is very low, as it was during the 1961-66 drought, saltwater may advance into the estuary as far north as Philadelphia. Chloride concentrations greater than 2,000 mg/L (milligrams per liter) have been measured in the river at Chester (Hardt and Hilton, 1969, p. 13; Anderson and others, 1972, p. 381, fig. 7). A chloride concentration of 2,000 mg/L indicates a mixture of about nine parts fresh river water (8.25 mg/L chloride) to one part ocean water (20,000 mg/L chloride) (Drever, 1982, p. 237).

Because the subcrop of the Potomac-Raritan-Magothy aquifer system is incised by the Delaware River and its tributaries, tidal fluctuations and the quality of the river water may affect the ground-water system (Barksdale and others, 1958, p. 124; Hardt and Hilton, 1969, p. 12). Extensive ground-water withdrawals in northern Camden, western Burlington, and eastern Gloucester Counties, New Jersey, have reversed hydraulic gradients, creating a potential for recharge to the aquifer system from the Delaware River. This phenomenon is called induced recharge. Where the Delaware River is hydraulically connected to an aquifer, either because the upper Cenozoic deposits overlying the subcrop are permeable or because the aquifer is directly exposed to the river as a result of channel dredging, water moves downward through the riverbed to the aquifer. Evidence for induced recharge of the aquifer system from the Delaware River has been documented by Barksdale and others (1958, p. 106-108, 115-123) and by Greenman and others (1961, p. 76-81).

Little information on surface-water diversions is available. Surface water in the region is used to supplement industrial and small-farm water supplies. Surface-water diversions by some local industries have increased throughout the 1980's.

Ground Water

Withdrawals

The Potomac-Raritan-Magothy aquifer system is the principal source of potable water in the Greenwich Township region. Table 7 lists the major ground-water usage and users (those with pump capacities of 100,000 gal/d (gallons per day) or greater), the primary wells and aquifers supplying the water, and the annual withdrawal rates in 1973, 1978, and 1983-86 as reported in the U.S. Geological Survey New Jersey State Water Use Data System (SWUDS). Table 7 does not include withdrawals from wells with pump capacities of less than 100,000 gal/d; hence, withdrawals through most irrigation wells and all domestic wells are not included. Withdrawals

reported in 1973 and 1978 may not include withdrawals made through wells with pump capacities of 100,000 gal/d or greater that were drilled prior to the enactment of a 1947 "grandfather rights" statute. Withdrawals since 1983, based on written communications with ground-water users in 1986, are recorded in table 7 by individual well rather than by N.J. Department of Environmental Protection allocation permit (which may include withdrawals from more than one well) and include withdrawals by purge wells pumped for on-site containment of ground-water contamination.

The relative amounts and distribution of ground-water withdrawals in the Greenwich Township region during 1986 are shown in figure 4 and plates 8-9a. Withdrawals from all aquifers are concentrated in the eastern part of the region and along the Delaware River in West Deptford and Greenwich Townships and Paulsboro Borough. Ground-water withdrawals in the Pennsylvania part of the study area generally are not significant.

Total reported ground-water withdrawals within the Greenwich Township region from 1956-86 and a breakdown of the withdrawals by type of use are shown in figure 5a. Total ground-water withdrawals in the region increased from 13.6 Mgal/d (million gallons per day) in 1956 to almost 25.9 Mgal/d in 1969, decreased to less than 16.2 Mgal/d in 1981, and increased to almost 20 Mgal/d in 1986. Ninty-nine percent of the total reported withdrawals in the Greenwich Township region are for public-supply or self-supplied industrial usage. Since about 1977, ground-water withdrawals have been approximately evenly divided between the two categories. Withdrawals by public-supply purveyors generally have increased throughout the period of record. Analysis of water-use data by owner indicates that the increase in self-supplied industrial withdrawals during the late 1960's was primarily the result of increased withdrawals by petroleum industries. Withdrawals for agricultural usage are not shown in figure 5a; although agricultural withdrawals are poorly documented, they are small in comparison to public-supply and industrial pumpage (Vowinkel, 1984, p. 14).

Total ground-water withdrawals in Greenwich Township, Paulsboro Borough, and throughout the entire region have increased since 1981. Increased ground-water withdrawals in the 1980's probably are, in part, the result of the below-normal precipitation in this region during the same period (fig. 2). A small percentage of the increase is the result of the recent installation (beginning in 1976) of ground-water purge wells that recover or contain on-site industrial chemicals and contaminated ground water (table 7). Data reported before 1983, shown in figure 5a and c, do not include withdrawals for contaminant remediation; however, these withdrawals beginning in 1983 are included in the totals reported in figure 5 and table 7.

Figure 5b illustrates the seasonal fluctuations in water withdrawals during 1983. Mean monthly ground-water withdrawals in the Greenwich Township region from 1973-86 were greatest during summer months.

The hydrogeologic units tapped by wells in the Greenwich Township region include water-bearing upper Cenozoic deposits; the Englishtown aquifer system; the upper, sandy unit of the Merchantville Formation, and the Potomac-Raritan-Magothy aquifer system. In 1986, withdrawals from the Potomac-Raritan-Magothy aquifer system (and the overlying, hydraulically

Table 7.--Ground-water-withdrawal rates in the region of Greenwich Township, Gloucester County, New Jersey, in 1973, 1978, and 1983-1986

[Data from U.S. Geological Survey New Jersey State Water Use Data System (SWUDS). No information or zero pumpage is denoted by a "-". A pumpage of "0.00" indicates that withdrawals are not equal to zero but are less than 0.01 million gallons per day. A "#" indicates reporting period is prior to well construction. Pumpage estimated from a reported total using data from user is noted with a '*'. WD, Water Department; WC, Water Company; WSC, Water Supply Company; MUA, Municipal Utilities Authority. Undifferentiated Upper Cenozoic deposits overlie and are hydraulically connected to the Potomac-Raritan-Magothy aquifer system. Information about wells is listed in table 3. Location of wells shown in plate 1a]

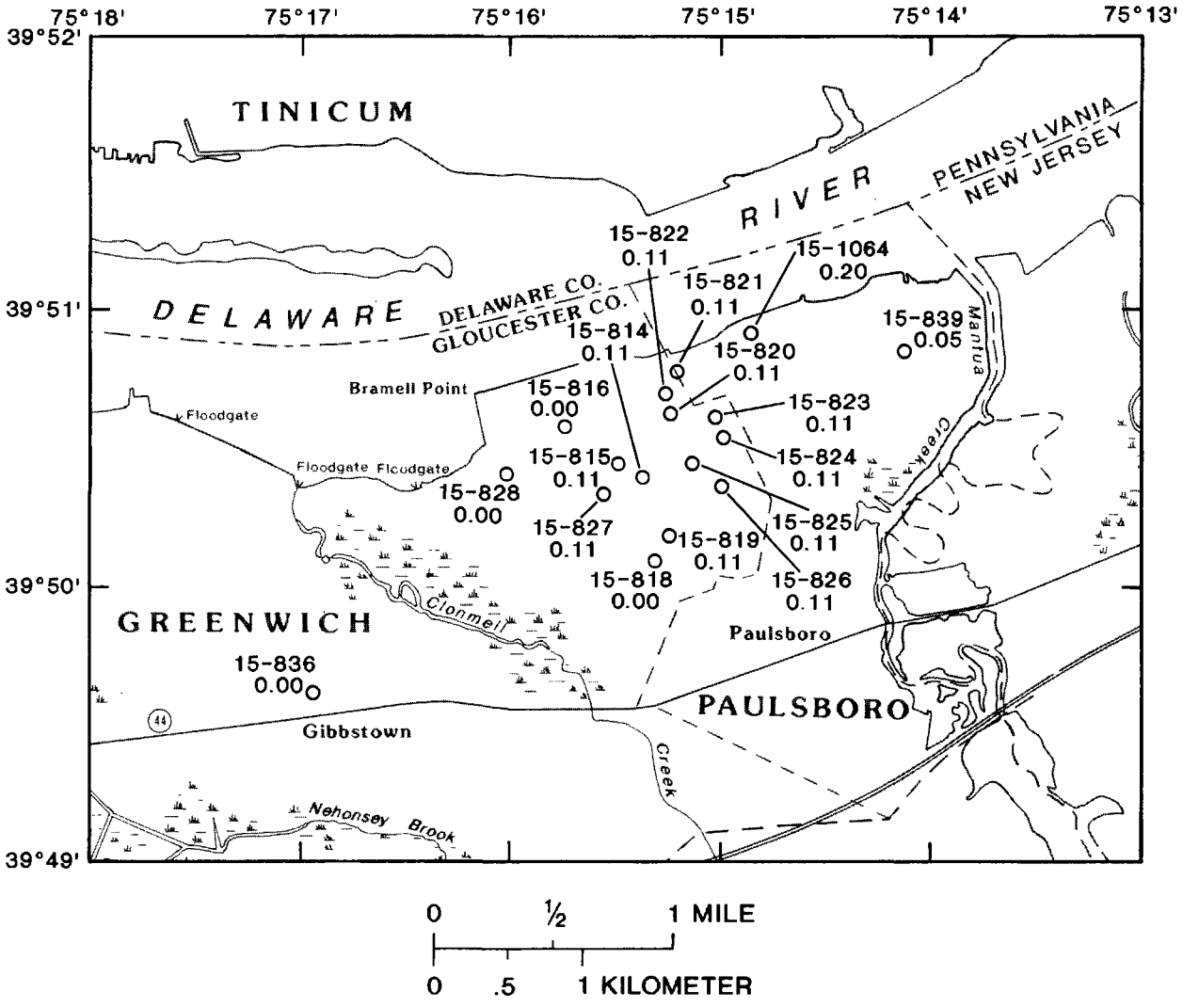
Type of usage / Owner	Well number	Annual pumpage (million gallons per day) 1973	1978	1983	1984	1985	1986
Englishtown aquifer system							
Commercial							
N.J. Turnpike Authority	15-344	-	-	0.00	-	-	-
N.J. Turnpike Authority	15-378	-	-	.00	-	-	-
Withdrawals for commercial use		-	-	.00	-	-	-
Total withdrawals		-	-	.00	-	-	-
Undifferentiated Quaternary deposits							
Self-supplied industrial and mining							
BP Oil Company	15-839	-	-	-	-	-	0.05*
Exxon	15-1064	-	-	-	-	-	.20*
Hercules Chemical	15-836	#	#	#	#	-	.00
Mobil Oil Corporation	15-814	#	#	0.15*	0.13*	0.11*	.11*
Mobil Oil Corporation	15-815	#	#	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-816	#	#	.00*	.00*	.00*	.00*
Mobil Oil Corporation	15-818	#	#	.00*	.00*	.00*	.00*
Mobil Oil Corporation	15-819	#	#	#	.13*	.11*	.11*
Mobil Oil Corporation	15-820	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-821	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-822	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-823	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-824	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-825	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-826	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-827	-	-	.15*	.13*	.11*	.11*
Mobil Oil Corporation	15-828	#	#	.00*	.00*	.00*	.00*
Withdrawals for industrial and mining use		-	-	1.50	1.43	1.21	1.46
Total withdrawals		-	-	1.50	1.43	1.21	1.46
Upper aquifer of the Potomac-Raritan-Magothy aquifer system							
Self-supplied industrial and mining							
Chemical Leaman	15-548	#	#	-	-	-	0.01*
Del Monte Corporation	15-240	0.08	0.10	-	-	-	-
Mobil Oil Corporation	15-817	#	#	0.00*	0.00*	0.00*	.00*
Mobil Oil Corporation	15-832	-	-	.15*	.13*	.11*	.11*
P.M.C. Canning Co., Inc.	15-394	-	.01	.02	.01	.01	.01
Polyrez Company, Inc.	15-299	.32	.31	.31	.00	.00	.00
Polyrez Company, Inc.	15-300	-	-	-	.20	.13	.24
Polyrez Company, Inc.	15-437	-	-	-	.28	.28	.21
Shell Chemical Company	15-284	1.09	.69	.43	.19	.03	.22
Inversand Company	15-187	.53	.25	.14	.09	.12	.16
Withdrawals for industrial and mining use		2.02	1.36	1.05	.90	.68	.96

Table 7.--Ground-water-withdrawal rates in the region of Greenwich Township, Gloucester County, New Jersey, in 1973, 1978, and 1983-1986--Continued

Type of usage / Owner	Well number	Annual pumpage (million gallons per day) 1973	1978	1983	1984	1985	1986
Upper aquifer of the Potomac-Raritan-Magothy aquifer system							
Public supply							
Deptford Township MUA	15-011	-	-	0.24	0.25	0.23	0.21
Deptford Township MUA	15-016	0.78	0.61	.26	.26	.20	.27
East Greenwich Township MUA	15-028	.52	.39	.39	.20	.20	.28
East Greenwich Township WD	15-355	-	-	-	.17	.20	.20
Greenwich Township WD	15-065	.15	.00	-	-	-	-
Mantua Township MUA	15-189	.19	.20	-	-	-	-
Mantua Township MUA	15-192	.19	.18	-	-	-	-
Mantua Township MUA	15-193	.08	-	-	-	-	-
Mantua Township MUA	15-194	.01	.11	.51	.49	.50	.56
Wenonah Borough WD	15-275	.16	.21	.25	.19	.18	.28
West Deptford WD	15-276	.13	.19	.40	.33	.65	.00
West Deptford WD	15-281	1.04	.46	.45	.61	.82	.21
Woodbury Heights Borough WD	15-330	.02	.31	.35	.20	.30	.31
Woodbury WD	15-006	.76	.24	.33	.90	1.02	.95
Woodbury WD	15-008	.36	.86	-	-	-	.00
Woodbury WD	15-332	.00	.00	.00	.01	.00	.00
Woodbury WD	15-333	.05	.00	-	-	-	-
Withdrawals for public supply		4.44	3.76	3.18	3.69	4.30	3.27
Commercial							
Clearview Regional H.S.	15-131	.03	.03	.00	.05	.06	-
Woodbury Association	15-369	.00	.00	-	-	-	-
Withdrawals for commercial use		.03	.03	.00	.05	.06	-
Irrigation							
Monfardini, Fel	15-366	.00	.01	.02	-	-	-
Nolte, Carl	15-421	.00	.00	.00	-	-	-
Westwood Golf Club	15-295	-	.01	.01	.01	.01	.02
Withdrawals for irrigation		.00	.02	.03	.01	.01	.02
Total withdrawals		6.49	5.17	4.26	4.65	5.05	4.25
Middle aquifer of the Potomac-Raritan-Magothy aquifer system							
Self-supplied industrial and mining							
E. I. Dupont	15-072	0.44	0.14	0.00	0.00	0.39	0.98*
E. I. Dupont	15-079	.25	.16	.32	.29	-	-
E. I. Dupont	15-080	.00	.30	-	-	-	-
E. I. Dupont	15-081	.03	.01	.00	.00	-	-
E. I. Dupont	15-102	.01	-	-	-	-	-
E. I. Dupont	15-692	#	#	#	#	-	.45*
Hercules Chemical	15-076	.18	.15	.07	.13	.10	.10
Hercules Chemical	15-084	.03	-	-	-	-	-
Hercules Chemical	15-092	-	-	-	-	.01	.01
Hercules Chemical	15-833	#	#	#	#	#	.01
Hercules Chemical	15-834	#	#	#	#	#	.00
Hercules Chemical	15-835	#	#	#	#	.01	.02
Hercules Chemical	15-837	#	#	#	#	.01	.03
Hercules Chemical	15-838	#	#	#	-	.01	.01
Mobil Oil Corporation	15-094	-	-	.36*	.36*	.20*	.31*
Mobil Oil Corporation	15-098	2.19	.62	.36*	.36*	.02*	.31*
Rollins Environmental	15-154	.05	.02	-	-	-	-
Shell Chemical Company	15-286	.11	.04	.04	.03	.02	.03
Withdrawals for industrial and mining use		3.29	1.44	1.15	1.17	.76	2.26
Public supply							
Greenwich Township WD	15-069	.10	.21	.19	.61	.22	.28
Greenwich Township WD	15-070	.31	-	-	-	-	-
Greenwich Township WD	15-347	-	.29	.31	.05	.12	.10
Greenwich Township WD	15-348	-	.24	.24	.07	.40	.44
Paulsboro WD	15-210	.00	.76	.73	.47	.54	.57
Paulsboro WD	15-212	.51	.15	.14	.12	.12	.19
Paulsboro WD	15-213	.49	.20	.13	.33	.21	.23
Paulsboro WD	15-215	.21	-	-	-	-	-
Paulsboro WD	15-216	.03	-	-	-	-	-
Penns Grove WSC	15-166	.03	.05	.04	.04	.04	.03
Pureland WC	15-137	.00	.13	.56	.38	.32	.40
Pureland WC	15-144	.00	.10	.07	.21	.05	.06
West Deptford WD	15-435	#	#	.39	.40	.23	1.48
Woodbury WD	15-431	#	#	.71	.39	.25	.51
Withdrawals for public supply		1.68	2.13	3.51	3.07	2.50	4.29
Total withdrawals		4.97	3.57	4.66	4.24	3.26	6.55

Table 7.--Ground-water-withdrawal rates in the region of Greenwich Township, Gloucester County, New Jersey, in 1973, 1978, and 1983-1986--Continued

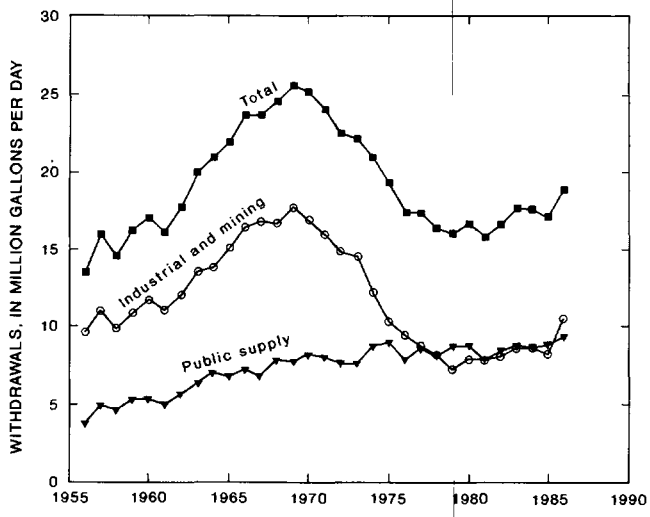
Type of usage / Owner	Well number	Annual pumpage (million gallons per day) 1973	1978	1983	1984	1985	1986
Lower aquifer of the Potomac-Raritan-Magothy aquifer system							
Self-supplied industrial and mining							
Air Products & Chemicals	15-411	#	-	0.22	0.18	0.14	0.04*
Air Products & Chemicals	15-672	#	-	-	-	-	.06*
Coastal Eagle Point Oil	15-314	0.58	0.47	.79	.98	.57	.39
Coastal Eagle Point Oil	15-317	.00	.51	1.09	.69	.40	.42
Coastal Eagle Point Oil	15-318	1.15	.52	.62	.37	1.02	.43
Coastal Eagle Point Oil	15-319	.86	.50	.28	.09	.35	.78
Coastal Eagle Point Oil	15-320	.87	.81	.06	.52	.37	.63
Coastal Eagle Point Oil	15-321	.58	.76	.26	.52	.43	.40
Coastal Eagle Point Oil	15-322	1.09	.54	.18	.06	.24	.19
Essex Chemical Company	15-220	.24	.00	.71	.23	.31	.54
Essex Chemical Company	15-221	.17	.00	-	-	-	-
Essex Chemical Company	15-439	-	-	-	.45	.25	.01*
Mobil Oil Corporation	15-109	2.60	.62	.32	.31	.26	.44*
Mobil Oil Corporation	15-118	-	-	.21	.28	.27	.45*
Pennwalt Corporation	15-304	.13	-	-	-	.11	.39
Shell Chemical Company	15-283	.81	.63	.31	.38	.32	.05
Shell Chemical Company	15-285	.18	.10	.11	.28	.48	.54
Withdrawals for industrial and mining use		9.26	5.46	5.16	5.34	5.52	5.76
Public supply							
National Park Borough WD	15-207	0.30	0.32	0.34	0.32	0.32	0.32
West Deptford WD	15-282	.00	.72	.23	.27	.22	.29
West Deptford WD	15-312	.00	.44	.03	.14	.00	.17
West Deptford WD	15-313	.14	-	-	-	-	.00
West Deptford WD	15-373	#	#	.73	.39	.57	.23
Westville Borough WD	15-326	-	-	-	-	-	.11
Westville Borough WD	15-327	.68	.67	.71	.69	.73	.29
Westville Borough WD	15-434	#	#	-	-	-	.24
Woodbury WD	15-331	.36	.17	.18	.19	.28	.19
Withdrawals for public supply		1.48	2.32	2.22	2.00	2.12	1.84
Total withdrawals		10.74	7.78	7.38	7.34	7.64	7.60
Total withdrawals for industrial and mining use		14.57	8.26	8.85	8.84	8.17	10.46
Total withdrawals for public supply		7.60	8.21	8.91	8.76	8.92	9.40
Total withdrawals from Quaternary deposits and Potomac-Raritan-Magothy aquifer system		22.20	16.52	17.76	17.60	17.09	19.86



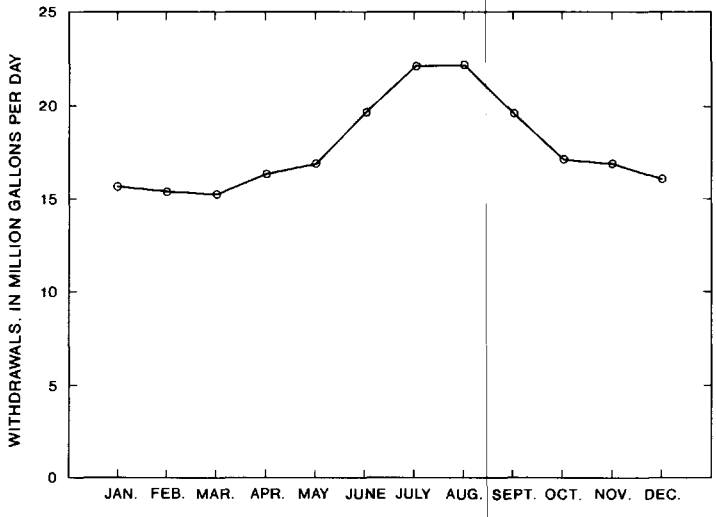
EXPLANATION

15-828 0.00 WELL LOCATION--Upper number is U.S. Geological Survey well number (see table 3). Lower number is well discharge, in million gallons per day (see table 7)

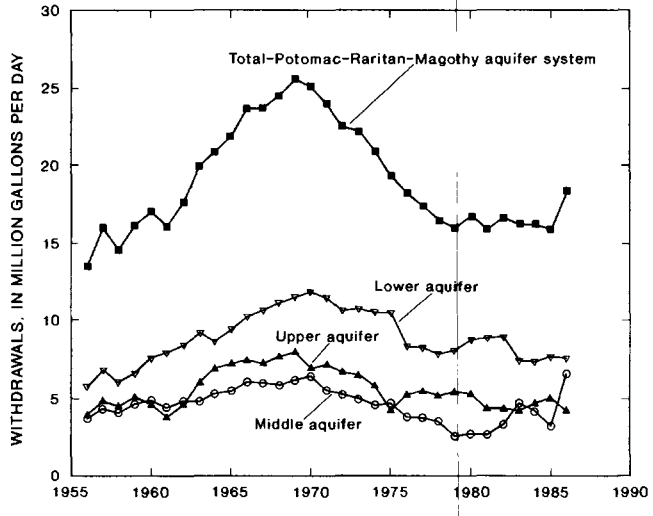
Figure 4.--Distribution of ground-water withdrawals from upper Cenozoic deposits in the region of Greenwich Township, Gloucester County, New Jersey, 1986.



a. Total ground-water use and ground-water use by type, 1956-86.



b. Seasonal fluctuations in ground-water use, 1983.



c. Total ground-water use and ground-water use by aquifer, Potomac-Raritan-Magothy aquifer system, 1956-86.

Figure 5.--Ground-water withdrawals in the region of Greenwich Township, Gloucester County, New Jersey.

connected upper Cenozoic deposits) constituted more than 99 percent of the total reported ground-water withdrawals in the Greenwich Township region (table 7). Ground-water pumped from the other units in the study area is used primarily for domestic or small-farm supply and is poorly documented.

During the 1970's, approximately half the total withdrawals from the Potomac-Raritan-Magothy aquifer system were from the lower aquifer, and the remainder was divided between the middle and upper aquifers (fig. 5); by 1986, however, withdrawals were approximately evenly distributed among the three aquifers. Until 1986, withdrawals from the upper aquifer generally were greater than those from the middle aquifer.

Occurrence and Flow

Water table

The water table in the Greenwich Township region is difficult to define because of the paucity of data, the influence of tides on surface water and ground water, and the complex hydrogeology. The shallow ground-water-flow system probably is regionally discontinuous and is most easily defined on a local basis. Figure 3 illustrates some of the possible scenarios for the position of the water table within the region.

In general, the water-table surface is a subdued replica of the land surface, so that water flows from high to low areas. Where upper Cenozoic deposits are coarse-grained and overlie the subcrop of a confining unit in Cretaceous deposits, the water table generally is found within the upper Cenozoic deposits. Shallow ground water flows laterally and recharges more permeable aquifers or discharges to surface water near the top of the underlying confining unit. Where coarse-grained upper Cenozoic deposits overlie the subcrop of an aquifer in Cretaceous deposits, the water table may be found in either unit and, because the units are hydraulically connected, may fluctuate between the two units. In either of these cases, or where aquifers in Cretaceous deposits crop out, ground water in the local (shallow) flow system is transmitted easily to the regional (deep) flow system.

Where upper Cenozoic deposits are fine-grained and overlie the subcrop of an aquifer in Cretaceous deposits, the underlying aquifer may be saturated and confined, or both units may be unsaturated--that is, a perched water table may exist in the soil zone of the upper Cenozoic deposits. Where confining units in Cretaceous deposits crop out or where upper Cenozoic deposits are fine-grained and overlie the subcrop of a confining unit in Cretaceous deposits, runoff probably is high, but the water table may be present in the soil zone of the clay-rich deposits.

Throughout most of the region, the water table is above sea level. Similar findings have been reported by other investigators (Andres, 1984, p. 81-93; Eckel and Walker, 1986; A.S. Navoy, U.S. Geological Survey, written commun., 1988). In the northwestern and southeastern corners of the Greenwich Township region, where the topographic relief is great (more than 100 ft from hilltops to adjacent channels less than 1 mi away), horizontal hydraulic gradients within the shallow ground-water system are nearly as steep as the land surface. In these areas, most of the shallow ground water

discharges to nearby surface water, which eventually drains into the Delaware River. Adjacent to the Delaware River, on the subcrop of the Potomac-Raritan-Magothy aquifer system, topographic relief is relatively low and horizontal hydraulic gradients within the shallow ground-water system are low. In this area, the water table is near sea level and tides may have a significant effect on the hydraulic gradients between the surface water and the shallow ground water. In addition, throughout most of this area water has the potential to move downward through leaky confining units to the deep ground-water system, as confirmed by water-level data collected during this study.

In Greenwich Township and Paulsboro Borough, the water table and stream stages are below sea level and below the stage of the Delaware River. This relation exists because the Delaware River is diked and floodgates are positioned at the mouths of five tributaries. Hence, in this area, the base datum for the hydrologic system is below sea level. Because a steep hydraulic gradient exists among the Delaware River (average water level, 1 ft above sea level), the tributaries (average water level at floodgates, 1.5 to 2.5 ft below sea level), and ground water on the landward side of the dike (water levels at least 5 ft below sea level in many areas adjacent to the river), the potential for river water to recharge the aquifer system is great. As the hydraulic gradient steepens (for instance, as a result of increased withdrawals adjacent to the river), the potential for induced aquifer recharge from the Delaware River increases. Recharge of the aquifer system occurs if a hydraulic connection exists between the river and the aquifer system across or beneath the dike. Hydraulic connection depends primarily on the permeability of the upper Cenozoic alluvial deposits that underlie the river and comprise the dikes. Dredging of the Delaware River may enhance the hydraulic connection between the river and the aquifer system.

At some industrial sites in Paulsboro Borough and in Greenwich, Logan, and West Deptford Townships, the water table is below ambient levels and probably was lowered through extensive pumping of the shallow ground-water system. Much of the shallow ground-water pumping is for recovery or containment of on-site ground-water contamination. At many of these sites, vertical hydraulic gradients between the shallow and deep ground-water systems are reversed, creating a potential for upward movement of water from the deep to the shallow system. In general, lowering the water table decreases ground-water discharge to surface water, so that, during drought, streams fed predominantly by ground-water runoff have very low flows or dry up. In addition, gradients between surface water and shallow ground water may reverse, causing surface water to recharge the ground-water system.

Englishtown aquifer system

Ground-water levels in the Englishtown aquifer system ranged from greater than 60 ft above sea level in the subcrop to less than 20 ft above sea level in the east-southeastern part of the region (pl. 9b). Subsurface flow within the confined part of the aquifer is east-southeast toward Camden County at a hydraulic gradient of less than 5 ft/mi. Vertical hydraulic gradients indicate a potential for water to move downward through the Merchantville-Woodbury confining unit to the upper aquifer of the Potomac-Raritan-Magothy aquifer system.

Potomac-Raritan-Magothy aquifer system

Before development, ground-water-flow patterns within the Potomac-Raritan-Magothy aquifer system were controlled by natural hydraulic gradients. These gradients reflected the differences in elevation and distance between recharge and discharge areas, as well as the geology and hydraulic properties of the aquifers and confining units. The main source of recharge to the aquifer system was precipitation on high-altitude areas of the outcrop northeast of the Greenwich Township region (Hardt and Hilton, 1969, p. 12; Barksdale and others, 1958, p. 102). Ground water in these areas moved southeastward in response to natural gradients until it reached the interface between freshwater and saline water in downdip parts of the aquifer system. At the interface, the movement of freshwater was diverted to the northeast and southwest toward Gloucester County. In the Greenwich Township region ground water discharged to the Delaware River (Barksdale and others, 1958, p. 108-112; Hardt and Hilton, 1969, p. 12-13; Gill and Farlekas, 1976).

After development, extensive pumpage of ground water from the Potomac-Raritan-Magothy aquifer system in eastern Gloucester, northern Camden, and western Burlington Counties decreased potentiometric levels in both the unconfined (Paulachok and Wood, 1984) and confined parts of the aquifer system (Eckel and Walker, 1986, p. 11-12). This lowering of water levels resulted in a reversal of ground-water gradients throughout much of the aquifer system. Water from the Delaware River now recharges the aquifer system, and water from the unconfined part of the Potomac-Raritan-Magothy aquifer system is transmitted downdip into the confined parts of the system. In the Greenwich Township region, subsurface flow within the confined aquifers generally is east-southeastward toward a large regional cone of depression centered in the areas of pumping in and near Camden County (Eckel and Walker, 1986). The Greenwich Township region lies within the northwestern part of this cone of depression.

Ground-water levels in each aquifer of the Potomac-Raritan-Magothy aquifer system in August to September 1986 (table 8; pls. 10 and 11a) ranged from near sea level in the subcrop to more than 50 ft below sea level in the eastern part of the Greenwich Township region. The potentiometric surface of each aquifer decreased eastward at a hydraulic gradient ranging from 3 to 15 ft/mi. Decreasing water levels toward the east are the result of the large regional cone of depression. Similarity in the potentiometric surfaces of the three aquifers may be caused by a hydraulic connection among the aquifers through leaky confining units and a similar regional distribution of ground-water withdrawals (Luzier, 1980; Eckel and Walker, 1986).

Ground-water flow from the subcrops of each aquifer to areas downdip is primarily toward the southeast. Flow in the downdip parts of the upper and middle aquifers is eastward toward Camden County. Flow in the downdip parts of the lower aquifer is northeast toward the border between Gloucester and Camden Counties. Differences in the patterns of subsurface flow among and within aquifers are related to differences in the distribution of pumping within the aquifers (pls. 8-9a).

Table 8.--Ground-water levels in selected wells in the region of Greenwich Township, Gloucester County, New Jersey, 1983 and 1986

[Well locations are shown in plates 1a, 9b, 10a, 10b, and 11a; well information is listed in table 3; dashes indicate no measurement taken or value cannot be calculated; HPPM, undifferentiated Holocene-Pleistocene-Pliocene-Miocene-age deposits; QRNR, undifferentiated Quaternary deposits; MLRW, Wenonah-Mount Laurel aquifer; EGLS, Englishtown aquifer system; WBMV, Merchantville-Woodbury confining unit; MRPAU, upper aquifer of the Potomac-Raritan-Magothy aquifer system (MRPA); MRPAM, middle aquifer of the MRPA; MRPAM 1, upper part of the MRPAM; MRPAM 2, lower part of the MRPAM; MRPAL, lower aquifer of the MRPA; datum is sea level]

Aquifer code	Well number	[1]1983 Altitude (feet)	[1]1983 Date (month/day)	1986 Altitude (feet)	1986 Date (month/day)	Change in water level, 1983-86 (feet)
EGLS	15-188	--	--	31	--[2]	
	15-676	--	--	30	--[2]	
HPPM	[3]15-703	--	--	50	8/22	--
	[3]15-704	--	--	47	8/22	--
MLRW	[3]15-686	--	--	51	8/28	--
	[3]15-687	--	--	21	8/28	--
MRPA	15-388	--	--	2	8/26	--
MRPAU	15-006	-56	11/08	-63	9/03	-7
	15-028	-23	11/01	-27	8/21	-5
	[4]15-191	-63	11/08	-67	8/20	-4
	15-192	-35	11/07	-52	8/20	-17
	15-194	-53	11/07	-53	8/20	0
	15-240	-21	11/18	-24	8/29	-3
	15-274	--	--	-68	9/05	--
	15-297	-12	10/31	-13	8/28	-1
	15-330	-50	11/07	-55	9/02	-5
	15-332	-45	10/31	-36	9/03	9

Table 8.--Ground-water levels in selected wells in the region of Greenwich Township, Gloucester County, New Jersey, 1983 and 1986--Continued

Aquifer code		Well number	[1]1983 Altitude (feet)	[1]1983 Date (month/day)	1986 Altitude (feet)	1986 Date (month/day)	Change in water level, 1983-86 (feet)
MRPAU		15-345	-12	11/14	-14	8/29	-2
		15-346	-24	11/08	-34	9/05	-10
		15-355	-30	11/01	-32	8/21	-2
		15-392	--	--	-28	9/15	--
		[3],[5]15-546	3	11/16	3	9/02	0
		[3]15-564	--	--	[6] 4	8/20-9/05	--
		[3]15-581	--	--	1	8/26	--
		[3]15-591	--	--	1	8/26	--
		15-617	--	--	[6] -9	8/20-9/05	--
		[3]15-627	--	--	-2	8/25	--
MRPAM	2	15-069	-9	11/15	-12	9/03	-3
	2	15-096	-6	11/15	-7	8/26	-1
		15-140	1	11/16	-2	9/03	-3
	2	15-212	-22	11/02	-24	8/25	-2
	2	15-213	-10	11/02	-11	8/25	-1
		[5]15-242	-21	11/18	-24	8/29	-3
	2	[5]15-279	-24	11/04	-27	8/28	-3
		15-347	-2	11/05	-4	9/03	-2
		[5]15-348	-10	11/16	-12	9/03	-2
	1	15-387	6	11/17	5	8/26	-1
		[5]15-395	-5	11/18	-12	8/25	-7
		[5]15-431	-46	10/31	-51	9/03	-5
		15-435	-43	11/03	-48	8/21	-5
	1	15-540	--	--	[6] 3	8/20-9/05	--
		15-616	--	--	[6] -10	8/20-9/05	--
		15-620	--	--	[6] 5	8/20-9/05	--
	1	[3]15-633	--	--	-2	8/26	--
		15-647	--	--	-5	8/26	--
	1	[3]15-652	--	--	0	8/26	--
	1	[3]15-654	--	--	-1	8/26	--
	2	15-657	--	--	-8	8/28	--
	1	[3]15-660	--	--	0	8/28	--
	2	15-661	--	--	-5	8/28	--
		15-665	--	--	-6	8/26	--
	2	15-679	--	--	-4	8/27	--

Table 8.--Ground-water levels in selected wells in the region of Greenwich Township, Gloucester County, New Jersey, 1983 and 1986--Continued

Aquifer code		Well number	[1]1983 Altitude (feet)	[1]1983 Date (month/day)	1986 Altitude (feet)	1986 Date (month/day)	Change in water level, 1983-86 (feet)
MRPAM	2	15-682	--	--	-5	8/27	--
	2	15-683	--	--	-4	8/27	--
	2	15-692	--	--	-3	8/28	--
	1	[3]15-693	--	--	-2	8/28	--
	2	15-696	--	--	-10	8/27	--
MRPAL		15-139	-9	11/16	-10	9/03	-1
		15-282	--	--	-37	8/20	--
		15-285	--	--	-35	8/28	--
		15-296	-16	10/31	-19	8/28	-3
		15-311	-10	11/04	-11	9/02	-1
		15-326	-48	11/03	-50	9/04	-2
		15-373	--	--	-58	8/21	--
		15-438	--	--	-19	9/03	--
		15-533	-33	11/07	-36	8/21	-3
		15-615	--	--	[6]-16	8/20-9/05	--
		15-618	--	--	[6] -5	8/20-9/05	--
		15-634	--	--	-5	8/28	--
		15-678	--	--	-9	8/27	--
		15-680	--	--	-7	8/27	--
		15-694	--	--	-9	8/27	--
		15-695	--	--	-12	8/27	--
		15-711	--	--	-8	8/27	--
QRNR		[3,5]15-303	-8	11/04	-8	9/02	0
		[3]15-644	--	--	-4	8/26	--
		[3]15-667	--	--	-5	8/26	--
		[3]15-677	--	--	-1	8/25	--
		[3]15-689	--	--	1	8/28	--
		[3]15-698	--	--	-1	8/27	--
		[3]15-699	--	--	3	8/27	--
		[3]15-700	--	--	-4	8/27	--
		[3]15-701	--	--	0	8/27	--
		[3]15-709	--	--	-2	8/27	--
		[3]15-710	--	--	0	8/27	--

Table 8.--Ground-water levels in selected wells in the region of Greenwich Township, Gloucester County, New Jersey, 1983 and 1986--Continued

Aquifer code	Well number	[1]1983 Altitude (feet)	[1]1983 Date (month/day)	1986 Altitude (feet)	1986 Date (month/day)	Change in water level, 1983-86 (feet)
WBMV	[3]15-675	--	--	6	8/25	--
	[3]15-690	--	--	7	8/25	--
	[3]15-691	--	--	18	8/22	--
	[3]15-705	--	--	15	8/28	--
	[3]15-706	--	--	20	8/25	--
	[3]15-708	--	--	29	8/25	--

[1]1983 water levels from Eckel and Walker (1986) and Eckel and Walker, 1986, unpublished U.S. Geological Survey water-level data.
[2]1988 water level; from R. Rosman, U.S. Geological Survey, written commun., 1989.
[3]Well screened in unconfined part of the aquifer.
[4]Altitude different from that used by Eckel and Walker (1986).
[5]Aquifer code different from that used by Eckel and Walker (1986).
[6]Average water level calculated from measurements made by continuous water-level recorder, 8/20/86-9/05/86.

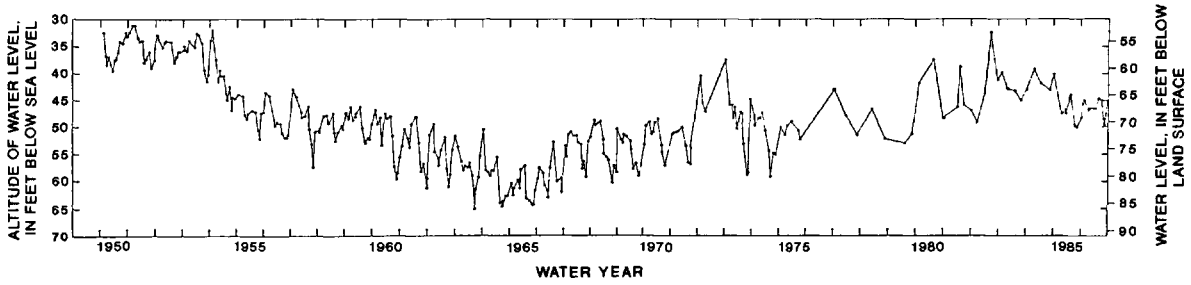
Vertical hydraulic gradients in the subcrops and shallow downdip parts of the aquifers suggest a potential for water to move from the Delaware River into the aquifer system and downward through leaky confining units to underlying aquifers. In deeper, confined parts of the aquifer system in the southeastern part of the region, vertical hydraulic gradients between aquifers are reversed, resulting in a potential for water to move into the upper aquifer. These vertical flow patterns reflect the distribution of pumping among and within the aquifers; that is, toward the southeast, ground water is withdrawn mainly from shallow, stratigraphically high aquifers, which commonly are less costly to develop and contain less saline water (pls. 8-9a).

The direction and horizontal hydraulic gradient of ground-water flow in the Potomac-Raritan-Magothy aquifer system, determined from water levels measured from August 20 through September 5, 1986, are similar to those observed in 1983 (Eckel and Walker, 1986); however, the potentiometric surface is about 5 ft lower than in 1983. Change in water levels from 1983 to 1986 was calculated for 31 wells screened in the aquifer system (table 8). Water levels declined in 27 of the 31 measured wells; the average decline was 4 ft. This decline reflects both annual and seasonal increases in ground-water withdrawals from aquifers in the Greenwich Township region (fig. 5). Water levels in late August 1986 were lower than those in early November 1983 because in August precipitation is at or near the seasonal low (pl. 1a), and the effects of heavy summer pumping are near the maximum (fig. 5). By early November, ground-water levels have recovered substantially from the summer pumping.

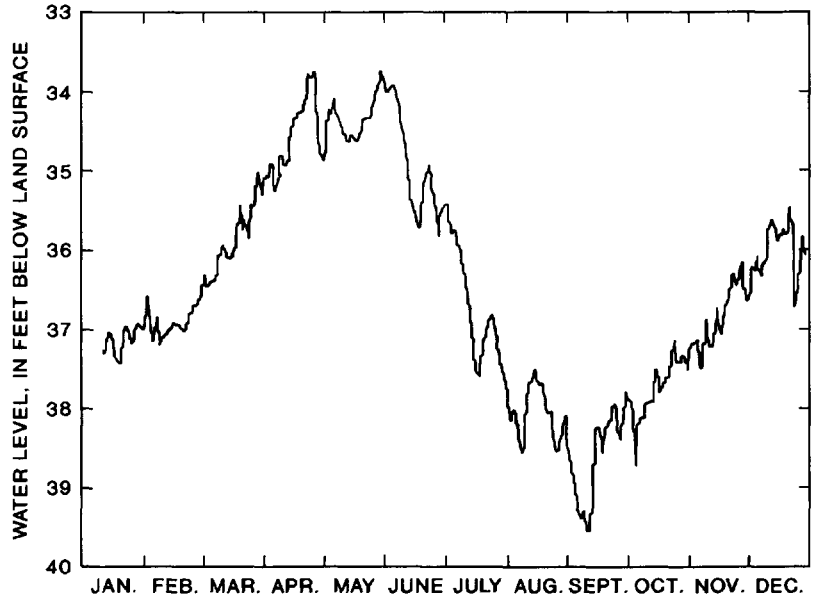
Water-Level Fluctuations

Fluctuations in water levels in wells provide valuable information about the water-bearing characteristics of aquifers. In the Greenwich Township region, fluctuations in ground-water levels result from natural mechanisms, such as climatic and tidal effects, and from human activities such as ground-water pumping. More than one mechanism can operate simultaneously to influence ground-water levels. Long-term, seasonal, and tide-induced fluctuations in ground-water levels in the Greenwich Township region are discussed below; short-term fluctuations in response to short-duration events, such as heavy precipitation or pumping, that occur within time periods of 1 day or less are not discussed. Continuous water-level data were used to analyze water-level fluctuations in the confined part of the aquifer system. No continuous water-level data are available for wells screened in the unconfined part of the aquifer system.

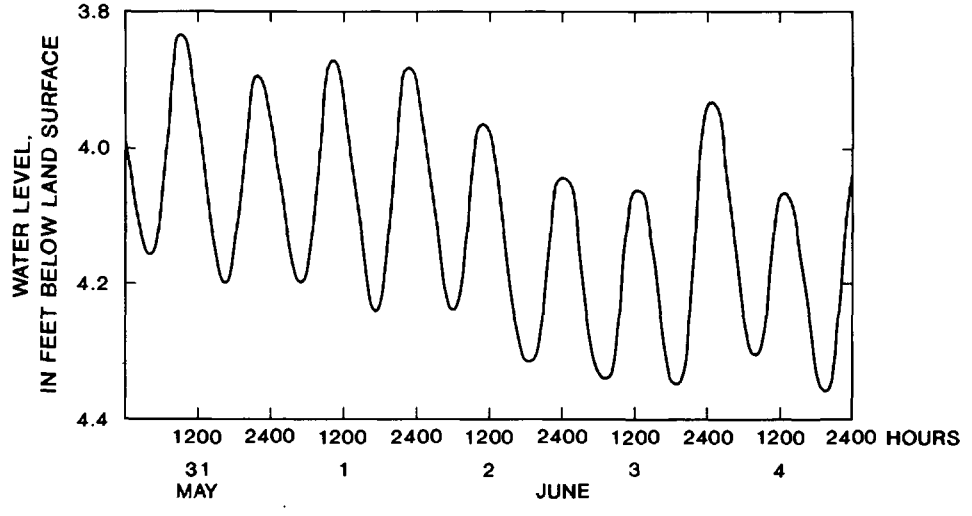
Long-term fluctuations occur over a period of time measured in years. Long-term trends in ground-water levels are primarily caused by long-term changes in precipitation and water use. Figure 6a is a water-level hydrograph of well 15-323 (pl. 1a), which is located at an industrial site directly northeast of the Greenwich Township region and is screened in the confined part of the lower aquifer of the Potomac-Raritan-Magothy aquifer system. This hydrograph illustrates the long-term trends in ground-water levels in industrialized parts of the Greenwich Township region adjacent to the Delaware River from 1949-86. In general, as shown in figure 6a, ground-water levels declined from 1949 to the mid-1960's, rose to 1983, and declined until 1986. Water-level hydrographs of five additional wells



a. Well 15-323, water years 1949-86.



b. Well 15-296, 1983.



c. Well 15-620, May 31 - June 4, 1986.

Figure 6.--Water-level hydrographs of selected wells in the region of Greenwich Township, Gloucester County, New Jersey.

within the industrialized areas in the region (15-097, 15-279, 15-296, 15-297, and 15-316, pl. 1a) show similar long-term trends; these trends correlate closely with those for total ground-water withdrawals and industrial withdrawals during approximately the same period (fig. 5a); however, the lowest water levels were measured in the mid-1960's rather than in 1969, the time of maximum withdrawals. The lower ground-water levels in the mid-1960's probably are related to the 1961-66 drought (fig. 2).

Ground-water levels in the southeastern part of the region are influenced primarily by ground-water withdrawals by public-supply purveyors rather than by withdrawals by industrial facilities. In this part of the region, water levels probably decreased steadily from 1956 to 1986, reflecting the increase in ground-water withdrawals by public-supply purveyors during that period (fig. 5a). Long-term water-level hydrographs of many wells in the Camden region illustrate this regional trend (A.S. Navoy, U.S. Geological Survey, written commun., 1988).

Seasonal fluctuations are regular changes that occur over a period of a year. Seasonal ground-water-level trends are the result of seasonal changes in precipitation and water use. In general, ground-water levels are higher during cool, wet months because of increases in recharge and decreases in ground-water withdrawals; water levels are lower during hot, dry months because of high evapotranspiration rates and increases in withdrawals. Conditions that affect infiltration rates, such as snow cover or frozen ground, also have a significant effect on ground-water levels, however.

Ground-water levels vary as much as 25 ft in some aquifers in the southern New Jersey Coastal Plain during the course of a year (Eckel and Walker, 1986, p. 6). Continuous water-level data for 15 wells (15-139, 15-140, 15-296, 15-323, 15-540, 15-564, 15-615, 15-616, 15-617, 15-618, 15-620, 15-712, 15-713, 15-727, and 15-728, pl. 1a) screened in the confined part of the Potomac-Raritan-Magothy aquifer system in or near the Greenwich Township region during 1983-86 indicate that regional ground-water levels fluctuate as much as 5 ft annually, generally reaching a high in late spring and a low in late summer. Figure 6b, a hydrograph of ground-water levels in well 15-296 (pl. 1a) during 1983, clearly illustrates the seasonal fluctuation of water levels in these confined wells.

Correlation of seasonal fluctuations in precipitation and evapotranspiration with water levels measured in confined aquifers is difficult because precipitation does not infiltrate directly into the confined part of the aquifer system. Even if the time lag between precipitation and recharge to the aquifer is considered, fluctuations in water levels in confined aquifers resulting from seasonal variations in precipitation and evapotranspiration probably are small. Seasonal fluctuations in water levels in confined aquifers are more likely to be caused by seasonal variations in water use. The strong correlation between seasonal trends in ground-water withdrawals and ground-water levels is illustrated by comparing figure 5b with figure 6b. Ground-water levels decline in late summer in response to the increase in ground-water withdrawals.

In the Greenwich Township region, daily fluctuations in ground-water levels occur in response to tides because the subcrop of the Potomac-Raritan-Magothy aquifer system is incised by the Delaware River estuary and its tributaries (pl. 2). Two mechanisms are responsible for tide-induced fluctuations in ground-water levels (fig. 6c)--flux of water into and out of the unconfined aquifer and surface-water loading of the confined aquifer. Changes in surface-water loading during a tidal cycle causes alternating compression and expansion of the confined-aquifer material. When the aquifer material is compressed during high tide, pore volume decreases, increasing heads downdip.

Because different mechanisms cause tide-induced fluctuations in the confined and unconfined aquifer, the magnitude or extent and timing of their effect also vary by aquifer type (Ferris, 1951). For example, in unconfined aquifers, the effect of tide-induced fluctuations varies with the effectiveness of the hydraulic connection between the aquifer and the surface-water body. In both types of aquifers, however, the time lag between tide-induced fluctuations in surface-water levels and those in nearby ground water increases with increasing distance between the well and the tidal surface-water body; the amplitude of change of ground-water levels caused by tides decreases with increasing distance from the tidal surface-water body.

The daily amplitude of change in ground-water levels in 19 wells with continuous water-level recorders in the Greenwich Township region is summarized in table 9. The amplitude of change in each well during a tide cycle was estimated from the difference between the highest and lowest water levels for each solar day. Because a lunar day (24 hours and 50 minutes) does not coincide with a solar day, the calculated difference in water levels may be less than that during a lunar day. For example, the maximum difference in water levels for well 15-620 (pl. 1a) for the solar day June 3, 1986, is 0.40 ft, whereas the maximum difference in water levels for the lunar day starting June 3, 1986, is 0.41 ft.

The 25th-, 50th- (median), and 75th-percentile values were used to describe statistically the central tendancy and variability of daily fluctuations in ground-water levels in 15 of the 19 wells in table 9. Percentiles were used rather than mean and standard deviation because data outliers, such as large changes in ground-water levels caused by periodic pumping, are not heavily weighted in the calculation of percentiles. For example, for well 15-323 (pl. 1a), which is influenced by a nearby pumping well, the maximum amplitude of change in water level during a solar day is more than 20 ft (an outlier), whereas the median amplitude of change is only 2.39 ft for the same period. Hence, the median closely approximates the average amplitude of fluctuations in ground-water levels resulting from tides, and most large changes in ground-water levels caused by pumping fall outside the interquartile range (25th to 75th percentile).

Large fluctuations associated with the changing phase of the moon also fall outside the interquartile range. For example, during June 1986, the maximum daily amplitudes of change in the water levels in well 15-620 (pl. 1a) at both full and new moons (0.62 and 0.51 ft, respectively) exceed the calculated 75th-percentile value of 0.45 ft. Because well 15-620 is far from any pumped wells, these data outliers are most likely tide-induced;

Table 9.--Mean altitude of water levels and amplitude of change in water levels caused by daily fluctuations in tides in selected wells in the region of Greenwich Township, Gloucester County, New Jersey

[Unless otherwise noted, data are from continuous water-level recorders operated by the U.S. Geological Survey. Data not collected by the U.S. Geological Survey were not verified. --, data not available; MRPA, Potomac-Raritan-Magothy aquifer system; MRPAU, upper aquifer of the MRPA; MRPAM, middle aquifer of the MRPA; MRPAL, lower aquifer of the MRPA; EPA, U.S. Environmental Protection Agency; BROS, Bridgeport Rental and Oil Services. Well locations shown in plate 1a. Well information listed in table 3]

Well or well-nest name	Well number	Aquifer code	Mean altitude of water level (feet)	Change in water levels			Period of analysis (month/day/year)
				25th percentile (feet)	Median (feet)	75th percentile (feet)	
Greenwich Township							
Mobil W-8	15-682	MRPAM	--	--	[1]1.10	--	[2]11/04/1985 - 01/24/1986
	15-711	MRPAL	--	--	[1]2.50	--	[2]08/12/1985 - 11/15/1985
Mobil W-1	15-997	MRPAM	--	--	[1] .30	--	12/01/1985 - 01/15/1986
	15-736	MRPAL	--	--	[1] .40	--	12/01/1985 - 01/15/1986
Stefka	15-728	MRPAU	-5.61	0.04	.05	0.07	05/18/1987 - 11/02/1987
	15-713	MRPAM	-7.10	.04	.06	.08	05/18/1987 - 11/02/1987
	15-712	MRPAL	-11.71	.02	.04	.07	05/18/1987 - 11/02/1987
Logan Township							
Shiveler	15-617	MRPAU	-6.82	0.04	0.06	0.10	06/12/1985 - 11/02/1987
	15-616	MRPAM	-7.67	.04	.07	.11	03/12/1985 - 11/02/1987
	15-615	MRPAL	-13.44	.07	.09	.12	03/12/1985 - 11/02/1987
Gaventa	15-620	MRPAM	2.76	.33	.38	.45	06/12/1985 - 11/02/1987
	15-618	MRPAL	-3.71	.07	.09	.12	05/09/1985 - 11/02/1987
EPA 108, near BROS	15-540	MRPAM	3.82	.26	.30	.35	04/19/1985 - 11/02/1987
Pureland	15-140	MRPAM	.74	.31	.36	.44	06/15/1985 - 06/11/1985
	15-139	MRPAL	-9.03	.26	.30	.35	06/15/1985 - 06/11/1986
National Park Borough							
National Park	15-771	MRPAM	-4.80	1.04	1.09	1.17	07/01/1987 - 12/07/1987
	15-770	MRPAL	-22.86	1.69	2.33	2.70	07/01/1987 - 10/24/1987
West Deptford Township							
Shell Chemical	15-296	MRPAL	-21.13	0.48	0.56	0.66	03/01/1985 - 10/29/1987
Texas Oil	15-323	MRPAL	-42.25	1.99	2.39	2.98	03/01/1985 - 11/01/1987

[1] Data from D. Choate, Mobil Oil Corporation, written commun., 1986
[2] Discontinuous record

yet, they are outside the interquartile range. Nevertheless, the interquartile range of the amplitude of change in ground-water levels includes most of the observations that are attributable to normal tides.

Climatic fluctuations also affect ground-water levels in unconfined aquifers over the course of a solar day; however, the change in water level generally is small. All of the wells listed in table 9 are screened in confined parts of the Potomac-Raritan-Magothy aquifer system.

The data in table 9 illustrate that the amplitude of change in ground-water levels decreases with distance from a tidal surface-water body. For example, well 15-711 (pl. 1a), screened in the confined part of the lower aquifer of the Potomac-Raritan-Magothy aquifer system and located 180 ft south of the Delaware River, experiences water-level fluctuations of 2.50 ft; however, well 15-736 (pl. 1a), screened in the same confined aquifer but located 4,300 ft south of the river, experiences daily fluctuations of 0.40 ft.

Water levels recorded in wells in Paulsboro Borough (D.E. Choate, Mobil Oil Corporation, written commun., 1986) and in National Park Borough (A.S. Navoy, U.S. Geological Survey, written commun., 1987) indicate that the influence of tides on water levels in the unconfined parts of the Potomac-Raritan-Magothy aquifer system is very small (less than 0.1 ft) compared to that in the confined parts of the aquifer system (greater than 2 ft). This difference results partly from the higher storativity of unconfined aquifers than confined aquifers. Fluctuations in the water table are measurable only when the flux of water to and from the aquifer is very large. In addition, the limited hydraulic connection between the river and the unconfined aquifer system resulting from the presence of clay-rich deposits probably reduces tidal effects.

Because tidal fluctuations in water levels are greater in some wells than in others, horizontal and vertical hydraulic gradients change during a tide cycle. Hourly water-level data collected from continuous water-level recorders on nested wells at seven sites and single wells at three sites (table 9) were analyzed to determine whether horizontal- or vertical-gradient reversals occurred among or within the aquifers of the Potomac-Raritan-Magothy aquifer system in the Greenwich Township region. Results of the analysis indicate that, at least for the wells listed in table 9, regular horizontal- and vertical-gradient reversals caused by tidal fluctuations do not occur; however, reversals in hydraulic gradients during a tide cycle may occur on a local scale.

Water Budget

Optimum development and use of water resources depend in large part on an understanding of the complex pattern by which water enters, moves through, and leaves the ground-water system. This pattern, known as the hydrologic cycle, is described in qualitative terms in most earth-science textbooks. A water budget is a simplified quantitative description of the hydrologic cycle.

The movement of water into and out of the Potomac-Raritan-Magothy aquifer system and the overlying and hydraulically connected upper Cenozoic deposits in the Greenwich Township region was quantified in a steady-state water budget for 1976-86 (table 10). This steady-state budget is different from that presented by Hardt and Hilton (1969) in that induced recharge from the Delaware River, inflow to and outflow from boundaries of the budget volume, vertical leakage, discharge to wetlands, and pumpage from the aquifer system are expressed explicitly.

Table 10.--Steady-state water budget for the saturated ground-water system in the region of Greenwich Township, Gloucester County, New Jersey, 1976-86

Input (million gallons per day)		Output (million gallons per day)	
Ground-water recharge	27.8	Base flow	26.6
River recharge	15.6	Pumpage	17.3
Lateral flow	7.2	Lateral flow	12.7
Vertical leakage	9.8	Discharge at wetlands	3.8
Total	60.4	Total	60.4

Change in water storage in the ground-water system during 1976-86 is assumed to be zero, because ground-water withdrawals remained relatively constant during this period (fig. 5) and changes in water storage for the aquifer system throughout the New Jersey Coastal Plain during the last 30 years were less than 5 percent of the total budget (Mary Martin, U.S. Geological Survey, oral commun., 1988). Hence, water inputs and outputs to and from the saturated ground-water system were balanced at 60.4 Mgal/d.

Ground-Water Recharge

Recharge, estimated as precipitation minus losses through evapotranspiration and direct runoff to surface water, is 46 percent of the total water input to the saturated ground-water system in the Greenwich Township region. Recharge occurs over 30.8 mi^2 in the region, where the Potomac-Raritan-Magothy aquifer system subcrops or where thick upper Cenozoic deposits overlie bedrock and truncate against the aquifer system (pl. 2). The northwestern extent of the recharge area coincides with the sharp increase in relief of the bedrock surface and the northwestern extent of "Trenton Gravel" deposits as mapped by Berg and others (1980) and Owens and Minard (1979). The recharge area excludes 15 mi^2 covered by the Delaware River (10.7 mi^2), Cedar Swamp (0.9 mi^2), and wetlands in Greenwich Township (3.4 mi^2).

Mean annual precipitation in the Greenwich Township region, estimated from precipitation data collected at the Marcus Hook, Pennsylvania, weather station from 1931-86 (fig. 2), is 42.3 in/yr (inches per year). Although the mean precipitation during the budget period (1976-86) is less than the long-term mean, the long-term mean is used in this budget because it best represents natural, steady-state conditons.

Because approximately 15 percent of the region is covered by marsh and other surface-water bodies, evapotranspiration of precipitation is high (Andres, 1984, p. 74). Evapotranspiration was estimated to be 50 percent of precipitation, or 21.2 in/yr, for the lower Delaware River valley (Barksdale and others, 1958, p. 28) and Gloucester County (Hardt and Hilton, 1969, p. 54). Because the recharge area defined in this study excludes large surface-water bodies, actual evapotranspiration may be lower than that used in this budget.

About half the precipitation that falls in the recharge area is potentially available for recharge; actual recharge is less because about 11 percent of the potential recharge becomes direct runoff. Runoff includes precipitation that falls directly on surface water and overland flow to surface water. Overland flow in the recharge area probably is small because the surface materials have a high infiltration capacity: permeable upper Cenozoic deposits cover much of the area, slopes are less than 5 percent, and much of the land is undeveloped or used for agriculture (Andres, 1984, p. 80; Vowinkel and Foster, 1981, p. 19). Most of the water falling on clay-rich deposits probably runs off and is absorbed by adjacent, more permeable deposits.

Runoff in the Pinelands of southern New Jersey, an area with a similar geohydrologic setting to that of the Greenwich Township region, was estimated to be 11 percent of total annual streamflow (Rhodehamel, 1970, p. 13); this figure is used in the current water budget. Average annual streamflow in the recharge area was estimated to be 20.4 in/yr on the basis of a streamflow estimate of 1.5 cubic feet per square mi made by Vowinkel and Foster (1981, p. 18; table 4, drainage segment 12) from streamflow measurements at gaging stations on Raccoon and Mantua Creeks during 1941-78. These streamflow data were collected in the subcrop area of other aquifer systems southeast of the study area; therefore, their applicability to this area is questionable. Nevertheless, estimated runoff in the Greenwich Township region based on this annual streamflow is 11 percent of 20.4 in/yr, or 2.2 in/yr.

Hence, recharge to the saturated ground-water system is

$$42.3 \text{ in/yr} - 21.1 \text{ in/yr} - 2.2 \text{ in/yr} = 19.0 \text{ in/yr},$$

or, for the recharge area, 27.8 Mgal/d (table 10). This recharge estimate is similar to that determined for the Camden, New Jersey, region by A.S. Navoy (U.S. Geological Survey, oral commun., 1989); however, results of computer simulations by Luzier (1980, fig. 32, p. 65) suggest that recharge is a much smaller percentage of the total water input in the Camden region. The final values used by Luzier in his model of recharge in the outcrop area southwest of Camden was 4.2 in. (Luzier, 1980, p. 32). This recharge estimate is determined largely by the estimates of evapotranspiration and

streamflow. Both estimates are uncertain. An error of only 5 percent in the evapotranspiration estimate is larger than the smallest contribution by a budget-input component. If evapotranspiration is overestimated or underestimated, recharge will be greater or smaller, respectively, than the value used here.

River Recharge

An additional water input to the Potomac-Raritan-Magothy aquifer system is induced recharge from the Delaware River and its tributaries, caused by extensive ground-water withdrawals. Induced recharge to the aquifer system from 14 reaches of the Delaware River in 1973 and 1978 was estimated by Farlekas (Vowinkel and Foster, 1981, p. 32, table 7) by means of a two-dimensional computer simulation of ground-water flow developed by Luzier (1980). According to Luzier (1980, fig. 32, p. 65), recharge from the Delaware River increases in proportion to increases in ground-water withdrawals. Computer simulations and projections by Luzier (1980, p. 66) indicate that river recharge in the Camden region increased from 16 percent of total input in 1956 to 43 percent in 1973 and will continue to increase to 62 percent in the year 2000.

Model-simulated inflow for 1978 from the Delaware River to the Potomac-Raritan-Magothy aquifer system (Vowinkel and Foster, 1981, p. 32, table 7) was used to determine average recharge from the river to the saturated ground-water system in the Greenwich Township region. River recharge was estimated to be 26 percent of the total water input by using the simulation results for river reaches 11, 12, and 13. All of the recharge estimated from river reaches 11 (11.9 ft^3/s (cubic feet per second)) and 12 (11.8 ft^3/s) and about 26 percent (only 1.43 mi of the total 5.41 mi of river reach 13 is within the region) of the recharge from river reach 13 (0.37 of 1.4 ft^3/s) were assumed to enter the Potomac-Raritan-Magothy aquifer system--principally the middle aquifer--through the overlying upper Cenozoic deposits. Induced recharge to the aquifer system totaled 24.07 ft^3/s, or 15.6 Mgal/d (table 10). River recharge is assumed to remain constant during the budget period because pumpage did not vary greatly from 1976-86 (fig. 21).

This estimate of river recharge is subject to the same assumptions as is the flow model and, therefore, should be used with caution. The percentage of total input to the aquifer system that is river recharge (26 percent) is less than the 45 to 52 percent predicted for the Camden region during the same period (Luzier, 1980, fig. 32, p. 65). River recharge may be less in the Greenwich Township region because pumpage is less and accounts for only 29 percent of total losses from the system. In Luzier's (1980) model, pumpage was the only loss from the aquifer system in the Camden region.

Induced recharge to the aquifer system from tributaries to the Delaware River was not estimated but is assumed in this budget to be included in the estimate of induced recharge from the Delaware River. Horizontal hydraulic gradients between surface water and shallow ground water, and vertical gradients between aquifers in the system, suggest a strong potential for movement of water from surface water to the shallow and regional ground-water systems. Therefore, as is the case with the Delaware River, recharge

to the aquifer system probably occurs along many reaches of these tributaries where their streambeds are permeable. Because results of computer simulations (Mary Martin, U.S. Geological Survey, oral commun., 1989) indicate that induced recharge from the river is difficult to distinguish from induced recharge from the tributaries and the shallow ground-water system in the subcrop area, the amount of induced recharge estimated by using Luzier's (1980) model was assumed to represent induced recharge from both the river and the tributaries. The relative percentage of recharge from the river compared to that from its tributaries was not determined for this budget but depends largely on the relative permeabilities of their streambeds.

Lateral Flow

Lateral flow into or out of the boundaries of the budget area were estimated by using Darcy's Law: Flow = horizontal hydraulic conductivity x cross-sectional area x hydraulic gradient perpendicular to flow. The boundary of the simulated area was divided into sections (representing volumes of aquifer material), approximately 40 per aquifer (pl. 11b). Geometry was based on the 1986 potentiometric-surface maps for the Potomac-Raritan-Magothy aquifer system in the Greenwich Township region (pls. 10-11a). Volumes adjacent to the boundary required for calculation were chosen such that two sides were equal, parallel, and approximately coincident with equipotential lines (generally with up to a 10-ft difference in head), and two sides were equal, parallel flow lines (pl. 11b). Distance between flow lines, the hydraulic gradient (change in hydraulic head divided by distance along the flow line), and the angle between the flow line and a flow line perpendicular to the boundary were measured for each volume. Average thickness of each aquifer was determined for volumes by using discretized maps of top surfaces of units (pls. 3b-7b). Thickness multiplied by the distance between flow lines yielded the cross-sectional area parallel to flow. Estimates of horizontal hydraulic conductivity used in these calculations are 135 ft/d for the upper aquifer, 155 ft/d for the middle aquifer, and 200 ft/d for the lower aquifer.

Flow along a flow line within each volume was calculated according to Darcy's Law and then multiplied by the cosine of the angle between the flow line and a flow line perpendicular to the boundary to obtain the component of flow through the boundary. Calculated boundary flows for the approximately 40 volumes within each aquifer were then compiled into 21 flow zones for each aquifer (pls. 10-11a, and table 11). The limits of each flow zone are not coincident from aquifer to aquifer; their placement varies with respect to changes in the direction and magnitude of boundary flows within each aquifer.

Table 11 lists the boundary flow for each zone for each aquifer. No-flow boundaries are found where equipotential lines are perpendicular to the boundaries. Volumes with no- or low-flow boundaries are located at the east-central and southeastern boundaries of the region in the upper aquifer, at the southeastern boundary in the middle aquifer, and at the south-central boundary in the lower aquifer. Addition of inflows and outflows for zones comprising each aquifer yields the summary of lateral flows shown in table 11. Subsurface lateral flow into the aquifer system occurs primarily along

the northeastern and southwestern boundaries; subsurface lateral flow out of the aquifer system occurs primarily along the southern and eastern boundaries.

Vertical Leakage

In the southeastern part of the Greenwich Township region, the confined parts of the aquifer system can receive recharge by vertical leakage through the Merchantville-Woodbury confining unit from the overlying upper Cenozoic deposits or the Englishtown aquifer system. According to Luzier (1980, fig. 32 and p. 66), vertical leakage through the confining unit to the Potomac-Raritan-Magothy aquifer system in the Camden region increases in proportion to increases in ground-water withdrawals. Results of computer simulations by Luzier (1980), however, indicate that vertical leakage as a percentage of water input in the Camden region decreased from 39 percent of total input in 1956 to 31 percent in 1973 and will continue to decrease to 24 percent in the year 2000.

After estimates of ground-water recharge, river recharge, and lateral flow into the aquifer system have been made, average vertical leakage to the saturated ground-water system in the Greenwich Township region from 1976-86 was estimated to be 9.8 Mgal/d, or 16 percent of total input, by subtracting the total of all other inputs from 60.4 Mgal/d (obtained by totaling water losses) to obtain a balanced budget. This estimate of leakage as a percentage of total input is lower than that predicted by Luzier (1980) for the Camden region during 1976-86 (35 percent). Vertical leakage in the Greenwich Township region, however, probably is proportionately less because vertical hydraulic gradients across the Merchantville-Woodbury confining unit are less steep than those in the Camden County area near the center of the regional cone of depression.

Vertical leakage through confining units within the Potomac-Raritan-Magothy aquifer system may be significant in the Greenwich Township region. Areas with a potential for vertical leakage to underlying aquifers (pls. 10b and 11a) were discussed previously in the section on occurrence and flow of ground water. The magnitude of this leakage was not estimated as part of this water budget because budget components were calculated for the entire aquifer system as one hydrologic system.

Base Flow, Discharge to Wetlands, and Pumpage

Water that infiltrates to become ground water either discharges to surface water or is stored in the saturated ground-water system where it is available to recharge the deeper parts of the system. In the Greenwich Township region, change in storage of surface water behind dikes and floodgates along the Delaware River from 1976-86 is assumed to be zero. Water that enters the shallow ground-water system may discharge to the numerous streams, drainage ditches, and wetlands in the region. With respect to the water budget, the surface-water-discharge estimate was divided into two components--base flow to streams (including small adjacent wetlands) and discharge to large wetlands.

Table 11.--Lateral flows across boundaries of each aquifer of the Potomac-Raritan-Magothy aquifer system in the region of Greenwich Township, Gloucester County, New Jersey

[Flow values are in cubic feet per day unless otherwise noted. Location of flow zones shown in plates 10a, 10b, and 11a. Flow zones are not coincident from aquifer to aquifer; hence, flows are not additive by zone]

Flow zone	Upper aquifer	Middle aquifer	Lower aquifer	All aquifers
1	+ 748.1	- 20,369.6	- 2,181.6	
2	+ 7,127.0	+ 41,472.3	+ 32,020.5	
3	- 76,953.4	- 36,478.7	+ 27,339.8	
4	-118,737.2	- 20,615.0	- 13,136.0	
5	- 19,254.4	- 24,792.6	- 96,257.2	
6	- 11,337.7	- 5,311.5	- 39,685.7	
7	- 4,486.3	- 15,446.5	- 29,201.4	
8	- 19,496.0	- 68,511.0	- 24,111.6	
9	- 18,381.2	- 6,716.4	- 19,677.0	
10	- 1,799.8	- 1,705.4	- 1,009.2	
11	- 5,166.4	- 3,640.7	+ 466.0	
12	- 31,796.6	+ 2,404.0	+ 3,118.0	
13	- 1,272.6	- 77,462.4	+ 44,859.7	
14	0.0	-166,478.1	+ 46,167.7	
15	+ 1,358.5	- 63,416.2	-276,747.7	
16	0.0	- 44,706.2	-201,139.0	
17	- 4,021.0	- 18,950.5	- 24,842.1	
18	- 12,222.5	+234,307.0	- 19,902.8	
19	- 12,464.0	+ 53,789.4	+332,708.8	
20	+ 24,399.2	+ 49,169.4	+ 50,537.2	
21	+ 7,934.4	- 14,518.1	- 30,065.8	
Subtotal input flow	+ 41,567.2	+381,142.1	+537,217.7	+ 959,927.0
Subtotal output flow	-337,389.1	-589,118.9	-777,957.1	-1,704,465.1
Net flow	-295,821.9	-207,976.8	-240,739.4	- 744,538.1
In millions of gallons per day:				
Subtotal input flow	+ 0.3	+ 2.9	+ 4.0	+ 7.2
Subtotal output flow	- 2.5	- 4.4	- 5.8	-12.7
Net flow	- 2.2	- 1.5	- 1.8	- 5.5

Base flow to streams in the recharge area of the Greenwich Township region is 44 percent of total losses from the saturated ground-water system and was estimated to be 18.2 in/yr, or 26.6 Mgal/d, by subtracting runoff from annual streamflow (20.4-2.2 in/yr). Because of tidal contributions, base flow could not be estimated by hydrograph-separation techniques. Discharge to large wetlands in the Greenwich Township region, including Cedar Swamp and wetlands near Repaupo and Clonmell Creeks (pl. 1b), was determined separately by multiplying base flow by area of wetlands (4.3 mi^2) to obtain 3.8 Mgal/d or 6 percent of total losses from the saturated ground-water system.

By use of these estimates, discharge to surface water totals 30.4 Mgal/d and exceeds recharge from precipitation (27.8 Mgal/d or 19.0 in/yr). This suggests that either discharge estimates are too high or water inputs from other system components contribute to surface-water discharge. In addition, estimates of flow from unconfined to confined parts of the Potomac-Raritan-Magothy aquifer system in central New Jersey by both Barksdale and others (1943) and Farlekas (1979) suggest that recharge to the confined system may be as much as 12 to 20 in/yr. Extensive ground-water withdrawals from the aquifer system in this area result in downward movement of water and reduction of base flow to surface water. Hence, estimates of discharges to streams and wetlands may be greatly overestimated.

Discharge of water from the Potomac-Raritan-Magothy aquifer system also occurs through withdrawals of ground water by pumping. Mean annual pumpage from the Potomac-Raritan-Magothy aquifer system in the Greenwich Township region for the budget period 1976-86 remained relatively constant (fig. 5a) at 17.3 Mgal/d. This estimate assumes that pumpage from other aquifers in the region is negligible and that much of the utilized ground water is discharged to the streams through treatment plants (Andres, 1984, p. 81).

SUMMARY AND CONCLUSIONS

The potential for contamination of potable-water supplies resulting from industrial land use and the need for quantitative information on the quality and quantity of the area's water resources prompted a study of hydrogeology and hydrology in the Greenwich Township region. The 115-mi^2 study area is adjacent to the Delaware River estuary in northern Gloucester County, New Jersey, and southern Delaware and Philadephia Counties, Pennsylvania, and is situated at the boundary between the Atlantic Coastal Plain and Piedmont physiographic provinces. Altitudes range to 140 ft above sea level in the southeastern part of the area. The lowest point in the dredged channel of the Delaware River is about 45 ft below sea level. Before the construction of dikes and floodgates in the mid-1700's, areas less than 25 ft above sea level were inundated during high tide in the Delaware River.

The climate is continental, with a mean annual temperature of 56.1 °F and a mean annual precipitation of 42.32 in. The driest month is October and the wettest is July. The most severe drought on record in this area occurred during 1961-66.

A discontinuous mantle of alluvial sand and gravel of late Cenozoic age covers a regional system of aquifers and confining units consisting of a southeastward-dipping (40-60 ft/mi), seaward-thickening wedge of Cretaceous gravel, sand, and clay. Adjacent to the river, upper Cenozoic deposits are as much as 100 ft thick.

In the southeastern part of the study area, upper Cenozoic deposits are underlain by the Englishtown aquifer system, which consists of intercalated thin sand and clay beds that total less than 40 ft in thickness and grade into massive silt and sand deposits southwest of the region. The aquifer system is a minor source of water because yields (50-500 gal/min) and transmissivity values (less than 500 ft^2/d) of the aquifer system are low compared to those of underlying aquifers.

The Englishtown aquifer system is underlain by the Merchantville-Woodbury confining unit--a thick deposit of interbedded glauconitic clay and sand with a minimum vertical hydraulic conductivity of 7.8×10^{-4} ft/d. A zone in the middle of the unit is sandy and locally is a minor aquifer.

The Potomac-Raritan-Magothy aquifer system, which underlies the Merchantville-Woodbury confining unit, is a nonmarine delta-plain deposit that crops out in a 3- to 5-mi-wide band covering 44 mi^2 adjacent to and underlying the Delaware River. The system consists of three aquifers--upper, middle, and lower--and two confining units. Locally, the upper and middle aquifers are connected hydraulically because the confining unit between them is sandy and discontinuous. A third confining unit locally divides the middle aquifer into two parts. Wells that tap the Potomac-Raritan-Magothy aquifer system yield up to 1,500 gal/min. For the aquifers, estimates of transmissivity range from 2,000 to 30,000 ft^2/d; estimates of hydraulic conductivity range from 50 to 198 ft/d; and estimates of storage coefficients range from 8×10^{-5} to 3×10^{-4}. Minimum vertical hydraulic conductivity of the confining units in the system is 1.5×10^{-5} ft/d. The aquifer system is underlain by the Wissahickon Formation, a relatively impermeable metamorphic and igneous bedrock of lower Paleozoic and Precambrian age.

The stage of the Delaware River fluctuates because of tides; average stage ranges from 2.4 ft below sea level to 3.4 ft above sea level. The long-term mean annual invasion point of saline water (greater than 250 milligrams of chloride per liter of water) in the river is within the Greenwich Township region, at Chester, Pennsylvania. The outcrop of the Potomac-Raritan-Magothy aquifer system is incised by the Delaware River. Extensive ground-water withdrawals have reversed hydraulic gradients, causing induced recharge to the aquifer system from the river where the riverbed is permeable. Hence, tidal fluctuations and river water of degraded quality can affect the ground-water system.

The Potomac-Raritan-Magothy aquifer system provides more than 99 percent of the ground-water withdrawals in the region. Pumpage is concentrated in the eastern part of the region and along the river and is greatest during summer. Toward the southeast, stratigraphically higher aquifers in the system are pumped most extensively. Ground-water withdrawals increased from 1956 through 1969, decreased from 1969 through 1981, and increased to more than 19 Mgal/d from 1981 through 1986. Although

approximately half of the water pumped in 1986 was for public supplies and half was for industrial use, the long-term trend in withdrawals primarily reflects industrial use. Withdrawals for public supply increased through the period of record.

The Greenwich Township region lies within the northwestern part of a large regional cone of depression in the potentiometric surface of the Potomac-Raritan-Magothy aquifer system caused by extensive ground-water withdrawals in northern Camden, western Burlington, and eastern Gloucester Counties. Subsurface flow within the confined aquifers is generally eastward (southeastward for the upper and middle aquifers and northeastward for the lower aquifer), at a hydraulic gradient of 3 to 15 ft/mi, toward the regional cone of depression. Throughout most of the region, hydraulic gradients indicate a potential for downward flow of water from streambeds and the shallow ground-water system to the deeper ground-water system. Reversals in the downward potential are found locally as a result of industrial withdrawals, primarily by purge wells installed for the limitation of ground-water contamination. In the southeastern corner of the region, the potential for ground-water movement is toward areas of pumpage in the upper aquifer.

Fluctuations in ground-water levels caused by climatic and water-use effects include a long-term trend (a decrease from 1949 through the mid-1960's, an increase until 1983, and a decrease to 1986) that primarily reflects industrial withdrawals and a seasonal trend (maximum decrease of 5 ft during summer). From October and November 1983 to August and September 1986, the potentiometric surfaces of the confined aquifers declined 5 ft, mainly as a result of seasonal increases in water use within and southeast of the Greenwich Township region. Tidal fluctuations in ground-water levels have amplitudes of less than 2.5 ft and may cause local reversals in the vertical or horizontal hydraulic gradient.

A steady-state water budget describing inputs and outputs to the saturated ground-water system was developed by analytical methods and is balanced at 60.4 Mgal/d. Water inputs to the system include recharge (27.8 Mgal/d), induced recharge from the Delaware River and its tributaries caused by ground-water withdrawals (15.6 Mgal/d), subsurface lateral flow into the ground-water system across northeastern and southwestern boundaries (7.2 Mgal/d), and vertical leakage through the Merchantville-Woodbury confining unit from overlying aquifers (9.6 Mgal/d). Water losses from the system include pumpage (17.3 Mgal/d), base flow to streams (26.6 Mgal/d) and discharge to wetlands (3.8 Mgal/d), and subsurface lateral flow across the eastern and southern boundaries toward a depression in the potentiometric surface of the aquifer system (12.7 Mgal/d). Because water loss by pumpage and pumpage-induced flow to the southeast beyond the area is replaced primarily by river recharge and flow across northeastern and southwestern boundaries, the quality of induced recharge from the river and migration of saltwater from confined parts of the aquifer system in the southern and southwestern parts of the region are critical factors in the maintenance of ground-water quality.

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Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey

[Altitudes are in feet above or below sea level. Well locations are identified by the last three digits of the well number on plate 1b. Drillers' logs are available for all wells except those marked with a '+'; geophysical logs are available for wells marked with a '*'; ---, contact is not present in the well log; ?, contact probably is present but its altitude cannot be discerned from the log]

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							
			Upper aquifer	Confining unit	Middle aquifer: Upper part	Middle aquifer: Confining unit	Middle aquifer: Lower part	Confining unit	Lower aquifer	Wissahickon Formation
* 15-006	20	-98	?	-290	---	---	---	---	---	---
15-008	21	---	-215	---	---	---	---	---	---	---
* 15-011	58	-31	-137	-226	-262	---	---	---	---	---
15-016	70	---	-105	-203	-215	-261	-276	---	---	---
* 15-023	37	28	-102	-126	-170	---	---	---	---	---
+* 15-027	47	23	-97	---	---	---	---	---	---	---
* 15-028	70	33	-113	---	---	---	---	---	---	---
15-064	10	-3	-35	-113	-119	---	---	-160	-189	-277
15-066	0	-6	-25	-108	-119	---	---	-198	-255	-295
* 15-067	5	---	5	-17	-41	-120	-130	-168	-194	-257
15-069	10	---	6	-10	-50	-90	-120	-159	---	---
15-070	10	---	---	-7	-17	---	---	---	---	---
15-071	1	---	---	---	1	-42	?	-102	---	---
15-072	6	---	---	---	?	-26	-49	-97	---	---
15-073	0	---	---	---	-7	---	---	---	---	---
* 15-075	14	---	13	-14	-38	-93	---	---	---	---
15-076	15	---	---	-5	-11	-66	-72	-106	---	---
15-077	9	---	---	---	8	---	---	-90	---	---
15-079	10	---	---	---	4	-52	-70	-99	---	---
15-081	10	---	---	---	10	-53	-67	-89	---	---
15-083	15	---	---	-2	-7	-87	?	-112	---	---
15-085	12	---	---	?	?	-63	-98	-132	-163	-194
15-086	11	---	---	0	-15	?	?	?	---	---
15-087	5	---	---	---	4	-20	-37	---	---	---
15-088	13	---	---	?	?	-89	-101	-112	---	---

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer: Upper part	Middle aquifer: Confining unit	Middle aquifer: Lower part	Confining unit	Lower aquifer	
15-089	10	---	---	---	-11	-45	-64	-103	---	---
15-091	10	---	---	---	10	-12	-54	-95	?	---
15-092	4	---	---	---	-4	?	?	-127	---	---
15-093	6	---	---	---	6	-99	-123	-133	---	---
15-094	7	---	---	---	7	-82	-118	-140	---	---
15-095	5	---	---	---	5	-72	-123	-137	---	---
* 15-096	14.2	---	---	---	6	-37	-104	-122	---	---
* 15-097	5	---	---	---	1	-72	-84	-112	---	---
15-098	3	---	---	---	3	-77	-80	-112	---	---
+* 15-100	3	---	---	---	1	-15	-62	-87	---	---
15-101	20	---	---	---	20	-78	-91	?	-160	---
15-109	20	---	---	---	20	-40	-65	-139	-204	-251
+* 15-117	7	---	---	---	---	---	---	---	3	-52
15-118	18	---	---	---	18	-56	-73	-123	-195	---
+* 15-131	130	-108	-230	---	---	---	---	---	---	---
* 15-137	29	13	-15	-89	-131	---	---	---	---	---
15-138	15	11	---	---	---	---	---	---	---	---
15-139	6.1	---	-22	-48	-111	---	---	-186	-260	-338
15-141	0	---	-3	?	-120	---	---	---	---	---
* 15-144	7	---	7	-40	-112	---	---	---	---	---
* 15-154	10	---	-18	-33	-62	---	---	-151	-187	-259
+* 15-157	5	---	---	-7	-30	---	---	-105	-145	-202
* 15-166	5	---	---	-2	-23	-38	-55	-100	---	---
15-170	10.5	---	---	---	7	-65	-83	-112	---	---
* 15-171	5	---	---	---	-4	-24	-36	-77	-130	-159
* 15-173	5	---	---	---	4	-15	-33	-56	-95	---
* 15-175	8	---	---	---	---	---	---	---	-98	---
* 15-176	5	---	---	---	---	2	-14	-67	-99	---
* 15-177	5	---	---	---	---	---	-53	-58	-77	-126
* 15-179	5	---	---	---	5	-10	-38	-58	?	?

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer			Confining unit	Lower aquifer	
					Upper part	Confining unit	Lower part			
* 15-180	5	---	---	---	3	-27	-46	-68	-113	-149
* 15-181	5	---	---	---	?	?	?	?	-102	-121
15-189	80	---	-240	---	---	---	---	---	---	---
* 15-190	80	-96	-226	-323	---	---	---	---	---	---
* 15-191	71	-98	-240	-312	---	---	---	---	---	---
* 15-192	88	-82	-202	-302	-323	-348	-374	---	---	---
* 15-194	10	-59	-166	-285	-309	---	---	---	---	---
* 15-207	30	---	---	-78	---	---	---	---	---	-258
* 15-210	15	3	-17	-101	---	---	---	---	---	---
* 15-211	16	4	-18	?	-104	-136	-174	-211	-231	-333
15-212	15	---	---	-95	-115	-125	-177	-206	---	---
15-213	10	---	-10	-75	-78	-104	-140	---	---	---
15-214	10	---	10	---	---	---	---	---	---	---
* 15-217	20	---	---	---	---	-56	-72	-115	-215	-252
* 15-220	10	---	---	---	---	-70	-121	-136	-178	-269
* 15-221	10	---	---	---	---	-69	-86	-136	-155	---
15-274	80	-25	-185	---	---	---	---	---	---	---
15-275	50	---	-175	---	---	---	---	---	---	---
+* 15-276	60	-32	-144	-230	---	---	---	---	---	---
* 15-279	16	0	-61	-188	-242	---	---	---	---	---
* 15-281	61	23	-94	-187	---	---	---	---	---	---
* 15-282	55	45	-54	-181	-235	---	---	?	-329	---
* 15-283	30	---	-37	-127	-182	-251	-266	---	---	---
* 15-285	12	12	-52	-152	-205	-227	-235	-277	-288	---
* 15-287	30	8	-35	-123	-199	-242	-276	-305	-324	-360
* 15-291	12	-6	-46	-143	-201	---	---	-258	-293	---
* 15-294	5	-13	-63	-160	-240	---	---	-278	-288	-362
+* 15-295	20	20	-51	---	---	---	---	---	---	---
* 15-296	17	2	-23	-117	-183	---	---	-233	-269	---
* 15-298	10	2	-22	-103	-140	-207	-223	-280	-301	-358

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer: Upper part	Middle aquifer: Confining unit	Middle aquifer: Lower part	Confining unit	Lower aquifer	
+* 15-302	10	---	---	---	---	-116	-168	-201	-237	---
+* 15-307	10	---	---	---	---	---	---	-129	-233	---
+* 15-308	10	---	---	---	---	-91	-156	-186	-226	---
+* 15-309	10	---	---	---	---	-120	?	?	-211	---
* 15-310	10	---	---	-53	-65	-87	-141	-176	-221	---
+* 15-311	10	---	---	---	---	-63	-130	-154	-180	---
* 15-312	20	20	-61	-135	-160	---	---	-190	-291	---
15-313	23	20	-8	?	?	-177	-215	-232	-282	-333
* 15-316	31.8	28	-27	-106	-140	---	---	?	-244	-295
* 15-317	10	6	-32	-82	-114	-150	-184	-200	-215	---
15-326	12	-8	-70	-113	-175	---	---	-235	?	-300
15-327	16	-10	?	?	-173	-189	-203	?	-242	---
* 15-330	40	14	-104	-194	---	---	---	---	---	---
+* 15-331	30	---	-96	-182	-230	---	---	-308	-337	-450
15-332	50	50	-84	---	---	---	---	---	---	---
15-333	20	8	-90	---	---	---	---	---	---	---
15-348	20	---	11	-73	-80	---	---	-138	---	---
15-363	40	25	-95	---	---	---	---	---	---	---
15-366	80	0	-120	---	---	---	---	---	---	---
15-368	50	42	-58	---	---	---	---	---	---	---
* 15-373	28	28	-34	-125	?	-168	-182	-205	---	---
* 15-379	125	-99	-234	---	---	---	---	---	---	---
+* 15-381	25	---	-9	-136	-151	-175	-215	-237	---	---
+* 15-383	51	19	-83	-247	---	---	---	---	---	---
15-390	10	---	---	---	---	-100	---	---	---	---
15-392	90	-21	-142	---	---	---	---	---	---	---
15-394	30	10	-84	---	---	---	---	---	---	---
15-395	20	3	-14	-72	?	---	---	---	---	---
15-398	1	---	---	---	---	---	---	1	-31	---
* 15-399	10	---	---	---	10	-42	-60	-72	---	---

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer: Upper part	Middle aquifer: Confining unit	Middle aquifer: Lower part	Confining unit	Lower aquifer	
15-401	40	33	-77	-197	-227	-240	-265	-327	-332	-432
15-403	10	---	---	---	?	?	?	-84	-147	---
15-404	5	---	---	---	---	---	---	---	-7	-72
15-408	5	---	-24	-35	-54	-112	-130	-140	---	---
* 15-410	5	---	-39	-103	-129	-149	-192	-202	-227	-289
* 15-411	20	---	---	---	---	-73	-78	-157	-214	---
15-412	5	---	---	---	---	---	---	5	-27	---
15-413	40	28	-110	-156	-191	---	---	-273	-336	-433
* 15-414	30	30	-32	-119	-130	-162	?	-199	-252	-345
15-415	40	---	-115	-204	-243	-282	-302	-371	---	---
15-421	60	34	-72	---	---	---	---	---	---	---
* 15-430	15	10	-13	-127	-137	-165	-196	-207	-240	-315
* 15-431	30	19	-85	-156	-164	---	---	---	---	---
* 15-432	60	-42	-160	---	---	---	---	---	---	---
* 15-434	15	-6	---	---	---	-183	-193	-228	-258	---
* 15-435	40	-10	-117	---	---	---	---	---	---	---
15-438	10	---	---	---	---	-107	-111	-138	---	---
15-439	10	---	---	---	---	-76	?	-145	---	---
15-452	20	20	-12	---	---	---	---	---	---	---
15-453	10	---	9	4	?	---	---	---	---	---
15-454	20	20	-32	---	---	---	---	---	---	---
15-455	20	---	19	---	---	---	---	---	---	---
15-459	10	---	10	-34	-49	---	---	---	---	---
15-462	10	---	8	-19	-35	---	---	---	---	---
15-463	20	20	-15	---	---	---	---	---	---	---
15-466	30	25	-21	---	---	---	---	---	---	---
15-468	10	---	---	1	-22	-70	?	---	---	---
15-471	45	0	-73	---	---	---	---	---	---	---
15-496	45	7	-78	---	---	---	---	---	---	---
15-497	45	35	-61	---	---	---	---	---	---	---

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer			Confining unit	Lower aquifer	
					Upper part	Confining unit	Lower part			
15-498	62	56	-72	---	---	---	---	---	---	---
15-499	60	6	?	---	---	---	---	---	---	---
15-501	50	24	-81	---	---	---	---	---	---	---
15-502	30	25	-29	---	---	---	---	---	---	---
15-503	5	-15	-20	---	---	---	---	---	---	---
15-504	5	---	-24	---	---	---	---	---	---	---
15-507	5	---	---	---	---	---	---	---	---	-76
15-511	10	---	-2	---	---	---	---	---	---	---
15-513	15	5	-6	---	---	---	---	---	---	---
15-514	10	---	---	---	9	-56	-115	-119	-141	---
15-516	40	40	-34	---	---	---	---	---	---	---
15-518	65	35	-37	---	---	---	---	---	---	---
15-519	35	35	-40	---	---	---	---	---	---	---
15-520	62	7	-76	---	---	---	---	---	---	---
15-524	52	6	-53	---	---	---	---	---	---	---
15-527	58	16	-53	---	---	---	---	---	---	---
15-528	15	-10	-101	---	---	---	---	---	---	---
15-530	35	25	-29	---	---	---	---	---	---	---
* 15-533	22	---	7	-85	-101	-131	-165	-185	-216	---
* 15-550	10.2	---	10	-30	-68	-85	?	---	---	---
+* 15-553	10	---	10	-14	-32	-92	-104	-147	---	---
* 15-569	32	20	-18	-96	-133	-175	-200	---	---	---
15-575	1	---	-18	-28	?	---	---	---	---	---
15-582	1	---	-13	---	?	---	---	---	---	---
15-585	7	---	7	-25	-72	---	---	---	---	---
* 15-615	29.3	29	-19	-88	-129	---	---	-235	-261	-399
* 15-618	7	---	7	-54	-78	-103	-117	-159	-216	-243
* 15-621	25	21	-30	-99	-115	-181	-210	-285	-318	-400
* 15-622	10	---	3	-20	-40	-75	-98	-141	-200	-250
15-629	11	---	---	1	-8	---	---	-117	---	---

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer: Upper part	Middle aquifer: Confining unit	Middle aquifer: Lower part	Confining unit	Lower aquifer	
15-630	12	---	---	-10	?	?	?	-122	---	---
* 15-634	5	---	---	---	4	-22	-47	?	-115	-145
15-647	10	---	---	-12	-23	---	---	---	---	---
15-657	9	---	---	---	---	-41	---	---	---	---
* 15-658	9.35	---	---	---	9	-56	-66	-88	-129	-152
* 15-661	8	---	---	---	7	-16	-53	---	---	---
15-665	14	---	---	-11	-23	---	---	---	---	---
15-668	7	---	---	-10	-17	-58	-64	-113	---	---
* 15-678	9	---	3	-13	-20	-86	-104	-130	-164	---
* 15-680	8	---	---	---	---	---	8	-76	-136	---
* 15-692	5	---	---	---	5	-19	-59	---	---	---
* 15-694	10	---	---	---	10	-71	-81	-117	-201	---
* 15-695	8	---	8	-30	-40	-82	-112	-164	-214	---
* 15-711	11	---	---	---	---	---	11	-109	---	---
* 15-712	6.5	0	-15	-61	-67	-156	-178	-217	-237	-329
* 15-718	20	18	-70	-152	-165	---	---	-196	-295	-360
* 15-719	55	---	---	-182	?	-225	-250	-312	?	-417
* 15-736	16	---	---	---	16	-77	-92	-166	-201	---
* 15-737	12	---	---	---	---	-80	-91	-141	-216	---
* 15-738	4	---	---	---	4	-73	-86	-150	-171	---
* 15-739	5	---	---	---	5	-35	-75	-105	---	---
15-740	20	---	---	---	16	-49	-58	-129	-201	-249
* 15-742	8	-93	-188	-282	-310	-415	-436	-464	-545	-699
* 15-767	9	3	-19	-59	-68	-116	-128	-186	-206	-311
* 15-768	5	5	0	-85	-135	-155	-167	-219	-248	-337
* 15-769	15	10	-10	-60	-80	-100	-120	-175	-219	-328
* 15-770	10	---	2	-50	-82	---	---	-118	-185	---
* 15-772	10	---	---	-54	-70	-102	-107	-116	?	-206
* 15-775	15	---	15	-35	-53	---	---	-99	-153	-200
* 15-778	20	---	20	-32	?	-92	-108	-113	---	---

Table 2.--Altitudes of the tops of aquifers and confining units in the region of Greenwich Township, Gloucester County, New Jersey--continued.

Well number	Altitude of land surface	Merchantville-Woodbury confining unit	Potomac-Raritan-Magothy aquifer system							Wissahickon Formation
			Upper aquifer	Confining unit	Middle aquifer: Upper part	Middle aquifer: Confining unit	Middle aquifer: Lower part	Confining unit	Lower aquifer	
* 158002	45	---	-41	-166	-207	---	---	---	---	---
* 158006	65	-69	-203	---	---	---	---	---	---	---
* 500001	-12	---	---	---	---	-45	-102	-112	-132	-197
530025	14	---	---	---	---	---	---	---	---	-32
539001	0	---	---	---	---	---	---	---	---	-30

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey

[Altitude in feet above sea level; dashes indicate no data available; QRNR, undifferentiated Quaternary deposits; HPPM, undifferentiated Holocene, Pleistocene, Pliocene, and Miocene deposits; WBMV, Merchantville-Woodbury confining unit; MRPA, Potomac-Raritan-Magothy aquifer system; MRPAU, upper aquifer of the MRPA; MRPAM, middle aquifer of the MRPA; MRPAM 1, upper part of the MRPAM; MRPAM 2, lower part of the MRPAM; MRPAL, lower aquifer of the MRPA; drillers' logs are available for all wells for which a well depth is listed; H, water-level hydrographs are available; I, hydrogeologic data are available and were used to describe the hydrogeologic framework (see plates 2 through 7); P, pumpage data are available and are listed in table 6 (see plates 8 through 9a); R, ground-water- or contaminant-recovery wells (table 6); S, water-level data from August to September 1986 are available and are shown in plates 9b through 11a and in table 7; T, hourly water-level data are available and were used to determine tidal fluctuations (see table 8); W, data from specific-capacity tests are available and are listed in table 5]

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
DEPTFORD TOWNSHIP										
15-006	394627	0750813	20	263	308	344	12	MRPAU	SEWELL 1A	I, P, S, W
15-008	394628	0750813	21	244	307	313	12	MRPAU	SEWELL 2A	I, W, P
15-011	394811	0750914	58	255	281	349	12	MRPAU	DTMUA 2	I, P, W
15-015	394833	0750730	80	287	306	316	6	MRPAU	1	W
15-016	394839	0750911	70	252	273	400	12	MRPAU	DTMUA 1	I, P, W
15-022	395026	0750735	40	200	219	--	6	MRPAM	1	W
15-023	395029	0750747	37	215	236	294	6	MRPAM	CHILD CARE 1	I, W
15-369	395000	0750735	50	201	221	--	--	MRPAU	1	P
15-720	394650	0750754	64	323	333	353	4	MRPAU	EXLEY 2	I
EAST GREENWICH TOWNSHIP										
15-027	394751	0751248	47	212	242	--	6	MRPAU	TEST FOR 3	I
15-028	394755	0751327	70	191	216	223	10	MRPAU	EGWD 2	I, P, S, W
15-355	394822	0751247	42	205	245	--	12	MRPAU	EGWD 3	P, S
15-363	394618	0751542	40	145	151	152	3.75	MRPAU	1	I
15-366	394620	0751507	80	209	219	219	3	MRPAU	1	I,P
15-383	394750	0751249	51	--	--	--	--	MRPA	TEST 3	I
15-421	394811	0751350	60	60	180	200	6	MRPAU	1	I, P
15-471	394636	0751620	45	120	131	131	3	MRPAU	3-105	I
15-496	394651	0751632	45	150	160	160	4	MRPAU	1	I
15-497	394715	0751537	45	109	119	119	4	MRPAU	1	I
15-498	394702	0751554	62	60	70	70	3	MRPAU	1	I
15-499	394651	0751521	60	195	200	208	3	MRPAU	1	I
15-501	394632	0751614	50	162	167	167	4	MRPAU	1	I
15-502	394730	0751630	30	63	70	73	4	MRPAU	2	I
15-520	394625	0751712	62	135	150	150	3	MRPAU	1	I
15-530	394700	0751630	35	66	73	76	4	MRPAU	1	I
15-675	394829	0751615	12.80	3	10	12	4	WBMV	MW-4	S
GREENWICH TOWNSHIP										
15-064	394857	0751537	10	238	248	287	6	MRPAL	TEST WELL 2-59	I
15-065	394851	0751526	20	69	98	100	15	MRPAU	GTWD 2(NEW 3)	W, P
15-066	394844	0751629	0	200	210	330	6	MRPA	TEST WELL 1-63	I
15-067	394900	0751658	5	157	172	262	6	MRPAM	TEST WELL 1-58	I
15-069	394920	0751619	10	108	168	179	12	MRPAM 2	GTWD 3(NEW 4)	I, P, S, W
15-070	394932	0751722	10	76	96	106	16	MRPAM	5/GTWD 1 (NEW 2)	I, W, P
15-071	394933	0751748	1	89	99	103	6	MRPAM	RR TURNABOUT	I, W
15-072	394936	0751747	6	91	101	103	12	MRPAM 2	REPAUNO 3	I, P, W
15-073	394936	0751747	0	67	87	96	10	MRPAM	REPAUNO NITR 3	I, W
15-075	394940	0751629	14	98	106	125	3	MRPAM 1	GIBBSTOWN OB 4	I
15-076	394939	0751704	15	90.5	120.5	126	10	MRPAM 2	4 1970	I, P
15-077	394944	0751711	9	88	97	101	6	MRPAM	GAGE WELL 3	I, W
15-079	394944	0751734	10	84	109	118	12	MRPAM 2	REPAUNO 6	I, P, W
15-080	394944	0751735	11	89	105	105	13.6	MRPAM 2	REPAUNO 2	W, P
15-081	394945	0751717	10	81	99	104	8	MRPAM 2	REPAUNO 5	I, P
15-083	394948	0751630	15	117	125	159	3	MRPAM 2	GIBBSTOWN OB 3	I
15-084	394948	0751639	12	121	146	--	10	MRPAM	GIBBSTOWN 2	P
15-085	394948	0751639	12	--	--	227	--	MRPAL	GIBBSTOWN TH 2	I
15-086	394948	0751639	11	107	112	126	3	MRPAM	GIBBSTOWN TH 5	I
15-087	394951	0751753	5	92	102	101	6	MRPAM 2	30-32	I, W

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
					GREENWICH TOWNSHIP--Continued					
15-088	394952	0751636	13	96	102	142	3	MRPAM 1	GIBBSTOWN TH 7	I
15-089	394952	0751653	10	77.5	97.5	122	10	MRPAM	GIBBSTOWN 1	I
15-091	394952	0751730	10	84	103	105	8	MRPAL	REPAUNO W	I, W
15-092	394954	0751642	4	107	113	280	3	MRPAM 2	GIBBSTOWN TH 6	I
15-093	394956	0751521	6	111	136	164	12	MRPAM	MOBIL 46	I, W
15-094	394958	0751512	7	116	136	156	16	MRPAM	MOBIL 44	I, P
15-095	394954	0751531	5	129	139	152	16	MRPAM	MOBIL 43	I
15-096	394959	0751650	14.18	129	134	159	3	MRPAM 2	GIBBSTOWN OB 2	I, S
15-097	395000	0751636	5.61	102	107	130	3	MRPAM 2	GIBBSTOWN TH8/TW8 (NEW)	I
15-098	395006	0751532	3	95	115	130	16	MRPAM	MOBIL 45	I, P
15-100	395009	0751706	3	79	84	--	4	MRPAM 2	REPAUNO OB 6	I
15-101	395012	0751520	20	195	225	267	16	MRPAL	MOBIL 40	I
15-102	395016	0751738	3	73	103	--	10	MRPAL	REPAUNO 20	P
15-103	395021	0751730	2	83	103	103	10	MRPAL	REPAUNO H	W
15-104	395021	0751740	2	74	103	103	10	MRPAL	REPAUNO J	W
15-107	395025	0751757	2	75	105	105	10	MRPAL	REPAUNO C	W
15-109	395027	0751503	20	229.5	259.50	280	8	MRPAL	MOBIL 41	I, P
15-117	395033	0751814	7	--	--	--	--	WSCK	CAVERN 9 TEST	I
15-118	395036	0751501	18	220	240	263	12	MRPAL	MOBIL 47	I, P
15-347	394932	0751722	20	82	117	134	12	MRPAM	GTWD 5 (2-A)	P, S
15-348	394910	0751541	20	105	135	164	12	MRPAM	GTWD 6	I, P, S, W
15-391	395020	0751540	20	109	134	164	12	MRPAM	NO-12 1950	W
15-403	395100	0751400	10	190.33	207	211	8	MRPAL	WELL 2-1954	I
15-404	395033	0751753	5	--	--	292	--	MRPAL	TESTHOLE 1	I
15-408	394913	0751620	5	130	140	155	--	MRPAM 2	TEST 1966	I
15-411	395113	0751513	20	238	268	289	8	MRPAL	NO-1-1978	I, P
15-412	395033	0751740	5	--	--	120	--	MRPAL	TEST 4 1965	I
15-503	394819	0751702	5	48	58	58	4	MRPAU	1	I
15-504	394814	0751712	5	51	61	61	4	MRPAU	1	I
15-507	395030	0751730	5	--	--	200	--	WSCK	TW 5	I
15-511	394828	0751656	10	40	47	50	4	MRPAU	2	I
15-513	394843	0751600	15	38	43	44	3.75	MRPAU	1	I
15-514	394925	0751743	10	162.17	173	179	6	MRPAL	TW STATION RD	I
15-629	394939	0751654	11	90	120	133	2	MRPAM	MW 8C	I
15-630	394937	0751645	12	98	118	137	2	MRPAM	MW 19C	I
15-632	394945	0751649	9	14	19	19	6	QRNR	HERCULES PW 6	P
15-633	394955	0751649	12.8	9.5	29.5	30	2	MRPAM 1	MW 2	S
15-634	394944	0751750	5	136.5	141.5	155	6	MRPAL	OBS 40	I, S
15-644	394945	0751644	12.4	8	18	18	2	QRNR	MW 17	S
15-647	394937	0751646	12	48	68	73	2	MRPAM	MW 19B	I, S
15-652	395017	0751639	1.2	17	24	24	2	MRPAM 1	MW 12	S
15-654	395015	0751635	1.53	6.5	21.5	21.5	2	MRPAM 1	MW 14	S
15-657	394941	0751737	9.16	89	94	95	6	MRPAM 2	OBS 38	I, S
15-658	394941	0751737	9.35	144	149	180	6.0	MRPAL	REPAUNO M-37	I
15-660	394953	0751733	8.16	19.6	24.6	24.6	6	MRPAM 1	OBS 33	S
15-661	394953	0751733	8.04	109	119	145	6	MRPAM 2	OBS 31	I, S
15-665	394936	0751711	14.05	101.5	121.5	126.5	2	MRPAM	MW 20C	I, S
15-667	394936	0751711	14.24	14	29	29	2	QRNR	MW 20	S
15-668	394944	0751648	7.83	92	112	125	2	MRPAM 2	MW 10C	I
15-672	395014	0751459	20	244	264	289	8	MRPAL	2-NORTH WELL	P
15-678	394946	0751612	9.40	194	204	209.5	4	MRPAL	W-5C	I, S
15-679	394946	0751612	9.70	118	128	143.5	4	MRPAM 2	W-5D	S
15-680	395038	0751605	8.66	186	196	199.5	4	MRPAL	W-7C	I, S
15-682	395048	0751518	10.79	105	115	120	4	MRPAM 2	W-8D	S, T
15-683	395021	0751533	10.70	92	102	119	4	MRPAM 2	W-9D	S
15-689	395018	0751650	9.5	7	17	21	4	MRPAM	DUPONT 93	S
15-690	394830	0751515	12.8	3	13	15	4	WBMV	MW-1	S
15-692	394952	0751734	5	96	136	142	12	MRPAM 2	INTERCEPTOR 46	I, P, R, S
15-693	394940	0751752	5	18	23	155	6	MRPAM 1	42	S
15-694	395021	0751533	10.7	215	225	226	4	MRPAL	W-9C	I, S
15-695	394952	0751502	8.4	230	240	240	4	MRPAL	W-3C	I, S
15-696	394952	0751502	8.40	162	172	179.5	4	MRPAM 2	W-3D	S
15-698	395014	0751553	4.3	2	12	--	2	QRNR	27	S
15-699	395037	0751605	9.4	0	20	--	2	QRNR	29	S
15-700	394952	0751527	2	2	22	--	2	QRNR	40	S

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
				GREENWICH TOWNSHIP--Continued						
15-701	394957	0751539	4.2	.53	12	--	2	QRNR	72	S
15-711	395048	0751518	11.5	152.7	162.7	175	4	MRPAL	W-8C	I, S, T
15-712	394808	0751724	6.5	275	290	383	4	MRPAL	STEFKA-1	I, T
15-713	394808	0751724	5.64	125	155	162	8	MRPAM 1	STEFKA-2	T
15-728	394808	0751724	4.46	46	56	65	4	MRPAU	STEFKA-4	T
15-736	395009	0751505	16.2	222	232	254.5	4	MRPAL	W-1C	I, T
15-737	395024	0751450	12.3	240.0	250.0	250	4.0	MRPAL	W-2C	I
15-738	394948	0751524	4.5	188	198	210	4	MRPAL	W-4C	I
15-739	394936	0751728	5	98	103	115	4	MRPAM 2	33	I
15-740	395033	0751513	20	--	--	281	--	WSCK	HARCO-1	I
15-814	395024	0751521	21.3	15.0	55.0	61.0	24.0	QRNR	RW-12	P, R
15-815	395027	0751528	18.5	12.0	52	58.0	24.0	QRNR	RW-11	P, R
15-816	395035	0751543	23.2	3.0	15.0	25.0	24.0	QRNR	RW-17	P
15-817	395039	0751547	17.4	4.0	16.0	25.0	24.0	QRNR	RW-16	P
15-818	395005	0751517	13.7	2.0	10.0	25.0	24.0	QRNR	RW-15	P
15-819	395011	0751513	17.0	15.0	55.0	64.0	24.0	QRNR	RW-14	P, R
15-820	395038	0751514	21.5	18.3	48.3	--	24	QRNR	RW-2	P, R
15-821	395047	0751512	22.1	19	54	--	24	QRNR	RW-3	P, R
15-822	395042	0751515	20.3	16	51	--	24	QRNR	RW-4	P, R
15-823	395037	0751500	25.4	18	53	--	24	QRNR	RW-5	P, R
15-824	395033	0751457	18.8	13.5	48.5	--	24	QRNR	RW-6	P, R
15-825	395027	0751506	17.3	13.5	48.5	--	24	QRNR	RW-7	P, R
15-826	395022	0751458	19	15	50	--	24	QRNR	RW-8	P, R
15-827	395021	0751533	11.1	5.5	45.5	--	24	QRNR	RW-9	P, R
15-828	395024	0751600	11.7	1	17	25	24	QRNR	RW-18	P, R
15-832	395043	0751527	19.8	13.0	53.0	68	24.0	QRNR	RW-13	P, R
15-833	394942	0751655	11.0	14.5	44.5	49	8.0	MRPAM 1	PW-10	P, R
15-834	394941	0751650	11.1	13.0	43.0	45.0	8.0	MRPAM 1	PW-9	P, R
15-835	394938	0751653	12.2	29.5	69.5	75	8.0	MRPAM 1	PW-8B	P, R
15-836	394937	0751655	14.5	9.9	19.9	21.0	8.0	QRNR	PW-8	P, R
15-837	394938	0751649	15.2	35.0	75.0	95.0	8.0	MRPAM 1	PW-7B	P, R
15-838	394942	0751655	11.6	23.0	43.0	47.0	6.0	MRPAM 1	PW-5B	P, R
15-997	395009	0751505	16.0	116	126	149.5	4.0	MRPAM	W-1D	T
151002	394929	0751749	5	105	125	125	2	MRPAM 1	MATLOCK TRUCKING 21C	I
151025	394945	0751717	5	80.50	86	106	4	MRPAM	DUPONT OBS 1	P
				HARRISON TOWNSHIP						
15-131	394501	0751229	45	--	--	--	--	MRPAU	CLEARVIEW HS 1	I, P
15-346	394529	0751340	80	267	343	--	8	MRPAU	1	S
				LOGAN TOWNSHIP						
15-137	394535	0752054	29	158	208	237	12	MRPAM	PURE 2(3-1973)	I, P
15-138	394553	0752148	15	28	34	--	4	HPPM	1	I
15-139	394608	0752135	7.0	301	345	354	6	MRPAL	TEST WELL 3	I, S, T, W
15-140	394608	0752135	6.1	132	184	204	6	MRPAM	TEST WELL 4	S, T, W
15-141	394606	0752133	0	128	185	226	4	MRPAM	OBS 1 (1970)	I
15-144	394613	0752129	7.60	81	136	140	6	MRPAM	1-1973	I, P
15-154	394716	0752113	10	66	96	290	6	MRPAM	1	I, P
15-157	394728	0752219	5	103	123	207	6	MRPAM	TEST WELL 7	I
15-165	394755	0752108	5	30.5	40.5	43	8	MRPAM	BRIDGEPORT 1	W
15-166	394755	0752108	5	65.4	85.4	127	6	MRPAM 2	BRIDGEPORT 2	I, P
15-170	394854	0751906	10.5	85.4	106	176	8	MRPAM 2	REPAUP 1	I, W
15-171	394817	0752107	5	61	81	171	6	MRPAM 2	RACCOON IS T11	I, W
15-173	394836	0752124	5	113	160	164	6	MRPAL	RACCOON IS T 8	I, W
15-174	394836	0752124	5	42	72	73	6	MRPAM	RACCOON IS T 9	W
15-175	394858	0752225	8	100	120	128	6	MRPAL	RACCOON IS T 1	I, W
15-176	394840	0752145	5	97	137	146	6	MRPAL	RACCOON IS T 2	I, W
15-177	394833	0752207	5	90	130	135	6	MRPAL	RACCOON IS T 4	I, W
15-178	394840	0752145	9	50	70	80	6	MRPAM 2	RACCOON IS T 5	W
15-179	394839	0752135	5	52	72	84	6	MRPAM	RACCOON IS T 7	I
15-180	394822	0752125	5	48	58	191	6	MRPAM 2	RACCOON IS T10	I

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
					LOGAN TOWNSHIP--Continued					
15-181	394839	0752135	5	106	126	144	6	MRPAL	RACCOON IS T 6	I, W
15-387	394713	0752121	10.20	80	90	90	4	MRPAM 1	DP 1	S
15-388	394716	0752047	22.30	75	85	90.5	4	MRPA	DP 3	S
15-395	394801	0751759	20	93	113	113	6	MRPAM 1	30-1972	I, S
15-398	394935	0751938	1	50	60	48	4	MRPAL	419	I
15-399	394900	0751913	10	71	91	124	10	MRPAM 2	NO-1 1977	I
15-452	394803	0751802	20	70	80	80	3	MRPAU	8-61B	I
15-453	394832	0751846	10	51	61	61	4	MRPAM	30-1946	I
15-454	394630	0752000	20	65	75	75	4	MRPAU	30-1830	I
15-455	394710	0752034	20	69	79	79	4	MRPAU	30-2021	I
15-459	394800	0752018	10	62	69	72	4	MRPAM	1	I
15-462	394824	0751834	10	59	69	69	4	MRPAM 1	611	I
15-463	394752	0751756	20	56	67	67	3	MRPAU	1	I
15-466	394707	0751828	30	64	74	74	4	MRPAU	1	I
15-468	394838	0751853	10	85	95	95	6	MRPAM 2	1	I
15-540	394800	0751936	7.1	87	97	97	4	MRPAM 1	EPA 108	S, T
15-546	394759	0751948	10.17	20	30	30	2	MRPAU	CL2	S
15-548	394755	0751952	10	30	45	45	6	MRPAU	CLDW	P
15-550	394759	0751949	10.17	99.50	102	102	4	MRPAM 2	DW2	I
15-553	394815	0751927	8.50	0	230	--	4	MRPAM	S-12	I
15-564	394802	0751933	6.8	42	52	--	4	MRPAU	S-9	S
15-569	394529	0752045	32	161	201	236	12	MRPAM	PWC 3	I, W
15-575	394719	0752108	1.31	45	55	55	1.25	MRPAM	MA 11D	I
15-581	394718	0752102	2.48	27	37	37	1.25	MRPAU	MA 5I	S
15-582	394715	0752106	1.64	57	67	71	1.25	MRPA	MA 1D	I
15-585	394704	0752058	7.50	79	89	101	6	MRPAM	DP5	I
15-591	394716	0752115	3.40	9.70	19.70	20	4	MRPAU	25	S
15-615	394637	0751916	29.3	378	388	530	4	MRPAL	SHIVELER LOWER	I, S, T
15-616	394637	0751916	30.6	230	240	348	4	MRPAM	SHIVELER MIDDLE	S, T
15-617	394637	0751916	30.6	60	70	132	4	MRPAU	SHIVELER UPPER	S, T
15-618	394804	0751933	7.0	230	240	290	4	MRPAL	GAVENTA DEEP	I, S, T
15-620	394804	0751933	7.0	131	141	151	4	MRPAM	GAVENTA MIDDLE 1	S, T
15-621	394722	0751731	25	--	--	493	--	WSCK	LOPES TST HOLE	I
15-622	394752	0752002	10	--	--	291	--	WSCK	CLTL TEST HOLE	I
15-627	394644	0752136	7.38	65	75	82	4	MRPAU	MW 103 D	S
15-706	394637	0751916	30.56	10.5	12.0	--	2	WBMV	SHIVELER W TAB	S
15-708	394626	0751931	41.7	10.7	12.2	--	2	WBMV	COONTOWN ROAD-WT-E	S
15-767	394813	0751820	9.0	--	--	396.50	--	WSCK	S & S AUCTION TH	I
15-768	394705	0751943	5.0	--	--	--	--	WSCK	SHOEMAKER TH	I
15-769	394728	0751839	15	--	--	370.0	--	WSCK	GIAMMARINO TH	I
					MANTUA TOWNSHIP					
15-187	394543	0750746	45	325	355	--	10	MRPAU	#2	P
15-188	394605	0751057	80	134	160	--	4	EGLS	YAHRLING 1	
15-189	394602	0750823	80	352	377	377	10	MRPAU	MTMUA 1	I, W, P
15-190	394617	0750833	80	377	397	405	6	MRPAU	NURSERY 1	I
15-191	394629	0750859	72	336	368	374	10	MRPAU	MTMUA 2	I, S
15-192	394635	0751116	80	315	337	480	12	MRPAU	MTMUA 5	I, S, W, P
15-193	394712	0751008	65	295	317	--	8	MRPAU	MTMUA 3	P
15-194	394732	0751037	10	230	265	335	8	MRPAU	MTMUA 4	I, P, S, W
15-379	394601	0751005	145	368	398.5	418	8	MRPAU	MTMUA 6	I
15-432	394707	0751202	60	222	300	345	10	MRPAU	1	I
15-676	394638	0751201	27.50	68	78	82	4	EGLS	KRAMER LANDFILL X-6D	
15-686	394642	0751212	80.30	18	38	65	3	MRPA	KRAMER LF X-12	S
15-687	394638	0751201	27.7	5.5	23.5	26.5	4	MLRW	KRAMER LF X-6S	S
15-742	394652	0751004	84.0	757.2	777.2	871	4	MRPAL	MANTUA DEEP	I
					NATIONAL PARK BOROUGH					
15-206	395146	0751053	10	64	85	87	8	MRPAU	NPWD 1	W
15-207	395156	0751053	30	241	282	307	8	MRPAL	NPWD 2	I, P
15-533	395155	0751051	22	240	272	274	12	MRPAL	NPWD 6	I, S, W
15-770	395202	0751115	10	204	224	243	4	MRPAL	NATIONAL PARK #1-PW-L	I, T
15-771	395202	0751115	10	92.3	123.3	243	8	MRPAM	NATIONAL PARK #2-PW-M	T

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
				NATIONAL PARK BOROUGH--Continued						
15-772	395206	0751118	10	196	216	230	2	MRPAL	NATIONAL PARK #3-OW-AL	I
15-775	395202	0751127	15	170.5	190.5	242	2	MRPAL	NATIONAL PARK #6-OW-CL	I
15-778	395223	0751117	20	170	190	206	2	MRPAL	NATIONAL PARK #9-OW-BL	I
				PAULSBORO BOROUGH						
15-210	394921	0751417	15	185	227	238	12	MRPAM	6-1973	I, P
15-211	394921	0751419	16	207	227	384	6	MRPAM	TEST FOR 6	I, W
15-212	394929	0751447	25	192	220	221	12	MRPAM 2	PWD 4	I, P, S, W
15-213	394947	0751416	10	135	175	196	12	MRPAM 2	PWD 5	I, P, S, W
15-214	394951	0751421	10	88	108	114	6	MRPAU	TEST WELL 1	I
15-215	395023	0751442	16	70	100	114	18	MRPAM	PWD 2	P
15-216	395023	0751442	16	115	140	--	18	MRPAM	PWD 3	W, P
15-217	395037	0751448	20	250	260	285	6	MRPAL	PAULSBORO BORO	I, W
15-220	395051	0751349	10	234	256	289	8	MRPAL	OLIN 1	I, P, W
15-221	395057	0751347	10	258	286	290	12	MRPAL	PAULSBORO 1	I, P, W
15-439	395048	0751401	10	215	235	290	12	MRPAL	ESSEX 2	I, P, W
15-677	395050	0751449	27.60	19	39	39	4	QRNR	MW 8	S
15-709	395053	0751346	9.6	9.1	19.5	26	4	QRNR	OBS 2	S
15-710	395100	0751420	5.2	10	35	97	4	QRNR	BL-1	S
15-839	395052	0751408	11.6	25.0	85.0	86.0	12.0	QRNR	RW-3	P, R
				SWEDESBORO BOROUGH						
15-240	394510	0751838	31.5	190	231	--	10	MRPAU	9	S, W, P
15-242	394512	0751830	25	267	298	--	10	MRPAM	6	S
				WENONAH BOROUGH						
15-274	394743	0750902	80	273	310	320	12	MRPAU	WWD 1	I, S, W
15-275	394751	0750912	50	268	310	314	12	MRPAU	WWD 2	I, P, W
				WEST DEPTFORD TOWNSHIP						
15-276	394821	0751026	60	242	289	336	8	MRPAU	WDTWD 4	I, P, W
15-279	394857	0751250	16.93	315	320	330	6	MRPAM 2	SHELL OBS 7	I, S
15-281	394912	0751026	61	227	243	290	12	MRPAU	WDTWD 3	I, P
15-282	394913	0751105	55	388	450	480	12	MRPAL	5 KINGS HIWAY	I, P, S
15-283	394919	0751256	30	358	383	385	12	MRPAL	SHELL 3	I, P, W
15-284	394919	0751256	30	127	157	159	12	MRPAU	SHELL 4	P, W
15-285	394917	0751307	12	328	358	360	12	MRPAL	SHELL 1	I, P, S, W
15-286	394917	0751307	19	273	288	295	4	MRPAM 2	SHELL 2	P
15-287	394920	0751226	30	--	--	373	--	MRPAL	TEST HOLE 1	I
15-290	394920	0751226	31	109	140	141	8	MRPAU	PUMP TEST 3	W
15-291	394938	0751327	30	334	369	370	3	MRPAL	SHELL OBS 1	I
15-294	394932	0751336	5	--	--	445	--	MRPA	TEST HOLE 3	I
15-295	394939	0751007	20	120	140	140	10	MRPAU	1-1973	I, P, W
15-296	394942	0751317	20.76	321	326	330	6	MRPAL	SHELL OBS 5	I, S, T
15-297	394942	0751317	20.50	113	118	120	6	MRPAU	SHELL OBS 6	S
15-298	394955	0751242	10	--	--	375	--	WSCK	TEST HOLE 2	I
15-299	395002	0751005	35	133	165	--	8	MRPAU	POLYREZ 1	P
15-300	395002	0751005	35	--	--	--	--	MRPAU	POLYREZ 2	P
15-302	395028	0751247	10	--	--	--	--	MRPAL	TEST WELL 2	I
15-303	395030	0751236	10	84	114	--	8	MRPAU	TEST WELL 1	S, 1
15-304	395032	0751241	10	237	289	--	16	MRPAL	418	P, W
15-306	395033	0751233	10	234	276	--	16	MRPAL	417	P, W
15-307	395035	0751249	10	256	296	--	4	MRPAL	TEST WELL 4	I
15-308	395044	0751242	10	231	271	--	8	MRPAL	TEST WELL 8	I, W
15-309	395045	0751255	10	248	288	--	8	MRPAL	TEST WELL 5	I
15-310	395051	0751236	10	243	263	--	4	MRPAL	TEST WELL 6	I
15-311	395104	0751244	10	203	243	--	8	MRPAL	TEST WELL 7	I, S
15-312	395107	0750946	20	322	372	385	12	MRPAL	6 RED BANK AVE	I, P
15-313	395139	0750949	23	307	353	363	12	MRPAL	WDTWD 2	I, W, P
15-314	395153	0750946	15	280	318	--	14.5	MRPAL	EAGLE POINT 6	P, W

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
				WEST DEPTFORD TOWNSHIP--Continued						
15-316	395159	0750907	31.75	288	298	327	4	MRPAL	EAGLE PT OBS 1	I
15-317	395200	0750947	10	261	301	329	12	MRPAL	EAGLE POINT 7	I, P, W
15-318	395207	0750930	17	259	289	--	16	MRPAL	EAGLE POINT 2	P, W
15-319	395213	0750936	14	259	289	294	16	MRPAL	EAGLE POINT 4	P, W
15-320	395216	0750915	20	248	288	--	12	MRPAL	EAGLE POINT 1	P, W
15-321	395221	0750856	13	237	277	--	12	MRPAL	EAGLE POINT 5	P, W
15-322	395222	0750918	20	258	288	--	12	MRPAL	EAGLE POINT 3	P, W
15-323	395235	0750950	20.96	255	275	298	6	MRPAL	EAGLE PT OBS 3	H, T
15-368	394908	0751112	50	241.50	288.92	336	8	MRPAM	2	I, W
15-373	395126	0750856	28	323	363	378	12	MRPAL	WDTWD 7	I, P, S, W
15-381	395140	0750952	25	--	--	--	--	MRPA	TEST 1-59	I
15-390	395020	0751340	10	91	106	128	6	MRPAM 1	GCSA 1 71	I
15-401	394900	0751113	40	391	411	505	6	MRPAL	WDTWD 5	I, W
15-410	395213	0750936	5	256	296	319	8	MRPAL	EAGLE POINT 4A	I, W
15-414	395126	0750855	25	326	362	389	6	MRPAL	TEST 7-79	I, W
15-415	394834	0751044	40	287	307	421	6	MRPAM 1	TEST 8-79	I
15-430	395156	0750938	15	256	328	351	12	MRPAL	EAGLE POINT 6A	I
15-435	394836	0751046	40	252	312	330	12	MRPAM	WDTWD 8	I, P, S, W
15-438	395012	0751333	10	202	217	287	6	MRPAL	GCMUA 1	I, S
15-691	394856	0751204	30	18	23	23	2	WBMV	OBS 1	S
15-703	394857	0751204	60	3	23	23	4	HPPM	OBS 1	S
15-704	394857	0751204	60	7.5	17.5	19	4	HPPM	OBS 2	S
15-705	394927	0751300	35	3	13	20	4	WBMV	WO#7	S
15-718	395057	0750933	18.0	346	356	384	6	MRPAL	RED BANK T6	I
15-719	394913	0751105	55	392.2	412	505	6	MRPAL	KINGS HWY T6	I
151045	394950	0751126	47	184	204	308	6	MRPAU	W DEPTFORD 5 GROVE RD	I
				WESTVILLE BOROUGH						
15-326	395216	0750739	12	243	280	327	12	MRPAL	WWD 5	I, P, S
15-327	395221	0750737	16	286	313	323	10	MRPAL	WWD 4	I, P, W
15-434	395224	0750734	15	265	317	317	12	MRPAL	WWD 6	I, P
				WOODBURY CITY						
15-331	394955	0750908	35	405	457	--	12	MRPAL	RAILROAD 5	I, P, W
15-332	395009	0750922	50	148	188	188	12	MRPAU	PARKING LOT 3	I, S, W, P
15-333	395044	0750907	20	129	167	171	12	MRPAU	TATUM 4	I, W, P
15-413	395047	0750833	40	279	299	510	6	MRPAM	TEST 6-79	I, W
15-431	395034	0750842	30	211	305	313	12	MRPAM	RED BANK 6	I, P, S, W
15-437	395008	0751007	50	127	142	203	10	MRPAU	POLYREZ 1R	
				WOODBURY HEIGHTS BOROUGH						
15-330	394858	0750845	40	185.5	230.5	247	12	MRPAU	1 HELEN AVE	I, P, S, W
				WOOLWICH TOWNSHIP						
15-344	394518	0751640	80	69	83	91	6	EGLS	NJTA INT 2	P
15-345	394642	0751823	62	94	100	101	4	MRPAU	1	S
15-378	394523	0751610	100	--	--	--	--	EGLS	MAINT 1	P
15-392	394527	0751607	105	241	251	251	6	MRPAU	1964-S-1	I, S, W
15-394	394513	0751913	30	124	149	170	10	MRPAU	CAN 1-1966	I, P
15-516	394650	0751752	40	112	122	122	4	MRPAU	1	I
15-518	394622	0751836	65	110	115	115	4	MRPAU	1	I
15-519	394649	0751738	35	75	87	87	3	MRPAU	1	I
15-524	394606	0751810	52	125	155	165	4	MRPAU	2	I
15-527	394547	0751841	58	115	125	125	3	MRPAU	1	I
15-528	394512	0751904	15	120	190	195	10	MRPAU	1	I

Table 3.--Selected records of wells and borings used to determine the hydrogeologic framework of the region of Greenwich Township, Gloucester County, New Jersey--Continued

Well number	Latitude (degrees)	Longitude (degrees)	Altitude of land surface (feet)	Top of screened interval[1] (feet)	Bottom of screened interval (feet)	Depth of well (feet)	Diameter of screen[2] (inches)	Aquifer code	Local well number	Available data
PHILADELPHIA, PENNSYLVANIA										
450001	395127	0751447	--	70	90	231	4	MRPAM	MIFFLIN BAR DIKE	I

[1] Some wells have multiple screens; the screened interval listed is the top of the uppermost screen and the bottom of the lowermost screen.

[2] Where more than one screen is present; the screen diameter listed is the smallest.

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TestAmerica
South Burlington, VT

Sample Data Summary Package

SDG: 127732

ANALYTICAL DATA PACKAGE FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON, NEW JERSEY 08625

Agency/Division:	SRP	**Bureau/Office:**	BEMSA
Project No.:	H2400200	**Contract No.:**	A71586
Laboratory Name:	TestAmerica Laboratories	**Laboratory Location:**	South Burlington, Vermont
SDG or Batch No.:	127732	**NJDEP Certification No.:**	VT972
Date of First Sample Receipt:	09/20/08	**Date of Last Sample Receipt:**	09/24/08

Agency Sample Number	Laboratory Sample Number	Sample Location	Date and Time of Collection
B2B	768412	B2B	09/19/2008-0955
B1E	768413	B1E	09/19/2008-1104
C1D	768414	C1D	09/19/2008-1159
U1C	768415	U1C	09/19/2008-1417
U1CREP	768415DP	U1C	09/19/2008-1417
U1CMSD	768415MD	U1C	09/19/2008-1417
U1CMS	768415MS	U1C	09/19/2008-1417
U2C	768416	U2C	09/19/2008-1455
T1C	768917	T1C	09/23/2008-1011
T2C	768918	T2C	09/23/2008-1100
U3C	768919	U3C	09/23/2008-1209
U4C	768920	U4C	09/23/2008-1434
U5C	768921	U5C	09/23/2008-1510
U6C	768922	U6C	09/23/2008-1550

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

Laboratory Manager (Typed):	William S. Cicero	**Date:**	
Laboratory Manager (Signature):			10/21/08
Quality Assurance Officer (Typed):	Kirstin McCracken	**Date:**	
Quality Assurance Officer (Signature):			10/21/08

ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625

Agency/Division: SRP	**Bureau/Office:** BEMSA
Project No: H2400200 (127732)	**Contract No:** A71586
Laboratory Name: TestAmerica Burlington	**Laboratory Location:** South Burlington, Vermont
SDG or Batch No: H2400200 (127732)	**NJDEP Certification #:** VT972
Date of First Sample Receipt: 09/20/2008	**Date of Last Sample Receipt:** 09/24/2008

The condition of the samples and the issues identified at the time of sample log-in are detailed in the Sample Handling section of this submittal. The sample volumes were logged into the laboratory for analysis and maintained in refrigerated storage at 4 degrees centigrade.

The sample volumes for the volatile organics analysis were received in "Encore" samplers. For each sample, the contents of one sampler were transferred into methanol, and the contents of the remaining two samplers were each transferred into analyte free water. The transfer occurred within 48 hours from sample collection, and all sample volumes were maintained in frozen storage. Based on the results of preliminary screening, samples B2B, U2C, and T1C were analyzed by the medium level method, using the sample volumes extracted into methanol. Additionally, the low level analysis of sample B1E did yield a result for isopropylbenzene that exceeded the calibrated range, and that sample was also analyzed by the medium level method. The sample identifier B1EME was used to identify the medium level analysis.

SOM01.2 (Volatile Organics - Low Level - Non-Aqueous)

A storage blank was prepared for volatile organics analysis, in a manner that was consistent with the preparation of the samples. That storage blank, identified as VHBLK01, was carried through the holding period with the samples, and analyzed.

Each analysis associated with the sample set exhibited an acceptable internal standard performance. Each deuterated monitoring compound (DMC) exhibited an acceptable recovery performance in the analysis of the method blank associated with the analytical work, the analysis of the storage blank, the analysis of the instrument blank, and in the analysis of each field sample. Matrix spike and matrix spike duplicate analyses were performed on sample U1C. There was an acceptable recovery of each spiked analyte in each analysis, and there was an acceptable correlation of the results in the interanalysis comparison. Chloroform was identified in the analysis of one of the method blanks associated with the analytical work (VBLKI8), as it was in the analysis of the storage blank. While the concentration of chloroform in the analysis of the method blank was below the established reporting limit of 5.0 ug/Kg, and did meet the technical acceptance criteria for a compliant method blank, the concentration in the analysis of the storage blank was 5.4 ug/Kg. The analysis of the storage blank did not meet the technical acceptance criteria for a compliant storage blank analysis. Chloroform was not identified in the analysis of the of any one of the field samples. The instrument blank that was analyzed after the analysis of sample B1E was free of analyte contamination. Present in each method blank analysis and in the analysis of the storage blank was a non-target constituent that was related to the DMC formulation. The derived results for that compound have been qualified with a "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the percent difference criterion in each opening/continuing

calibration check acquisition. With the exception of that for acetone in the calibration check acquisition identified as VSTD025Z2, the response for each target analyte met the 50.0 percent difference criterion in each closing calibration check acquisition. In the referenced acquisition, the change in the response for acetone, relative to the average response in the initial calibration, represented a 52.0 percent difference. The acquisition did not meet the technical acceptance criteria for a compliant closing calibration check acquisition. The laboratory did acquire a second calibration check standard immediately after the referenced closing calibration check in order to assess instrument performance. That acquisition exhibited a similar performance issue relative to acetone, however the percent difference value for acetone in that analysis did meet the 50.0 percent difference criterion (43.6 percent). Based on the relative reproducibility of the performance issue, the laboratory did not pursue a further analysis of the samples. This was coordinated with the NJDEP Contract Manager. The documentation of the follow-up acquisition (VSTD025Z2) is formally included in this submittal. In each of the acquisitions associated with the initial calibration and the calibration checks, the responses for 1,4-dioxane and 1,4-dioxane-d8 did not meet the minimum response factor criterion of 0.005. The issue of low response is one that is specific to these compounds, and relates to an over-estimation of their performance as written into the SOM01.2 Statement of Work. The laboratory has brought the issue to the attention of the Contract Manager, and the NJDEP is awaiting resolution of the technical specifications by the USEPA.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following details the column type and trap design that were used in the performance of the analytical work:

Chromatographic Column - J&W DB-624
Length - 75 meters
Inner Diameter - 0.53 millimeters
Film Thickness - 3.0 micrometers

Trap Design - Supelco (K Type) VOCARB 3000
Length - 29.5 centimeters

A summary of the method detection limit study that was performed by the laboratory for the method of analysis follows this summary.

(15.0119 ug analyte /L purge) x (10 mL purge /5.0 gm sample-wet) x (1.0 L purge /1000 mL purge) x (100 gm sample-wet /100 gm sample-dry) x (1000 gm sample-dry /1.0 Kg sample-dry) = 30.0238 ug analyte /Kg sample-dry (expressed as 30 ug/Kg on the Form I Summary)

SOM01.2 (Volatile Organics - Medium Level - Non-Aqueous)

A storage blank was prepared for volatile organics analysis, in a manner that was consistent with the preparation of the samples. That storage blank, identified as VHBLKM1, was carried through the holding period with the samples, and analyzed.

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The extract of sample B2B was analyzed at a dilution based on the results of preliminary screening. Due to the high concentration of higher boiling constituents in the sample, the laboratory did not pursue a more concentrated analysis of the sample extract. This was coordinated with the NJDEP Contract Manager.

Each analysis associated with the sample set exhibited good internal standard performance. There was an acceptable recovery of each deuterated monitoring compound (DMC) in the analysis of each method blank associated with the analytical work, and in the analysis of the storage blank associated with the sample set. The analysis of the samples in this sample set did meet the technical acceptance criteria specific to DMC recoveries, although not all DMC recoveries were within the control range in each analysis. The method allowance criteria provides for the recovery of up to three DMCs, exclusive of 1,4-dioxane-d8, to be outside the control range in the analysis of field samples. Matrix spike and matrix spike duplicate analyses were performed on sample U2C. Those analyses were performed without a dilution, consistent with the analysis of the parent sample. There was an acceptable recovery of each spiked analyte in each analysis, and there was an acceptable correlation of the results in the interanalysis comparison. Trace concentrations of carbon disulfide, trans-1,2-dichloroethene, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene were identified in the analysis of one of the method blanks associated with the analytical work (VBLKJ1). The concentration of each compound in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant method blank analysis. A trace concentration of carbon disulfide was identified in the analysis of each of the other method blanks associated with the analytical work (VBLKK1 and VBLKK9). The concentration of carbon disulfide in each analysis was below the established reporting limit, and each analysis did meet the technical acceptance criteria for a compliant method blank analysis. The analysis of the storage blank associated with the sample set was free of analyte contamination. Present in each method blank analysis and in the analysis of the storage blank was a non-target constituent that was related to the DMC formulation. The derived results for that compound have been qualified with a "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in each initial calibration. The response for each target analyte met the percent difference criterion in the opening continuing calibration check acquisition. With the exception of that for 1,4-dioxane-d8 in the calibration check acquisition identified as VSTD050M1 and that for 1,4-dioxane in the calibration check acquisition identified as VSTD050C1, the response for each target analyte met the 50.0 percent difference criterion in the closing calibration check acquisition. In the VSTD050M1 acquisition, the change in the response for 1,4-dioxane-d8, relative to the average response in the initial calibration, represented a 50.7 percent difference. The acquisition did not meet the technical acceptance criteria for a compliant closing calibration check acquisition. The laboratory did acquire a second calibration check standard (VSTD050M2) immediately after the referenced closing calibration check in order to assess instrument performance. That acquisition exhibited a similar performance issue relative to 1,4-dioxane-d8, however the percent difference value for 1,4-dioxane-d8 in that analysis did meet the 50.0 percent difference criterion (30.8 percent). Based on the relative reproducibility of the performance issue, the laboratory did not pursue a further analysis of the samples. This was coordinated with the NJDEP Contract Manager. The documentation of the follow-up acquisition (VSTD050M2) is formally included in this submittal. In the VSTF050C1 acquisition, the change in the response for 1,4-dioxane, relative to the average response in the initial calibration, represented a 61.3 percent difference. The laboratory did queue the acquisition of a second calibration check standard immediately after the referenced closing calibration check to assess instrument performance. That acquisition did not occur, as the result of a failure in the autosampler sequence. In each of the acquisitions associated with the initial calibration and the calibration checks, the responses for 1,4-dioxane and 1,4-dioxane-d8 did not meet the minimum response factor criterion of 0.005. The issue of low response is one that is specific to these compounds, and relates to an over-estimation of their

performance as written into the SOM01.2 Statement of Work. The laboratory has brought the issue to the attention of the Contract Manager, and the NJDEP is awaiting resolution of the technical specifications by the USEPA.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following details the column type and trap design that were used in the performance of the analytical work:

Chromatographic Column - J&W DB-624
Length - 75 meters
Inner Diameter - 0.53 millimeters
Film Thickness - 3.0 micrometers

Trap Design - Supelco (K Type) VOCARB 3000
Length - 29.5 centimeters

A summary of the method detection limit study that was performed by the laboratory for the method of analysis follows this summary.

A summary of the method detection limit study that was performed by the laboratory for the method of analysis follows this summary.

(10.0119 ug analyte / Lpurge) x (5.0 mL purge /0.100 mL extract) x (5.0 mL extract /5.0 gm sample-wet) x (100 gm sample-wet /100 gm sample-dry) x (1.0 L purge /1000 mL purge) x (100 gm sample-wet /100 gm sample-dry) x (1000 gm sample-dry /1.0 Kg sample-dry) = 505.9500 ug analyte /Kg sample-dry (expressed as 510 ug/Kg on the Form I Summary)

SOM01.2 (Semivolatile Organics - Non-Aqueous)

The samples were extracted using the ultrasonic extraction procedure. The required gel permeation chromatography clean-up was applied to the preparation of the sample extracts.

The extract of each sample in the sample set was analyzed without a dilution. Each of the analyses associated with the samples in the sample set exhibited an acceptable internal standard performance. Each deuterated monitoring compound (DMC) exhibited an acceptable recovery performance in the analysis of the method blank associated with the analytical work, and in the analysis of each field sample. Matrix spike and matrix spike duplicate analyses were performed on sample U1C. Those analyses were performed without a dilution, consistent with the analysis of the parent sample. There was an acceptable recovery of each spiked analyte in both the matrix spike and the matrix spike duplicate analysis. With the exception of that for pentachlorophenol, there was an acceptable correlation of the results of the matrix spike and matrix spike duplicate analyses in the interanalysis comparison. The results for pentachlorophenol did yield a high relative percent difference value in

the interanalysis comparison. The analysis of the method blank associated with the analytical work was free of analyte contamination.

The responses for each target analyte met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the percent difference criterion in each opening/continuing calibration check acquisitions. The response for each target analyte met 50.0 percent difference criterion in each closing calibration check acquisition.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following is a table of the chromatographic columns that were used in the performance of the work:

Chromatographic Column - Restek Rxi-5ms
Length - 30 meters
Inner Diameter - 0.25 millimeters
Film Thickness - 0.25 micrometers

As defined by their performance in the MDL studies that were completed by the laboratory, specific to the SOM01.2 methods of analysis, the performance of the alternate columns was documented as being comparable to those specified in the methods. This assessment is based on the ability of the alternate columns to meet the specified technical acceptance criteria.

A summary of the validated method detection limit study that was performed by the laboratory for this method of analysis immediately follows this summary.

The following is an example calculation for deriving a result from the GC/MS quantitation report for a soil sample:

(16.6201 ng analyte /2.0 uL extract) x (1000 uL extract /30.0 gm sample-wet) x (1.0 ug analyte /1000 ng analyte) x (100 gm sample-wet /100 gm sample-dry) x (1000 gm sample-dry /1.0 Kg sample-dry) = 277.002 ug analyte /Kg sample-dry (expressed as 280 ug/Kg on the Form I Summary)

SOM01.2 (Chlorinated Pesticides - Non-Aqueous)

The samples were extracted using the ultrasonic extraction procedure. The applied clean-ups included the required gel permeation chromatography and florisil cartridge clean-ups, and an additional clean-up for the removal of sulfur using activated copper.

An additional, dilution analysis was performed on the extract of sample B2B in order to provide for quantification within the range of calibrated instrument response. Both sets of results for the analysis of sample B2B are included in this submittal.

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There was an acceptable recovery performance of the surrogate controls in each of the analyses associated with the sample set. Matrix spike and matrix spike duplicate analyses were performed on sample U1C. Those analyses were performed without a dilution, consistent with the analysis of the parent sample. There was an acceptable recovery of the spiked analytes in each analysis, on each column that was used in the performing the analytical work. For each spiked analyte, there was an acceptable correlation of the results in the interanalysis comparisons. A laboratory control sample was prepared and analyzed in association with the samples in each of the three extraction sets. There was an acceptable recovery performance of each spiked analyte in each of those analyses, on each of the two columns. The analysis of each method blank associated with the analytical work was free of analyte contamination.

The responses for each target analyte met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the technical acceptance criteria in each performance check and calibration check acquisition.

Peak height was used for the calibration and quantification in the chlorinated pesticides analysis, and the laboratory used hydrogen as a carrier gas in the performance of the analytical work.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and the chromatographic profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following is a table of the chromatographic columns that were used in the performance of the analytical work.

Manufacturer	Restek	Restek
Column Type	RTX-CLP	RTX-CLPII
Length	30m	30m
Inner Dia.	0.32mm	0.32mm
Film Thickness	0.50um	0.25um

As defined by their performance in the MDL study that was completed by the laboratory, specific to the SOM01.2 method of analysis, the performance of the alternate columns was documented as being comparable to those specified in the method. This assessment is based on the ability of the alternate columns to meet the specified technical acceptance criteria.

A summary of the validated method detection limit study that was performed by the laboratory for this method of analysis immediately follows this summary.

The following is an example calculation for deriving a result from the GC/ECD quantitation report for a soil sample:

0.02411941 ng analyte /1.0 uL extract x (10000 uL extract /30.0 gm sample-wet) x (1.0 ug analyte /1000 ng analyte) x (100 gm sample-wet /100 gm sample-dry) x (1000 gm sample-dry /1.0 Kg sample-dry) = 8.0398 ug analyte /Kg sample-dry (expressed as 8.0 ug/Kg on the Form I Summary)

ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625

SOM01.2 (Aroclor PCBs - Non-Aqueous)

The samples were extracted using the ultrasonic extraction procedure. The applied clean-ups included the required sulfuric acid clean-up, and an additional clean-up for the removal of sulfur using activated copper.

The extract of sample B2B was analyzed at a dilution in order to provide quantification within the range of calibrated instrument response. The dilution that was made was based on the results of preliminary screening. An additional, more concentrated analysis was performed on the extract of sample B2B in order to provide a lower reporting limit for those Aroclor PCBs that were not identified in the primary analysis. Both sets of results for the analysis of sample B2B are included in this submittal.

There was an acceptable recovery performance of the surrogate controls in each of the analyses associated with the sample set. Matrix spike and matrix spike duplicate analyses were performed on sample U1C, using Aroclor 1016 and Aroclor 1260 as the spiked components. Those analyses were performed without a dilution, consistent with the analysis of the parent sample. There was an acceptable recovery of each spiked component in each of the analyses, on each column that was used in the performing the analytical work. For each component, there was an acceptable correlation of the results in each of the interanalysis comparisons. A laboratory control sample was prepared and analyzed in association with the samples in each of the two extraction sets, using Aroclor 1016 and Aroclor 1260 as the spiked constituents. There was an acceptable recovery of each spiked Aroclor mixture in each of those analyses, on each of the two columns. The analysis of each method blank associated with the analytical work was free of analyte contamination.

The responses for each target analyte met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the technical acceptance criteria in each calibration check acquisition.

Peak height was used for the calibration and quantification in the Aroclor PCB analysis, and the laboratory used hydrogen as a carrier gas in the performance of the analytical work.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and the chromatographic profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following is a table of the chromatographic columns that were used in the performance of the analytical work.

Manufacturer	Restek	Restek
Column Type	RTX-5	RTX-35
Length	30m	30m
Inner Dia.	0.25mm	0.25mm
Film Thickness	0.25um	0.25um

As defined by their performance in the MDL study that was completed by the laboratory, specific to the SOM01.2 method of analysis, the performance of the alternate columns was documented as being comparable to those specified in the method. This assessment is based on the ability of the alternate columns to meet the

ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625

specified technical acceptance criteria.

A summary of the validated method detection limit study that was performed by the laboratory for this method of analysis immediately follows this summary.

The following is an example calculation for deriving a result from the GC/ECD quantitation report for a soil sample for one of the responses for a particular Aroclor:

0.33969753 ng analyte /1.0 uL extract x (10000 uL extract /30.0 gm sample-wet) x (1.0 ug analyte /1000 ng analyte) x (100 gm sample-wet /100 gm sample-dry) x (1000 gm sample-dry /1.0 Kg sample-dry) = 113.23251 ug analyte /Kg sample-dry (expressed as 110 ug/Kg on the Form X Summary)

ILM05.4 (Trace Metals and Mercury - Non-Aqueous)

Matrix spike and replicate analyses were performed on sample U1C for each of the test parameters. The matrix spike analysis did yield a low recovery of antimony (24 percent). A post digestion spike analysis was performed on the digestate of sample U1C, specific to an evaluation of antimony, and the recovery of antimony in that analysis was 85 percent. The replicate analyses that were performed on sample U1C did yield results with an acceptable (unqualified) correlation in the interanalysis comparison. Laboratory control samples were prepared and analyzed in association with the samples, and there was an acceptable recovery of the target analyte(s) in those analyses. A serial dilution analysis was performed on the digestate of sample U1C. The results of that analysis gave indication of a possible matrix interference specific to aluminum, barium, cobalt, chromium, iron, magnesium, and manganese. Trace concentrations of calcium, cadmium, chromium, and copper, and negative offsets specific to cobalt, mercury, and sodium were identified in the analysis of the method blanks associated with analytical work. The concentration levels and negative offsets were within the method prescribed tolerances.

Summaries of the method detection limit studies that were performed by the laboratory for the methods of analysis follows this summary.

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on CD/diskette and by electronic e-mail has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

10/21/08

William S. Cicero — Date
Laboratory Director, TestAmerica Burlington

NJDEP FORM A1C (02/26/04)

TestAmerica Burlington - Manual Integration Summary
SDG: mtzsoms Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
VSTD2.5TZ	VSTD2.5TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 11:46	MTZ005V	
	2.621	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 13:23	MRV 9/24/08
VSTD005TZ	VSTD005TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 12:14	MTZ010V	
	2.617	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 13:24	MRV 9/24/08
VSTD050TZ	VSTD050TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 13:23	MTZ100V	
	2.605	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 14:15	MRV 9/24/08

Summary Generated: jdl 09/24/2008 09:55 Secondary Review(1): JRD | 09/24/08 Secondary Review(2): _____ | _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
VSTD2.5TZ	VSTD2.5TZ	INIT. CALIB.	M DB-624	23-SEP-2008 11:46	MTZ005V	
	2.621	Dichlorodifluoromethane	MI1 - Poor automated baseline	mrv 09/23/08 13:23		
VSTD005TZ	VSTD005TZ	INIT. CALIB.	M DB-624	23-SEP-2008 12:14	MTZ010V	
	2.617	Dichlorodifluoromethane	MI1 - Poor automated baseline	mrv 09/23/08 13:24		
VSTD050TZ	VSTD050TZ	INIT. CALIB.	M DB-624	23-SEP-2008 13:23	MTZ100V	
	2.605	Dichlorodifluoromethane	MI1 - Poor automated baseline	mrv 09/23/08 14:15	cmp 10/16/08	
VSTD025B1	VSTD025B1	CONT. CALIB.	M DB-624	25-SEP-2008 10:26	MTZ50BV	
	2.617	Dichlorodifluoromethane	MI1 - Poor automated baseline	jd1 10/14/08 10:58	JPD 10/16/08	

Summary Generated: cmp 10/16/2008 11:17 Secondary Review(1): cmp | 10/16/08 Secondary Review(2): _____ | _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: mubsomm Fraction: Volatile

===== Instrument M - No Manual Integrations =====

CMP
10/13/08

Summary Generated: jdl 10/12/2008 16:42 Secondary Review(1): _____|_____ Secondary Review(2): _____|_____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: mucsomm Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
VSTD200UC	VSTD200UC	INIT. CALIB.	M DB-624	27-SEP-2008 04:14	MUC200V	
	2.582	Dichlorodifluoromethane	MI2 - Peak missed	jd1 10/06/08 09:22	JPD 10/06/08	
	3.754	Chloroethane	MI3 - Mis-identification of peak	jd1 10/06/08 09:22	JPD 10/06/0	

Summary Generated: jd1 10/06/2008 09:54 Secondary Review(1): CMP | 10/07/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
VBLKJ1	VBLKJ1	BLANK	M	DB-624	25-SEP-2008 20:33	MUBB04
	$ 3.702	Chloroethane-d5	MI1 - Poor automated baseline	jd1 10/15/08 09:19	JPD 10/17/08	
768412	B2B	SAMPLE	M	DB-624	25-SEP-2008 23:21	768412ED
	$ 3.614	Chloroethane-d5	MI1 - Poor automated baseline	cmp 10/16/08 07:53	cmp 10/16/08	
768416MS	U2CMS	MS	M	DB-624	26-SEP-2008 00:45	768416M
	$ 3.602	Chloroethane-d5	MI2 - Peak missed	cmp 10/16/08 13:14	cmp 10/16/08	
VSTD050M1	VSTD050M1	CONT. CALIB.	M	DB-624	26-SEP-2008 03:34	MUB50C1
	3.634	Chloroethane	MI1 - Poor automated baseline	jd1 10/15/08 09:04	JPD 10/17/08	
	4.002	Trichlorofluoromethane	MI1 - Poor automated baseline	jd1 10/15/08 09:05		
VSTD050M2	VSTD050M2	CONT. CALIB.	M	DB-624	26-SEP-2008 04:02	MUB50C2
	3.631	Chloroethane	MI1 - Poor automated baseline	jd1 10/15/08 09:06		
	3.998	Trichlorofluoromethane	MI1 - Poor automated baseline	jd1 10/15/08 09:06		
~~VSTD200UC~~	VSTD200UC	INIT. CALIB.	M	DB-624	27-SEP-2008 04:14	MUC200V
	2.582	Dichlorodifluoromethane	MI2 - Peak missed	jd1 10/06/08 09:22		
	3.754	Chloroethane	MI3 - Mis-identification of peak	jd1 10/06/08 09:22		
VBLKK1	VBLKK1	BLANK	M	DB-624	27-SEP-2008 05:38	MUCB05
	$ 3.718	Chloroethane-d5	MI1 - Poor automated baseline	cmp 10/16/08 14:21	cmp 10/16/08	
768917	T1C	SAMPLE	M	DB-624	27-SEP-2008 09:24	768917E
	$ 3.022	Vinyl chloride-d3	MI1 - Poor automated baseline	cmp 10/16/08 14:26	cmp 10/16/08	
	11.259	Toluene	MI3 - Mis-identification of peak	cmp 10/16/08 14:28	cmp 10/16/08	

Summary Generated: cmp 10/16/2008 15:28 Secondary Review(1): cmp | 10/16/08 Secondary Review(2): JPD | 10/16/08 Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
VSTD050C1	VSTD050C1	CONT. CALIB.	M DB-624	27-SEP-2008 10:20	MUC50C1	
	2.598	Dichlorodifluoromethane	Not specified	mrv 09/29/08 08:21		
	$ 3.595	Chloroethane-d5	Not specified	mrv 09/29/08 08:22		
	3.630	Chloroethane	MI1 - Poor automated baseline	mrv 09/29/08 08:22		
VSTD050B1	VSTD050B1	CONT. CALIB.	M DB-624	01-OCT-2008 11:04	MUC50BV	
	3.036	Vinyl chloride	MI1 - Poor automated baseline	jd1 10/15/08 09:40	JPD 10/17/08	
	$ 3.124	Vinyl chloride-d3	MI1 - Poor automated baseline	jd1 10/15/08 09:40		
	3.980	Trichlorofluoromethane	MI1 - Poor automated baseline	jd1 10/15/08 09:40		
VBLKK9	VBLKK9	BLANK	M DB-624	01-OCT-2008 12:18	MUCB03	
	$ 3.735	Chloroethane-d5	MI1 - Poor automated baseline	jd1 10/15/08 09:41		
768417M1	VHBLKM1	SAMPLE	M DB-624	01-OCT-2008 15:23	768417E	
	$ 3.598	Chloroethane-d5	MI2 - Peak missed	cmp 10/16/08 14:57	CMP 10/16/08	
VSTD050B2	VSTD050B2	CONT. CALIB.	M DB-624	01-OCT-2008 16:27	MUC50BC1	
	$ 3.596	Chloroethane-d5	MI1 - Poor automated baseline	jd1 10/15/08 09:38	JPD 10/17/08	
	3.999	Trichlorofluoromethane	MI1 - Poor automated baseline	jd1 10/15/08 09:39		

Summary Generated: cmp 10/16/2008 15:28 Secondary Review(1): CMP | 10/16/08 Secondary Review(2): JPD | 10/16/08

TestAmerica Burlington - Manual Integration Summary
SDG: RFD-ICAL_SOM1.2 Fraction: Semivolatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename		
	Peak RT	Compound			Manual Integration Flag		Analyst Date-Time	Sign-Off
SSTD080FD	SSTD080FD	INIT. CALIB.		R Rxi-5ms	12-SEP-2008 11:42	RFD160		
	11.076	Acenaphthene-d10			MI3 - Mis-identification of peak		je 09/16/08 08:06	09/16/08
SSTD020FD	SSTD020FD	INIT. CALIB.		R Rxi-5ms	12-SEP-2008 12:54	RFD040		
	18.426	Perylene-d12			MI1 - Poor automated baseline		je 09/16/08 08:12	09/16/08
SSTD005FD	SSTD005FD	INIT. CALIB.		R Rxi-5ms	12-SEP-2008 14:05	RFD010		
	19.999	Indeno(1,2,3-cd)pyrene			MI1 - Poor automated baseline		je 09/16/08 08:11	09/16/08

Summary Generated: je 09/16/2008 08:55 Secondary Review(1): DJB | 09/16/08 Secondary Review(2): _____ | _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: Semivolatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
SSTD080FD	SSTD080FD	INIT. CALIB.	R Rxi-5ms	12-SEP-2008 11:42	RFD160	
	11.076	Acenaphthene-d10	MI3 - Mis-identification of peak	je 09/16/08 08:06		
SSTD020FD	SSTD020FD	INIT. CALIB.	R Rxi-5ms	12-SEP-2008 12:54	RFD040	
	18.426	Perylene-d12	MI1 - Poor automated baseline	je 09/16/08 08:12		
SSTD005FD	SSTD005FD	INIT. CALIB.	R Rxi-5ms	12-SEP-2008 14:05	RFD010	
	19.999	Indeno(1,2,3-cd)pyrene	MI1 - Poor automated baseline	je 09/16/08 08:11		
768416	U2C	SAMPLE	R Rxi-5ms	01-OCT-2008 18:07	768416	
	8.845	2-Methylnaphthalene	MI3 - Mis-identification of peak	je 10/13/08 16:20		
	11.023	Fluorene	MI2 - Peak missed	je 10/13/08 16:21		
	$ 11.167	4,6-Dinitro-2methylphenol-d2	MI1 - Poor automated baseline	je 10/13/08 16:21		

Summary Generated: je 10/15/2008 15:28 Secondary Review(1): DJB | 10/16/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 18SEP081150 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
TOXAPH1L1	TOXAPH1L1	INIT. CALIB.	0825_1 RTX-CLP	18-SEP-2008 14:09	18SE081150-R061	
	4.801	Toxaphene	MI1 - Poor automated baseline	alw 09/19/08 07:16	ALW 9/19/08	
TOXAPH2L1	TOXAPH2L1	INIT. CALIB.	0825_1 RTX-CLP	18-SEP-2008 14:21	18SE081150-R071	
	4.804	Toxaphene	MI1 - Poor automated baseline	alw 09/19/08 07:16	ALW 9/19/08	
	$ 6.087	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 09/19/08 07:16	ALW 9/19/08	

Summary Generated: alw 09/19/2008 11:59 Secondary Review(1): JB3 | 9/22/08 Secondary Review(2): _____ | _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
768412	B2B	SAMPLE	0825_1 RTX-CLP		26-SEP-2008 14:49	26SE081250-R091

Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off
$ 2.536	Tetrachloro-m-xylene	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
2.968	alpha-BHC	MI1 - Poor automated baseline	ktl 10/08/08 11:28	KL 10/8/08
3.214	gamma-BHC (Lindane)	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
3.278	beta-BHC	MI1 - Poor automated baseline	alw 10/03/08 11:44	AW 10/8/08
3.400	delta-BHC	MI1 - Poor automated baseline	alw 09/29/08 10:38	AW 10/8/08
3.538	Heptachlor	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
3.766	Aldrin	MI1 - Poor automated baseline	ktl 10/05/08 09:37	KL 10/8/08
4.158	Heptachlor epoxide	MI1 - Poor automated baseline	ktl 10/05/08 09:38	KL 10/8/08
4.316	alpha-Chlordane	MI1 - Poor automated baseline	alw 10/01/08 09:42	AW 10/8/08
4.345	4,4'-DDE	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
4.396	Endosulfan I	MI1 - Poor automated baseline	alw 09/29/08 10:42	AW 10/8/08
4.533	Dieldrin	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
4.662	Endrin	MI1 - Poor automated baseline	ktl 10/08/08 11:47	KL 10/8/08
4.706	4,4'-DDD	MI1 - Poor automated baseline	ktl 10/08/08 11:49	KL 10/8/08
4.835	Endosulfan II	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
4.872	4,4'-DDT	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
5.087	Endrin aldehyde	MI1 - Poor automated baseline	alw 09/29/08 10:03	AW 10/8/08
5.163	Methoxychlor	MI1 - Poor automated baseline	alw 09/29/08 09:52	AW 10/8/08
5.322	Endosulfan sulfate	MI1 - Poor automated baseline	alw 09/29/08 09:53	AW 10/8/08

Summary Generated: ktl 10/08/2008 12:19 Secondary Review(1): KL | 10/8/08 Secondary Review(2): AW | 10/8/08

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename

	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off
768412D1	B2BDL	SAMPLE 0825_1 RTX-CLP	26-SEP-2008 15:47 26SE081250-R141		
	$ 2.516	Tetrachloro-m-xylene	MI1 - Poor automated baseline	alw 09/29/08 10:00	AlW 10/8/08
	3.194	gamma-BHC (Lindane)	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	3.261	beta-BHC	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	3.376	delta-BHC	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	3.520	Heptachlor	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	3.748	Aldrin	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	4.139	Heptachlor epoxide	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	4.327	4,4'-DDE	MI1 - Poor automated baseline	alw 10/03/08 12:10	AlW 10/8/08
	4.642	Endrin	MI1 - Poor automated baseline	ktl 10/08/08 11:45	KL 10/8/08
	4.859	4,4'-DDT	MI1 - Poor automated baseline	alw 10/03/08 12:12	AlW 10/8/08
	5.041	Endrin aldehyde	MI1 - Poor automated baseline	alw 10/03/08 12:13	AlW 10/8/08
	5.457	Endrin ketone	MI1 - Poor automated baseline	alw 09/29/08 09:59	AlW 10/8/08
	$ 6.069	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 09/29/08 10:01	AlW 10/8/08
768919	U3C	SAMPLE 0825_1 RTX-CLP	29-SEP-2008 14:19 29SE081301-R061		
	$ 2.534	Tetrachloro-m-xylene	MI1 - Poor automated baseline	alw 10/03/08 08:22	AlW 10/8/08
	3.199	gamma-BHC (Lindane)	MI1 - Poor automated baseline	ktl 10/05/08 10:04	KL 10/8/08
	3.276	beta-BHC	MI1 - Poor automated baseline	ktl 10/05/08 10:03	KL 10/8/08
	3.398	delta-BHC	MI1 - Poor automated baseline	ktl 10/05/08 10:03	KL 10/8/08
	3.544	Heptachlor	MI1 - Poor automated baseline	alw 10/03/08 09:39	AlW 10/8/08
	4.351	4,4'-DDE	MI1 - Poor automated baseline	alw 10/03/08 08:22	AlW 10/8/08
	4.405	Endosulfan I	MI1 - Poor automated baseline	alw 10/03/08 08:22	AlW 10/8/08
	4.881	4,4'-DDT	MI1 - Poor automated baseline	alw 10/03/08 08:22	AlW 10/8/08

Summary Generated: ktl 10/08/2008 12:19 Secondary Review(1): KL | 10/8/08 Secondary Review(2): AlW | 10/8/08

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
768920	U4C	SAMPLE	0825_1 RTX-CLP	29-SEP-2008 14:30	29SE081301-R071	
	3.276	beta-BHC	MI1 - Poor automated baseline	ktl 10/05/08 10:06	Ku 10/8/08	
	3.405	delta-BHC	MI1 - Poor automated baseline	ktl 10/05/08 10:06	Ku 10/8/08	
	3.549	Heptachlor	MI3 - Mis-identification of peak	alw 10/03/08 10:17	AW 10/8/08	
	4.216	gamma-Chlordane	MI1 - Poor automated baseline	alw 10/03/08 10:21	AW 10/8/08	
	4.347	4,4'-DDE	MI1 - Poor automated baseline	alw 10/03/08 10:23	AW 10/8/08	
	4.405	Endosulfan I	MI1 - Poor automated baseline	ktl 10/05/08 10:10	Ku 10/8/08	
	4.695	Endrin	MI3 - Mis-identification of peak	ktl 10/05/08 10:09	Ku 10/8/08	
	4.713	4,4'-DDD	MI2 - Peak missed	alw 10/03/08 10:24	AW 10/8/08	
	4.881	4,4'-DDT	MI1 - Poor automated baseline	alw 10/03/08 08:24	AW 10/8/08	
	$ 6.085	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 10/03/08 08:25	AW 10/8/08	
768921	U5C	SAMPLE	0825_1 RTX-CLP	29-SEP-2008 14:42	29SE081301-R081	
	3.174	gamma-BHC (Lindane)	MI3 - Mis-identification of peak	ktl 10/07/08 09:09	Ku 10/8/08	
INDC3L9	INDC3L9	CONT. CALIB.	0825_1 RTX-CLP	29-SEP-2008 16:37	29SE081301-R181	
	4.653	Endrin	MI3 - Mis-identification of peak	alw 10/06/08 10:04	AW 10/8/08	
	4.688	4,4'-DDD	MI3 - Mis-identification of peak	alw 10/06/08 10:04	AW 10/8/08	

Summary Generated: ktl 10/08/2008 12:19 Secondary Review(1): Ku | 10/8/08 Secondary Review(2): AW | 10/8/08

TestAmerica Burlington - Manual Integration Summary
SDG: 18SEP081150 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
TOXAPH1L1	TOXAPH1L1	INIT. CALIB.	0825_2	RTX-CLPII	18-SEP-2008 14:09	18SE081150-R061
	5.513	Toxaphene	MI3 - Mis-identification of peak	alw 09/19/08 12:38	AlW 9/19/08	
TOXAPH2L1	TOXAPH2L1	INIT. CALIB.	0825_2	RTX-CLPII	18-SEP-2008 14:21	18SE081150-R071
	5.515	Toxaphene	MI3 - Mis-identification of peak	alw 09/19/08 08:26	AlW 9/19/08	
	$ 7.111	Decachlorobiphenyl	MI3 - Mis-identification of peak	alw 09/19/08 08:25	AlW 9/19/08	
TOXAPH3L1	TOXAPH3L1	INIT. CALIB.	0825_2	RTX-CLPII	18-SEP-2008 14:33	18SE081150-R081
	5.500	Toxaphene	MI1 - Poor automated baseline	alw 09/19/08 08:20	AlW 9/19/08	
	$ 7.091	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 09/19/08 08:20	AlW 9/19/08	
TOXAPH4L1	TOXAPH4L1	INIT. CALIB.	0825_2	RTX-CLPII	18-SEP-2008 14:44	18SE081150-R091
	5.508	Toxaphene	MI3 - Mis-identification of peak	alw 09/19/08 08:26	AlW 9/19/08	
TOXAPH5L1	TOXAPH5L1	INIT. CALIB.	0825_2	RTX-CLPII	18-SEP-2008 14:56	18SE081150-R101
	5.519	Toxaphene	MI3 - Mis-identification of peak	alw 09/19/08 08:36	AlW 9/19/08	
	$ 7.111	Decachlorobiphenyl	MI3 - Mis-identification of peak	alw 09/19/08 08:28	AlW 9/19/08	
INDC4L1	INDC4L1	INIT. CALIB.	0825_2	RTX-CLPII	18-SEP-2008 15:42	18SE081150-R141
	5.624	Endrin aldehyde	MI3 - Mis-identification of peak	alw 09/19/08 08:36	AlW 9/19/08	

Summary Generated: alw 09/19/2008 12:55 Secondary Review(1): JB3 | 9/22/08 Secondary Review(2): _____ | _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off

768412	B2B	SAMPLE	0825_2 RTX-CLPII	26-SEP-2008 14:49	26SE081250-R091		
	$ 3.019	Tetrachloro-m-xylene		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	3.496	alpha-BHC		MI1 - Poor automated baseline	ktl 10/08/08 11:28	KL 10/8/08
	3.766	gamma-BHC (Lindane)		MI1 - Poor automated baseline	alw 10/01/08 09:29	AW 10/8/08
	3.835	beta-BHC		MI1 - Poor automated baseline	ktl 10/05/08 09:32	KL 10/8/08
	4.006	delta-BHC		MI1 - Poor automated baseline	ktl 10/05/08 09:35	KL 10/8/08
	4.094	Heptachlor		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	4.307	Aldrin		MI1 - Poor automated baseline	alw 10/01/08 09:37	AW 10/8/08
	4.668	Heptachlor epoxide		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	4.910	alpha-Chlordane		MI1 - Poor automated baseline	alw 10/03/08 11:53	AW 10/8/08
	4.923	Endosulfan I		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	4.999	4,4'-DDE		MI1 - Poor automated baseline	alw 10/01/08 09:41	AW 10/8/08
	5.125	Dieldrin		MI1 - Poor automated baseline	alw 10/01/08 09:43	AW 10/8/08
	5.307	Endrin		MI1 - Poor automated baseline	ktl 10/05/08 09:50	KL 10/8/08
	5.327	4,4'-DDD		MI1 - Poor automated baseline	alw 09/29/08 10:43	AW 10/8/08
	5.420	Endosulfan II		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	5.531	4,4'-DDT		MI1 - Poor automated baseline	ktl 10/05/08 09:46	KL 10/8/08
	5.624	Endrin aldehyde		MI1 - Poor automated baseline	ktl 10/08/08 12:17	KL 10/8/08
	5.783	Endosulfan sulfate		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	5.912	Methoxychlor		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
	6.147	Endrin ketone		MI1 - Poor automated baseline	ktl 10/05/08 09:43	KL 10/8/08
	$ 7.107	Decachlorobiphenyl		MI1 - Poor automated baseline	alw 09/29/08 10:12	AW 10/8/08
768415	U1C	SAMPLE	0825_2 RTX-CLPII	26-SEP-2008 15:00	26SE081250-R101		
	$ 7.093	Decachlorobiphenyl		MI1 - Poor automated baseline	alw 09/29/08 10:15	AW 10/8/08

Summary Generated: ktl 10/08/2008 12:19 Secondary Review(1): KL | 10/8/08 Secondary Review(2): AW | 10/8/08

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off

768412D1	B2BDL	SAMPLE	0825_2 RTX-CLPII	26-SEP-2008 15:47	26SE081250-R141	
	$ 3.008	Tetrachloro-m-xylene	MI1 - Poor automated baseline	alw 09/29/08 10:18	AW 10/8/08
	3.762	gamma-BHC (Lindane)	MI1 - Poor automated baseline	alw 09/29/08 10:54	AW 10/8/08
	3.830	beta-BHC	MI1 - Poor automated baseline	alw 09/29/08 10:18	AW 10/8/08
	3.999	delta-BHC	MI1 - Poor automated baseline	ktl 10/05/08 09:34	KL 10/8/08
	4.088	Heptachlor	MI1 - Poor automated baseline	ktl 10/05/08 09:34	KL 10/8/08
	4.303	Aldrin	MI1 - Poor automated baseline	alw 10/01/08 10:00	AW 10/8/08
	4.662	Heptachlor epoxide	MI1 - Poor automated baseline	alw 09/29/08 10:18	AW 10/8/08
	4.990	4,4'-DDE	MI1 - Poor automated baseline	alw 09/29/08 10:18	AW 10/8/08
	5.298	Endrin	MI1 - Poor automated baseline	ktl 10/05/08 09:49	KL 10/8/08
	5.522	4,4'-DDT	MI1 - Poor automated baseline	ktl 10/05/08 09:46	KL 10/8/08
	5.593	Endrin aldehyde	MI1 - Poor automated baseline	ktl 10/05/08 09:45	KL 10/8/08
	6.138	Endrin ketone	MI1 - Poor automated baseline	alw 09/29/08 10:19	AW 10/8/08
	$ 7.098	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 09/29/08 10:19	AW 10/8/08
768919	U3C	SAMPLE	0825_2 RTX-CLPII	29-SEP-2008 14:19	29SE081301-R061	
	$ 3.017	Tetrachloro-m-xylene	MI1 - Poor automated baseline	alw 10/03/08 08:34	AW 10/8/08
	3.779	gamma-BHC (Lindane)	MI1 - Poor automated baseline	ktl 10/05/08 10:04	KL 10/8/08
	3.833	beta-BHC	MI1 - Poor automated baseline	alw 10/03/08 08:34	AW 10/8/08
	4.043	delta-BHC	MI1 - Poor automated baseline	ktl 10/05/08 10:03	KL 10/8/08
	4.101	Heptachlor	MI1 - Poor automated baseline	ktl 10/05/08 10:02	KL 10/8/08
	4.950	Endosulfan I	MI1 - Poor automated baseline	ktl 10/05/08 10:01	KL 10/8/08
	4.976	4,4'-DDE	MI1 - Poor automated baseline	alw 10/03/08 08:33	AW 10/8/08
	5.533	4,4'-DDT	MI1 - Poor automated baseline	ktl 10/05/08 10:00	KL 10/8/08
	$ 7.104	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 10/03/08 08:33	AW 10/8/08
768920	U4C	SAMPLE	0825_2 RTX-CLPII	29-SEP-2008 14:30	29SE081301-R071	
	$ 3.017	Tetrachloro-m-xylene	MI1 - Poor automated baseline	alw 10/03/08 08:37	AW 10/8/08
	3.833	beta-BHC	MI1 - Poor automated baseline	alw 10/03/08 08:37	AW 10/8/08
	4.096	Heptachlor	MI3 - Mis-identification of peak	ktl 10/05/08 10:06	KL 10/8/08
	4.950	Endosulfan I	MI1 - Poor automated baseline	ktl 10/05/08 10:10	KL 10/8/08
	5.531	4,4'-DDT	MI1 - Poor automated baseline	ktl 10/05/08 10:09	KL 10/8/08

Summary Generated: ktl 10/08/2008 12:19 Secondary Review(1): KL | 10/8/08 Secondary Review(2): AW | 10/8/08

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
768921	U5C	SAMPLE	0825_2	RTX-CLPII	29-SEP-2008 14:42	29SE081301-R081
	$ 7.098	Decachlorobiphenyl	MI1 - Poor automated baseline	alw 10/03/08 08:41	ALW 10/8/08	
INDC3L9	INDC3L9	CONT. CALIB.	0825_2	RTX-CLPII	29-SEP-2008 16:37	29SE081301-R181
	5.273	Endrin	MI3 - Mis-identification of peak	alw 10/06/08 10:19	ALW 10/8/08	
	5.309	4,4'-DDD	MI3 - Mis-identification of peak	alw 10/06/08 10:18	KTL 10/8/08	

Summary Generated: ktl 10/08/2008 12:19 Secondary Review(1): KL | 10/8/08 Secondary Review(2): ALW | 10/8/08.

TestAmerica Burlington - Manual Integration Summary
SDG: 08OCT082003 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename	
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
AR12543G3	AR12543G3	CONT. CALIB.	5253_1	RTX-5	08-OCT-2008 21:43	08OCT082003-R051	
	11.644	Aroclor-1254			MI1 - Poor automated baseline	dpd 10/08/08 22:24	JLB for DPD 10/7/08

Summary Generated: ktl 10/17/2008 09:10 Secondary Review(1): LMT 10/17/08 Secondary Review(2): _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 07OCT082144 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
AR12424G1	AR12424G1	INIT. CALIB.	5253_1 RTX-5	08-OCT-2008 00:58	07OCT082144-R091	
	7.506	Aroclor-1242	MI1 - Poor automated baseline	dpd 10/08/08 16:50	DPD 10/8/08	
AR12485G1	AR12485G1	INIT. CALIB.	5253_1 RTX-5	08-OCT-2008 03:21	07OCT082144-R151	
	7.512	Aroclor-1248	MI1 - Poor automated baseline	dpd 10/08/08 16:48	DPD 10/8/08	
AR12544G1	AR12544G1	INIT. CALIB.	5253_1 RTX-5	08-OCT-2008 04:56	07OCT082144-R191	
	11.651	Aroclor-1254	MI1 - Poor automated baseline	dpd 10/08/08 16:48	DPD 10/8/08	
AR16605G1	AR16605G1	INIT. CALIB.	5253_1 RTX-5	08-OCT-2008 08:29	07OCT082144-R281	
	7.510	Aroclor-1016	MI1 - Poor automated baseline	dpd 10/08/08 16:47	DPD 10/8/08	
	13.801	Aroclor-1260	MI1 - Poor automated baseline	dpd 10/08/08 16:47	DPD 10/8/08	

Summary Generated: dpd 10/08/2008 23:43 Secondary Review(1): SMZ | 10/9/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
768919	U3C	SAMPLE	5253_1	RTX-5	08-OCT-2008 10:28	07OCT082201-R031
	$ 6.049	Tetrachloro-m-xylene	MI1 - Poor automated baseline	ktl 10/16/08 09:59	KTL 10/16/08	
	11.669	Aroclor-1254	MI3 - Mis-identification of peak	ktl 10/16/08 10:03	KTL 10/16/08	
768920	U4C	SAMPLE	5253_1	RTX-5	08-OCT-2008 10:52	07OCT082201-R041
	$ 6.047	Tetrachloro-m-xylene	MI1 - Poor automated baseline	ktl 10/16/08 10:05	KTL 10/16/08	
	7.521	Aroclor-1242	MI3 - Mis-identification of peak	ktl 10/16/08 10:05	KTL 10/16/08	
	11.669	Aroclor-1254	MI3 - Mis-identification of peak	ktl 10/16/08 10:05	KTL 10/16/08	
	13.816	Aroclor-1260	MI1 - Poor automated baseline	ktl 10/16/08 10:05	KTL 10/16/08	
	$ 16.700	Decachlorobiphenyl	MI1 - Poor automated baseline	ktl 10/16/08 10:06	KTL 10/16/08	
768412	B2B	SAMPLE	5253_1	RTX-5	09-OCT-2008 04:03	08OCT082158-R161
	$ 6.040	Tetrachloro-m-xylene	MI1 - Poor automated baseline	dpd 10/10/08 18:47	DPD 10/16/08	
	7.521	Aroclor-1242	MI1 - Poor automated baseline	dpd 10/10/08 18:47	DPD 10/16/08	

Summary Generated: ktl 10/16/2008 11:09 Secondary Review(1): LMT 10/17/08 Secondary Review(2): _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 08OCT082003 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time Sign-Off
AR12423G3	AR12423G3	CONT. CALIB.	5253_2	RTX-35	08-OCT-2008 20:55	08OCT082003-R031
	8.539	Aroclor-1242			MI1 - Poor automated baseline	dpd 10/08/08 21:31 JRS-5rDPD 101705

Summary Generated: ktl 10/17/2008 09:10 Secondary Review(1): LMT 10/17/08 Secondary Review(2): _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 07OCT082144 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
AR12545G1	AR12545G1	INIT. CALIB.	5253_2	RTX-35	08-OCT-2008 05:19	07OCT082144-R201
	12.595	Aroclor-1254	MI1 - Poor automated baseline	dpd 10/08/08 20:57	DPD 10/8/08	
AR16605G1	AR16605G1	INIT. CALIB.	5253_2	RTX-35	08-OCT-2008 08:29	07OCT082144-R281
	14.415	Aroclor-1260	MI1 - Poor automated baseline	dpd 10/08/08 20:55	DPD 10/8/08	

Summary Generated: dpd 10/08/2008 23:43 Secondary Review(1): MT | 10/9/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
768919	U3C	SAMPLE	5253_2 RTX-35	08-OCT-2008 10:28	07OCT082201-R031	
	12.615	Aroclor-1254	MI1 - Poor automated baseline	ktl 10/16/08 08:58	KL 10/16/08	
	14.428	Aroclor-1260	MI1 - Poor automated baseline	ktl 10/16/08 08:57	KL 10/16/08	
	$ 17.778	Decachlorobiphenyl	MI1 - Poor automated baseline	ktl 10/16/08 08:57	KL 10/16/08	
768920	U4C	SAMPLE	5253_2 RTX-35	08-OCT-2008 10:52	07OCT082201-R041	
	8.563	Aroclor-1242	MI1 - Poor automated baseline	dpd 10/10/08 18:12	DPD 10/16/08	
	12.613	Aroclor-1254	MI1 - Poor automated baseline	ktl 10/16/08 09:01	KL 10/16/08	
	14.428	Aroclor-1260	MI1 - Poor automated baseline	ktl 10/16/08 09:00	KL 10/16/08	
	$ 17.775	Decachlorobiphenyl	MI1 - Poor automated baseline	ktl 10/16/08 09:00	KL 10/16/08	
768415MS	U1CMS	MS	5253_2 RTX-35	08-OCT-2008 13:38	07OCT082201-R111	
	14.411	Aroclor-1260	MI1 - Poor automated baseline	dpd 10/10/08 18:19	DPD 10/16/08	
768412D1	B2BDL	SAMPLE	5253_2 RTX-35	09-OCT-2008 03:40	08OCT082158-R151	
	$ 17.764	Decachlorobiphenyl	MI1 - Poor automated baseline	ktl 10/16/08 09:04	KL 10/16/08	
768412	B2B	SAMPLE	5253_2 RTX-35	09-OCT-2008 04:03	08OCT082158-R161	
	8.550	Aroclor-1242	MI1 - Poor automated baseline	ktl 10/16/08 10:55	KL 10/16/08	
AR16603G5	AR16603G5	CONT. CALIB.	5253_2 RTX-35	09-OCT-2008 05:38	08OCT082158-R201	
	$ 6.286	Tetrachloro-m-xylene	MI1 - Poor automated baseline	jlc 10/09/08 09:22	for JLC JLB 10/16/08	
AR12423G4	AR12423G4	CONT. CALIB.	5253_2 RTX-35	09-OCT-2008 06:02	08OCT082158-R211	
	$ 6.291	Tetrachloro-m-xylene	MI1 - Poor automated baseline	jlc 10/09/08 09:23	JLB for JLC 10/16/08	

Summary Generated: ktl 10/16/2008 11:09 Secondary Review(1): CMT | 10/17/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127732 Fraction: GC Extractable

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound	Manual Integration Flag	Analyst Date-Time	Sign-Off	
AR12483G4	AR12483G4	CONT. CALIB.	5253_2	RTX-35	09-OCT-2008 06:26	08OCT082158-R221
	$ 6.286	Tetrachloro-m-xylene	MI1 - Poor automated baseline	jlc 10/09/08 09:23	JB 10/16/08	
AR12543G4	AR12543G4	CONT. CALIB.	5253_2	RTX-35	09-OCT-2008 06:50	08OCT082158-R231
	$ 6.284	Tetrachloro-m-xylene	MI1 - Poor automated baseline	jlc 10/09/08 09:24	JB 10/16/08	

Summary Generated: ktl 10/16/2008 11:09 Secondary Review(1): LMT | 10/17/08 Secondary Review(2): _____ | _____ Page 2

Verified MDL Report

EFFECTIVE DATE:	**4/21/2008**	**MATRIX:**	**WATER**
TEST METHOD:	**ILM05.4** **PREP METHOD: Undigested**	**DEPARTMENT REVIEW:**	**Jessica A. Hoffman**
CLEANUP METHOD(s):	**NA**	**QA APPROVAL:**	**Kirstin L. McCracken**
STUDY ID:	**CO0KEER4_ApprovedStatMdls**	**DATE APPROVED:**	**4/21/2008**

ANALYTE	CAS #	MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	vMDL ug/L	QL ug/L	QL/vMDL Ratio	RL ug/L
Antimony	7440-36-0	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	3.3	60	18	60
Arsenic	7440-38-2	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	2.3	10	4.3	10
Barium	7440-39-3	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	8.1	200	25	200
Beryllium	7440-41-7	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	0.25	5	20	5
Calcium	7440-70-2	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	81	5000	62	5000
Cadmium	7440-43-9	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	0.37	5	14	5
Cobalt	7440-48-4	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	0.82	50	61	50
Chromium	7440-47-3	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	0.32	10	31	10
Copper	7440-50-8	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	1.7	25	15	25
Magnesium	7439-95-4	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	63	5000	79	5000
Manganese	7439-96-5	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	0.17	15	88	15
Sodium	7440-23-5	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	51	5000	98	5000
Nickel	7440-02-0	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	0.98	40	41	40
Potassium	7440-09-7	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	280	5000	18	5000
Thallium	7440-28-0	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	1.8	25	14	25
Vanadium	7440-62-2	Statistical MDL	CI10TI12_MDL	TJA ICAP 7	4/5/2008	1.2	50	42	50
Aluminum	7429-90-5	Statistical MDL	CI11NGAJ_MDL	TJA ICAP 7	4/8/2008	62	200	3.2	200
Iron	7439-89-6	Statistical MDL	CI11NGAJ_MDL	TJA ICAP 7	4/8/2008	17	200	12	200
Lead	7439-92-1	Statistical MDL	CI11NGAJ_MDL	TJA ICAP 7	4/8/2008	2.9	10	3.4	10
Selenium	7782-49-2	Statistical MDL	CI11NGAJ_MDL	TJA ICAP 7	4/8/2008	2.8	35	13	35
Zinc	7440-66-6	Statistical MDL	CI11NGAJ_MDL	TJA ICAP 7	4/8/2008	0.14	60	430	60
Silver	7440-22-4	Statistical MDL	CK0WNN6E_MDL	TJA ICAP 7	4/16/2008	1.7	10	5.9	10

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: WATER
Analysis Level: Routine

Instrument ID: TJA ICAP 7
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/L	RL ug/L	X*
Antimony	7440-36-0	6.147	3.625	5.014	4.397	4.954	6.833	5.105	5.154	6.00	86	1.063E+0	3.3	60	2
Arsenic	7440-38-2	6.261	6.959	5.448	4.793	6.321	6.719	5.922	6.060	5.00	121	7.472E-1	2.3	10	3
Barium	7440-39-3	24.42	22.52	17.25	19.65	19.25	19.53	23.12	20.82	20.0	104	2.562E+0	8.1	200	3
Beryllium	7440-41-7	0.4077	0.4527	0.5436	0.3999	0.4110	0.4020	0.6026	0.4599	0.50	92	8.113E-2	0.25	5	2
Calcium	7440-70-2	500	507.6	480.1	512.3	554.6	534	540.4	518.4	500.0	104	2.581E+1	81	5000	6
Cadmium	7440-43-9	1.203	1.281	1.104	1.176	1.134	0.9182	1.049	1.124	1.00	112	1.170E-1	0.37	5	3
Cobalt	7440-48-4	2.563	2.425	2.528	2.565	1.83	2.286	2.299	2.357	2.00	118	2.600E-1	0.82	50	3
Chromium	7440-47-3	0.7507	0.7269	0.6922	0.6880	0.9197	0.8911	0.6638	0.7618	1.00	76	1.024E-1	0.32	10	2
Copper	7440-50-8	3.845	4.861	4.232	3.877	3.769	5.107	4.065	4.251	6.25	68	5.287E-1	1.7	25	3
Magnesium	7439-95-4	182.8	232.1	229.7	224.7	210.6	188.7	199.7	209.8	200.0	105	1.997E+1	63	5000	3
Manganese	7439-96-5	0.6537	0.6456	0.5625	0.5783	0.7245	0.5994	0.6502	0.6306	0.60	105	5.524E-2	0.17	15	4
Sodium	7440-23-5	198.7	239.5	225	221.7	241.1	243.4	239.2	229.8	200.0	115	1.608E+1	51	5000	5
Nickel	7440-02-0	3.583	3.591	3.714	3.766	3.434	4.366	3.975	3.776	4.00	94	3.109E-1	0.98	40	4
Potassium	7440-09-7	2435	2473	2576	2523	2652	2543	2686	2555	2500.0	102	9.065E+1	280	5000	9
Thallium	7440-28-0	2.919	3.143	2.619	2.142	1.713	2.447	3.291	2.611	2.50	104	5.618E-1	1.8	25	1
Vanadium	7440-62-2	5.654	5.374	5.095	4.963	5.972	5.02	5.358	5.348	5.00	107	3.660E-1	1.2	50	4

Cleanup Method(s):

Prepared By: Julie Prytherch

Preparation Method: Undigested
Preparation Factor: 100.0 mL concentrated to 100.00
Prep Date: 04/05/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X≤5 for water
DoD 1<X≤10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 04/05/2008
Review Date: 04/15/2008

Study Name: ILM05.4_Undigested_P_L_WATER_TJA ICAP 7_NA_04-05-2008_MDLa
Study ID: CI10TI12_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: WATER
Analysis Level: Routine

Instrument ID: TJA ICAP 7
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/L	RL ug/L	X*
Aluminum	7429-90-5	109.8	124.4	85.88	136.8	97.90	102.0	135.9	113.2	100.0	113	1.964E+1	62	200	2
Iron	7439-89-6	33.55	20.43	36.44	29.13	35.29	32.09	28.67	30.80	20.0	154	5.417E+0	17	200	2
Lead	7439-92-1	2.392	2.875	4.184	4.41	3.224	3.248	1.838	3.167	2.00	158	9.166E-1	2.9	10	1
Selenium	7782-49-2	3.703	2.790	3.544	2.742	2.393	3.408	5.115	3.385	3.50	97	9.011E-1	2.8	35	1
Zinc	7440-66-6	0.7707	0.7743	0.7198	0.8258	0.7998	0.7705	0.8582	0.7884	0.60	131	4.461E-2	0.14	60	6

Cleanup Method(s):

Prepared By: Julie Prytherch

Preparation Method: Undigested
Preparation Factor: 100.0 mL concentrated to 100.00
Prep Date: 04/08/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 04/08/2008
Review Date: 04/15/2008

Study Name: ILM05.4_Undigested_P_L_WATER_TJA ICAP 7_NA_04-08-2008_MDLa
Study ID: CI11NGAJ_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: WATER
Analysis Level: Routine

Instrument ID: TJA ICAP 7
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/L	RL ug/L	X*
Silver	7440-22-4	1.228	2.137	2.412	2.442	2.108	1.341	2.655	2.046	1.50	136	5.538E-1	1.7	10	1

Cleanup Method(s):

Prepared By: Julie Prytherch

Preparation Method: Undigested
Preparation Factor: 100.0 mL concentrated to 100.00
Prep Date: 04/16/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<3 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 04/16/2008
Review Date: 04/17/2008

Study Name: ILM05.4_Undigested_P_L_WATER_TJA ICAP 7_NA_04-16-2008_MDLa
Study ID: CK0WNN6E_MDL

Verified MDL Report

EFFECTIVE DATE:	**4/29/2008**	**MATRIX:**	**SOIL**
TEST METHOD:	**ILM05.4** **PREP METHOD: ILM05.4**	**DEPARTMENT REVIEW:**	**Jessica A. Hoffman**
CLEANUP METHOD(s):	**NA**	**QA APPROVAL:**	**Kirstin L. McCracken** KLM
STUDY ID:	**CW0ZVK55_ApprovedStatMdls**	**DATE APPROVED:**	**4/29/2008**

ANALYTE	CAS #	MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	vMDL mg/Kg	QL mg/Kg	QL/vMDL Ratio	RL mg/Kg
Silver	7440-22-4	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.16	1	6.3	1
Antimony	7440-36-0	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.30	6	20	6
Arsenic	7440-38-2	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.42	1	2.4	1
Barium	7440-39-3	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.75	20	27	20
Beryllium	7440-41-7	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.025	0.5	20	0.5
Calcium	7440-70-2	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	6.2	500	81	500
Cobalt	7440-48-4	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.054	5	93	5
Chromium	7440-47-3	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.063	1	16	1
Copper	7440-50-8	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.26	2.5	9.6	2.5
Iron	7439-89-6	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	5.2	10	1.9	10
Magnesium	7439-95-4	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	6.3	500	79	500
Manganese	7439-96-5	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.26	1.5	5.8	1.5
Sodium	7440-23-5	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	5.8	500	86	500
Nickel	7440-02-0	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.15	4	27	4
Lead	7439-92-1	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.24	1	4.2	1
Potassium	7440-09-7	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	14.9	500	34	500
Thallium	7440-28-0	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.28	2.5	8.9	2.5
Vanadium	7440-62-2	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	0.086	5	58	5
Zinc	7440-66-6	Statistical MDL	CQ0XI5ZO_MDL	TJA ICAP 7	4/21/2008	3.1	6	1.9	6
Cadmium	7440-43-9	Statistical MDL	CQ0XZGCR_MDL	TJA ICAP 7	4/22/2008	0.060	0.5	8.3	0.5
Selenium	7782-49-2	Statistical MDL	CQ0XZGCR_MDL	TJA ICAP 7	4/22/2008	0.40	3.5	8.8	3.5
Aluminum	7429-90-5	Statistical MDL	CS0ZHY7K_MDL	TJA ICAP 7	4/24/2008	7.5	20	2.7	20

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: SOIL
Analysis Level: Routine

Instrument ID: TJA ICAP 7
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL mg/Kg	RL mg/Kg	X*
Silver	7440-22-4	0.1585	0.2432	0.2281	0.2923	0.2535	0.3210	0.2582	0.2507	0.25	100	5.132E-2	0.16	1	2
Antimony	7440-36-0	1.073	1.303	1.217	1.187	1.219	1.048	1.261	1.187	1.00	119	9.414E-2	0.30	6	4
Arsenic	7440-38-2	0.8481	0.6443	0.4220	0.6631	0.7533	0.6388	0.7245	0.6706	0.50	134	1.322E-1	0.42	1	2
Barium	7440-39-3	1.794	1.906	2.224	1.825	1.929	2.439	2.15	2.038	2.00	102	2.388E-1	0.75	20	3
Beryllium	7440-41-7	0.07164	0.0789	0.07817	0.07749	0.06713	0.07944	0.05770	0.07292	0.050	146	8.099E-3	0.025	0.5	3
Calcium	7440-70-2	54.22	52.73	49.95	55.36	50.83	54.42	52.33	52.83	50.0	106	1.975E+0	6.2	500	9
Cobalt	7440-48-4	0.5726	0.5784	0.5285	0.5781	0.5626	0.5570	0.5587	0.5623	0.50	112	1.731E-2	0.054	5	10
Chromium	7440-47-3	0.3250	0.3765	0.3321	0.3305	0.3159	0.3255	0.3244	0.3328	0.25	133	1.994E-2	0.063	1	5
Copper	7440-50-8	0.6097	0.5794	0.4853	0.4499	0.4462	0.3983	0.4056	0.4821	0.50	96	8.262E-2	0.26	2.5	2
Iron	7439-89-6	6.498	10.51	6.202	6.938	6.415	6.305	5.452	6.903	5.00	138	1.652E+0	5.2	10	1
Magnesium	7439-95-4	56.62	60.64	55.82	55.79	55.22	55.28	58.5	56.84	50.00	114	2.018E+0	6.3	500	9
Manganese	7439-96-5	0.1601	0.3662	0.1433	0.1502	0.1350	0.1411	0.1512	0.1782	0.15	119	8.331E-2	0.26	1.5	1
Sodium	7440-23-5	56.94	56.04	54.58	53.45	55.56	58.3400	53.3	55.46	50.0	111	1.840E+0	5.8	500	10
Nickel	7440-02-0	0.5353	0.4828	0.4343	0.3738	0.4675	0.4573	0.4685	0.4599	0.40	115	4.902E-2	0.15	4	3
Lead	7439-92-1	0.4002	0.1788	0.3778	0.3470	0.3607	0.2695	0.3303	0.3235	0.25	129	7.601E-2	0.24	1	1
Potassium	7440-09-7	51.41	66.44	62.18	59.59001	60.82	56.17	58.23	59.26	50.0	119	4.741E+0	14.9	500	4
Thallium	7440-28-0	0.3819	0.4652	0.5023	0.2730	0.4628	0.5441	0.4366	0.4380	0.50	88	8.862E-2	0.28	2.5	2
Vanadium	7440-62-2	0.5646	0.5983	0.5500	0.5908	0.6128	0.5896	0.6307	0.5910	0.50	118	2.734E-2	0.086	5	7
Zinc	7440-66-6	1.341	3.873	1.293	1.266	1.261	1.234	1.232	1.643	1.00	164	9.841E-1	3.1	6	1

Cleanup Method(s):

Prepared By: Julie Prytherch

Preparation Method: ILM05.4
Preparation Factor: 1.00 g concentrated to 100.00 mL
Prep Date: 04/21/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X≤5 for water
DoD 1<X≤10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 04/21/2008
Review Date: 04/23/2008

Study Name: ILM05.4_ILM05.4_P_L_SOIL_TJA ICAP 7_NA_04-21-2008_MDLa
Study ID: CQ0XI5ZO_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: SOIL
Analysis Level: Routine

Instrument ID: TJA ICAP 7
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL mg/Kg	RL mg/Kg	X*
Cadmium	7440-43-9	0.08869	0.03057	0.05454	0.05966	0.05101	0.07712	0.05081	0.05891	0.050	118	1.901E-2	0.060	0.5	1
Selenium	7782-49-2	0.1244	0.4262	0.2337	0.4086	0.4409	0.2066	0.2349	0.2965	0.50	59	1.263E-1	0.40	3.5	1

Cleanup Method(s):

Prepared By: Julie Prytherch

Preparation Method: ILM05.4
Preparation Factor: 1.00 g concentrated to 100.00 mL
Prep Date: 04/21/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X≤5 for water
DoD 1<X≤10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 04/22/2008
Review Date: 04/23/2008

Study Name: ILM05.4_ILM05.4_P_L_SOIL_TJA ICAP 7_NA_04-22-2008_MDLa
Study ID: CQ0XZGCR_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: SOIL
Analysis Level: Routine

Instrument ID: TJA ICAP 7
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL mg/Kg	RL mg/Kg	X*
Aluminum	7429-90-5	10.70	9.414	15.75	10.18	10.91	12.30	14.67	11.99	10.0	120	2.386E+0	7.5	20	2

Cleanup Method(s):

Prepared By: Julie Prytherch

Preparation Method: ILM05.4
Preparation Factor: 1.00 g concentrated to 100.00 mL
Prep Date: 04/24/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 04/24/2008
Review Date: 04/25/2008

Study Name: ILM05.4_ILM05.4_P_L_SOIL_TJA ICAP 7_NA_04-24-2008_MDLa
Study ID: CS0ZHY7K_MDL

Verified MDL Report

EFFECTIVE DATE:	9/23/2008				MATRIX:	SOIL			
TEST METHOD:	ILM05.4	PREP METHOD: ILM05.4			DEPARTMENT REVIEW:	Jessica A. Hoffman			
CLEANUP METHOD(s):	NA				QA APPROVAL:	Kirstin L. McCracken			
STUDY ID:	GZ0X9XS4_ApprovedStatMdls				DATE APPROVED:	9/23/2008			
ANALYTE	CAS #	MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	vMDL mg/Kg	QL mg/Kg	QL/vMDL Ratio	RL mg/Kg
Mercury	7439-97-6	Statistical MDL	9X0MMZCV_MDL	Leeman Hyd	12/31/2007	0.0093	0.10	11	0.10

KLM Revised 9/23/08

Calculated Method Detection Limit (MDL) Study Summary
Test Method: ILM05.4

Matrix: SOIL
Analysis Level: Routine

Instrument ID: Leeman Hyd
Column ID: NA

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL mg/Kg	RL mg/Kg	X*
Mercury	7439-97-6	0.0148	0.0165	0.0160	0.0158	0.0202	0.0232	0.0173	0.01769	0.025	71	2.972E-3	0.0093	0.10	2

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Cleanup Method(s):

Prepared By: Janelle S. Wilbur

Preparation Method: ILM05.4
Preparation Factor: 0.20 g concentrated to 50.00 mL
Prep Date: 12/31/2007

Comments: _____

Analyzed By: Janelle S. Wilbur
Reviewed By: Jessica A. Hoffman

Analysis Date: 12/31/2007
Review Date: 01/13/2008

Study Name: ILM05.4_ILM05.4_CV_L_SOIL_Leeman Hyd_NA_12-31-2007_MDLa
Study ID: 9X0MMZCV_MDL

Verified MDL Summary

DATE:	1/21/2008				MATRIX:	SOIL			
ANALYSIS METHOD:	SOM01.2	PREP METHOD: SOM01.2			ANALYSIS LEVEL:	Low Level			
CLEANUP METHOD(s):	NA				REVIEW:	Mark T. Phillips			
STUDY ID:	A50T36XC_ApprovedMdlvs				APPROVAL:	Kirstin L. McCracken DATE: 01/21/2008			
ANALYTE		MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	MDLV ug/kg	QL ug/kg	QL/MDLV Ratio	RL ug/kg
Dichlorodifluoromethane	75-71-8	Statistical MDL	9T0S8I4K_MDL	M.I	1/7/2008	0.093	5.0	54	5.0
Chloromethane	74-87-3	Statistical MDL	9T0S8I4K_MDL	M.I	1/7/2008	0.14	5.0	36	5.0
Vinyl chloride	75-01-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
Bromomethane	74-83-9	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.29	5.0	17	5.0
Chloroethane	75-00-3	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.28	5.0	18	5.0
Trichlorofluoromethane	75-69-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.16	5.0	31	5.0
1,1-Dichloroethene	75-35-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.099	5.0	51	5.0
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.080	5.0	63	5.0
Acetone	67-64-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	1.0	10	10	10
Carbon disulfide	75-15-0	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.10	5.0	50	5.0
Methyl acetate	79-20-9	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.48	5.0	10	5.0
Methylene chloride	75-09-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.18	5.0	28	5.0
trans-1,2-Dichloroethene	156-60-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.083	5.0	60	5.0
Methyl tert-butyl ether	1634-04-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
1,1-Dichloroethane	75-34-3	MDLV Standard	9T0S9H2T_MDLV	M.i	1/8/2008	0.50	5.0	10	5.0
cis-1,2-Dichloroethene	156-59-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.084	5.0	60	5.0
2-Butanone	78-93-3	Statistical MDL	9T0S8I4K_MDL	M.I	1/7/2008	0.61	10	16	10
Bromochloromethane	74-97-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.087	5.0	57	5.0
Chloroform	67-66-3	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.17	5.0	29	5.0
1,1,1-Trichloroethane	71-55-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.084	5.0	60	5.0
Cyclohexane	110-82-7	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
Carbon tetrachloride	56-23-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.067	5.0	75	5.0
Benzene	71-43-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
1,2-Dichloroethane	107-06-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.12	5.0	42	5.0
1,4-Dioxane	123-91-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	5.9	100	17	100
Trichloroethene	79-01-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.084	5.0	60	5.0
Methylcyclohexane	108-87-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.16	5.0	31	5.0
1,2-Dichloropropane	78-87-5	MDLV Standard	9T0S9Y4J_MDLV	M.i	1/8/2008	1.0	5.0	5	5.0
Bromodichloromethane	75-27-4	MDLV Standard	9T0S9Y4J_MDLV	M.i	1/8/2008	1.0	5.0	5	5.0
cis-1,3-Dichloropropene	10061-01-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.063	5.0	79	5.0
4-Methyl-2-pentanone	108-10-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.18	10	56	10
Toluene	108-88-3	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
trans-1,3-Dichloropropene	10061-02-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.058	5.0	86	5.0
1,1,2-Trichloroethane	79-00-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
Tetrachloroethene	127-18-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.082	5.0	61	5.0

Verified MDL Summary

DATE:	1/21/2008				MATRIX:	SOIL			
ANALYSIS METHOD:	SOM01.2	PREP METHOD: SOM01.2			ANALYSIS LEVEL:	Low Level			
CLEANUP METHOD(s):	NA				REVIEW:	Mark T. Phillips			
STUDY ID:	A50T36XC_ApprovedMdlvs				APPROVAL:	Kirstin L. McCracken DATE: 01/21/2008			
ANALYTE		MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	MDLV ug/kg	QL ug/kg	QL/MDLV Ratio	RL ug/kg
2-Hexanone	591-78-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.82	10	12	10
Dibromochloromethane	124-48-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.066	5.0	76	5.0
1,2-Dibromoethane	106-93-4	MDLV Standard	9T0SAGHZ_MDLV	M.i	1/8/2008	2.0	5.0	3	5.0
Chlorobenzene	108-90-7	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
Ethylbenzene	100-41-4	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
o-Xylene	95-47-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.059	5.0	85	5.0
m,p-Xylene	179601-23-1	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
Styrene	100-42-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.072	5.0	69	5.0
Bromoform	75-25-2	MDLV Standard	9T0S9Y4J_MDLV	M.i	1/8/2008	1.0	5.0	5	5.0
Isopropylbenzene	98-82-8	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
1,1,2,2-Tetrachloroethane	79-34-5	MDLV Standard	9T0S9H2T_MDLV	M.i	1/8/2008	0.50	5.0	10	5.0
1,3-Dichlorobenzene	541-73-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.13	5.0	38	5.0
1,4-Dichlorobenzene	106-46-7	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.14	5.0	36	5.0
1,2-Dichlorobenzene	95-50-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.067	5.0	75	5.0
1,2-Dibromo-3-chloropropane	96-12-8	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.77	5.0	6	5.0
1,2,4-Trichlorobenzene	120-82-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.28	5.0	18	5.0
1,2,3-Trichlorobenzene	87-61-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.26	5.0	19	5.0

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008						MATRIX:	SOIL				
METHOD NUMBER:	SOM01.2						INSTRUMENT ID(s):	M.I				
METHOD DESCRIPTION:	Low Level						COLUMN ID(s):	DB-624				
PREP METHOD:	SOM01.2						ANALYST(s):	Edward L. Coffey				
CLEANUP METHOD(s):	NA						REVIEW:	Mark T. Phillips				

		STATISTICAL	INSTRUMENT	MDLVA analyzed on 01/08/2008			MDLVB analyzed on 01/08/2008			MDLVC analyzed on 01/08/2008		
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	0.093	0.093	0.25	0.25	3	0.39	0.50	5	0.97	1.0	11
Chloromethane	74-87-3	0.14	0.14	0.36	0.25	2	0.55	0.50	4	1.1	1.0	7
Vinyl chloride	75-01-4	0.11	0.11	0.21	0.25	2	0.39	0.50	5	0.90	1.0	9
Bromomethane	74-83-9	0.29	0.29	0.54	0.25	1	0.71	0.50	2	1.2	1.0	3
Chloroethane	75-00-3	0.28	0.28	0.29	0.25	1	0.53	0.50	2	0.84	1.0	4
Trichlorofluoromethane	75-69-4	0.16	0.16	0.24	0.25	2	0.46	0.50	3	0.88	1.0	6
1,1-Dichloroethene	75-35-4	0.099	0.099	0.28	0.25	3	0.49	0.50	5	0.98	1.0	10
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.080	0.080	0.23	0.25	3	0.44	0.50	6	0.97	1.0	13
Acetone	67-64-1	1.0	1.0	2.6	0.50	1	3.1	1.0	1	4.8	2.0	2
Carbon disulfide	75-15-0	0.10	0.10	0.40	0.25	3	0.59	0.50	5	1.0	1.0	10
Methyl acetate	79-20-9	0.48	0.48	NA	0.25	1	0.69	0.50	1	1.2	1.0	2
Methylene chloride	75-09-2	0.18	0.18	0.33	0.25	1	0.52	0.50	3	0.94	1.0	6
trans-1,2-Dichloroethene	156-60-5	0.083	0.083	0.27	0.25	3	0.50	0.50	6	0.90	1.0	12
Methyl tert-butyl ether	1634-04-4	0.11	0.11	0.25	0.25	2	0.47	0.50	5	0.94	1.0	9
1,1-Dichloroethane	75-34-3	0.061	0.50	NA	0.25	4	0.49	0.50	8	0.95	1.0	16
cis-1,2-Dichloroethene	156-59-2	0.084	0.084	0.23	0.25	3	0.44	0.50	6	0.90	1.0	12
2-Butanone	78-93-3	0.61	0.61	0.73	0.50	1	1.1	1.0	2	2.1	2.0	3
Bromochloromethane	74-97-5	0.087	0.087	0.18	0.25	3	0.43	0.50	6	0.88	1.0	11
Chloroform	67-66-3	0.17	0.17	0.30	0.25	2	0.48	0.50	3	1.1	1.0	6
1,1,1-Trichloroethane	71-55-6	0.084	0.084	0.26	0.25	3	0.46	0.50	6	0.95	1.0	12
Cyclohexane	110-82-7	0.039	0.25	0.31	0.25	6	0.51	0.50	13	1.0	1.0	26
Carbon tetrachloride	56-23-5	0.067	0.067	0.23	0.25	4	0.43	0.50	8	0.89	1.0	15
Benzene	71-43-2	0.11	0.11	0.38	0.25	2	0.61	0.50	5	1.1	1.0	9
1,2-Dichloroethane	107-06-2	0.12	0.12	NA	0.25	2	0.43	0.50	4	0.96	1.0	8
1,4-Dioxane	123-91-1	5.9	5.9	NA	4.5	1	NA	9.0	2	25	18	3
Trichloroethene	79-01-6	0.084	0.084	0.31	0.25	3	0.49	0.50	6	1.0	1.0	12
Methylcyclohexane	108-87-2	0.16	0.16	0.29	0.25	2	0.46	0.50	3	0.98	1.0	6
1,2-Dichloropropane	78-87-5	0.21	1.0	NA	0.25	1	NA	0.50	2	0.56	1.0	5
Bromodichloromethane	75-27-4	0.050	1.0	NA	0.25	5	NA	0.50	10	0.88	1.0	20
cis-1,3-Dichloropropene	10061-01-5	0.063	0.063	0.23	0.25	4	0.40	0.50	8	0.86	1.0	16
4-Methyl-2-pentanone	108-10-1	0.18	0.18	0.64	0.50	3	1.1	1.0	6	2.1	2.0	11
Toluene	108-88-3	0.035	0.25	0.33	0.25	7	0.52	0.50	14	0.97	1.0	29
trans-1,3-Dichloropropene	10061-02-6	0.058	0.058	0.23	0.25	4	0.40	0.50	9	0.84	1.0	17

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008						MATRIX:	SOIL				
METHOD NUMBER:	SOM01.2						INSTRUMENT ID(s):	M.i				
METHOD DESCRIPTION:	Low Level						COLUMN ID(s):	DB-624				
PREP METHOD:	SOM01.2						ANALYST(s):	Edward L. Coffey				
CLEANUP METHOD(s):	NA						REVIEW:	Mark T. Phillips				
		STATISTICAL	INSTRUMENT	MDLVA analyzed on 01/08/2008			MDLVB analyzed on 01/08/2008			MDLVC analyzed on 01/08/2008		
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	0.11	0.11	0.43	0.25	2	0.70	0.50	5	1.2	1.0	9
Tetrachloroethene	127-18-4	0.082	0.082	0.21	0.25	3	0.39	0.50	6	0.89	1.0	12
2-Hexanone	591-78-6	0.82	0.82	0.59	0.50	1	1.0	1.0	1	2.1	2.0	2
Dibromochloromethane	124-48-1	0.066	0.066	0.19	0.25	4	0.40	0.50	8	0.81	1.0	15
1,2-Dibromoethane	106-93-4	0.050	2.0	NA	0.25	5	NA	0.50	10	0.87	1.0	20
Chlorobenzene	108-90-7	0.036	0.25	0.27	0.25	7	0.47	0.50	14	0.91	1.0	28
Ethylbenzene	100-41-4	0.053	0.25	0.28	0.25	5	0.45	0.50	9	0.92	1.0	19
o-Xylene	95-47-6	0.059	0.059	0.24	0.25	4	0.45	0.50	9	0.96	1.0	17
m,p-Xylene	179601-23-1	0.025	0.25	0.31	0.25	10	0.45	0.50	20	0.94	1.0	40
Styrene	100-42-5	0.072	0.072	0.22	0.25	4	0.43	0.50	7	0.86	1.0	14
Bromoform	75-25-2	0.086	1.0	NA	0.25	3	NA	0.50	6	0.79	1.0	12
Isopropylbenzene	98-82-8	0.032	0.25	0.25	0.25	8	0.43	0.50	16	0.88	1.0	31
1,1,2,2-Tetrachloroethane	79-34-5	0.078	0.50	NA	0.25	3	0.51	0.50	6	0.91	1.0	13
1,3-Dichlorobenzene	541-73-1	0.13	0.13	0.30	0.25	2	0.47	0.50	4	0.92	1.0	8
1,4-Dichlorobenzene	106-46-7	0.14	0.14	0.32	0.25	2	0.52	0.50	4	1.0	1.0	7
1,2-Dichlorobenzene	95-50-1	0.067	0.067	0.30	0.25	4	0.48	0.50	8	0.96	1.0	15
1,2-Dibromo-3-chloropropane	96-12-8	0.77	0.77	0.63	0.25	0	0.94	0.50	1	1.3	1.0	1
1,2,4-Trichlorobenzene	120-82-1	0.28	0.28	0.28	0.25	1	0.44	0.50	2	0.92	1.0	4
1,2,3-Trichlorobenzene	87-61-6	0.26	0.26	0.33	0.25	1	0.47	0.50	2	0.99	1.0	4

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008						MATRIX:	SOIL					
METHOD NUMBER:	SOM01.2						INSTRUMENT ID(s):	M.I					
METHOD DESCRIPTION:	Low Level						COLUMN ID(s):	DB-624					
PREP METHOD:	SOM01.2						ANALYST(s)	Edward L. Coffey					
CLEANUP METHOD(s):	NA						REVIEW:	Mark T. Phillips					
		STATISTICAL	INSTRUMENT	MDLVD analyzed on 01/08/2008									
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	
Dichlorodifluoromethane	75-71-8	0.093	0.093	2.0	2.0	22							
Chloromethane	74-87-3	0.14	0.14	2.0	2.0	14							
Vinyl chloride	75-01-4	0.11	0.11	1.9	2.0	18							
Bromomethane	74-83-9	0.29	0.29	2.3	2.0	7							
Chloroethane	75-00-3	0.28	0.28	2.2	2.0	7							
Trichlorofluoromethane	75-69-4	0.16	0.16	1.8	2.0	13							
1,1-Dichloroethene	75-35-4	0.099	0.099	1.9	2.0	20							
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.080	0.080	1.8	2.0	25							
Acetone	67-64-1	1.0	1.0	3.9	4.0	4							
Carbon disulfide	75-15-0	0.10	0.10	1.9	2.0	20							
Methyl acetate	79-20-9	0.48	0.48	2.2	2.0	4							
Methylene chloride	75-09-2	0.18	0.18	2.0	2.0	11							
trans-1,2-Dichloroethene	156-60-5	0.083	0.083	1.8	2.0	24							
Methyl tert-butyl ether	1634-04-4	0.11	0.11	1.9	2.0	18							
1,1-Dichloroethane	75-34-3	0.061	0.50	2.0	2.0	33							
cis-1,2-Dichloroethene	156-59-2	0.084	0.084	1.9	2.0	24							
2-Butanone	78-93-3	0.61	0.61	4.0	4.0	7							
Bromochloromethane	74-97-5	0.087	0.087	1.8	2.0	23							
Chloroform	67-66-3	0.17	0.17	2.2	2.0	12							
1,1,1-Trichloroethane	71-55-6	0.084	0.084	2.0	2.0	24							
Cyclohexane	110-82-7	0.039	0.25	2.0	2.0	51							
Carbon tetrachloride	56-23-5	0.067	0.067	1.9	2.0	30							
Benzene	71-43-2	0.11	0.11	1.9	2.0	18							
1,2-Dichloroethane	107-06-2	0.12	0.12	1.9	2.0	17							
1,4-Dioxane	123-91-1	5.9	5.9	50	36	6							
Trichloroethene	79-01-6	0.084	0.084	1.8	2.0	24							
Methylcyclohexane	108-87-2	0.16	0.16	1.9	2.0	13							
1,2-Dichloropropane	78-87-5	0.21	1.0	1.9	2.0	10							
Bromodichloromethane	75-27-4	0.050	1.0	1.8	2.0	40							
cis-1,3-Dichloropropene	10061-01-5	0.063	0.063	1.8	2.0	32							
4-Methyl-2-pentanone	108-10-1	0.18	0.18	3.9	4.0	22							
Toluene	108-88-3	0.035	0.25	1.9	2.0	57							
trans-1,3-Dichloropropene	10061-02-6	0.058	0.058	1.7	2.0	34							

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008						MATRIX:	SOIL					
METHOD NUMBER:	SOM01.2						INSTRUMENT ID(s):	M.i					
METHOD DESCRIPTION:	Low Level						COLUMN ID(s):	DB-624					
PREP METHOD:	SOM01.2						ANALYST(s)	Edward L. Coffey					
CLEANUP METHOD(s):	NA						REVIEW:	Mark T. Phillips					
		STATISTICAL	INSTRUMENT	MDLVD analyzed on 01/08/2008									
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	
1,1,2-Trichloroethane	79-00-5	0.11	0.11	2.1	2.0	18							
Tetrachloroethene	127-18-4	0.082	0.082	1.8	2.0	24							
2-Hexanone	591-78-6	0.82	0.82	3.7	4.0	5							
Dibromochloromethane	124-48-1	0.066	0.066	1.7	2.0	30							
1,2-Dibromoethane	106-93-4	0.050	2.0	1.8	2.0	40							
Chlorobenzene	108-90-7	0.036	0.25	1.8	2.0	56							
Ethylbenzene	100-41-4	0.053	0.25	1.8	2.0	38							
o-Xylene	95-47-6	0.059	0.059	1.7	2.0	34							
m,p-Xylene	179601-23-1	0.025	0.25	1.8	2.0	80							
Styrene	100-42-5	0.072	0.072	1.7	2.0	28							
Bromoform	75-25-2	0.086	1.0	1.7	2.0	23							
Isopropylbenzene	98-82-8	0.032	0.25	1.8	2.0	63							
1,1,2,2-Tetrachloroethane	79-34-5	0.078	0.50	1.9	2.0	26							
1,3-Dichlorobenzene	541-73-1	0.13	0.13	1.9	2.0	15							
1,4-Dichlorobenzene	106-46-7	0.14	0.14	1.9	2.0	14							
1,2-Dichlorobenzene	95-50-1	0.067	0.067	1.9	2.0	30							
1,2-Dibromo-3-chloropropane	96-12-8	0.77	0.77	2.5	2.0	3							
1,2,4-Trichlorobenzene	120-82-1	0.28	0.28	1.6	2.0	7							
1,2,3-Trichlorobenzene	87-61-6	0.26	0.26	1.8	2.0	8							

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	0.25 J	5.0	0.25	ug/kg
Chloromethane	74-87-3	0.36 J	5.0	0.25	ug/kg
Vinyl chloride	75-01-4	0.21 J	5.0	0.25	ug/kg
Bromomethane	74-83-9	0.54 J	5.0	0.25	ug/kg
Chloroethane	75-00-3	0.29 J	5.0	0.25	ug/kg
Trichlorofluoromethane	75-69-4	0.24 J	5.0	0.25	ug/kg
1,1-Dichloroethene	75-35-4	0.28 J	5.0	0.25	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.23 J	5.0	0.25	ug/kg
Acetone	67-64-1	2.6 J	10	0.50	ug/kg
Carbon disulfide	75-15-0	0.40 J	5.0	0.25	ug/kg
Methyl acetate	79-20-9	5.0 U	5.0	0.25	ug/kg
Methylene chloride	75-09-2	0.33 J	5.0	0.25	ug/kg
trans-1,2-Dichloroethene	156-60-5	0.27 J	5.0	0.25	ug/kg
Methyl tert-butyl ether	1634-04-4	0.25 J	5.0	0.25	ug/kg
1,1-Dichloroethane	75-34-3	5.0 U	5.0	0.25	ug/kg
cis-1,2-Dichloroethene	156-59-2	0.23 J	5.0	0.25	ug/kg
2-Butanone	78-93-3	0.73 J	10	0.50	ug/kg
Bromochloromethane	74-97-5	0.18 J	5.0	0.25	ug/kg
Chloroform	67-66-3	0.30 J	5.0	0.25	ug/kg
1,1,1-Trichloroethane	71-55-6	0.26 J	5.0	0.25	ug/kg
Cyclohexane	110-82-7	0.31 J	5.0	0.25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 01:34
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVA_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	0.23 J	5.0	0.25	ug/kg
Benzene	71-43-2	0.38 J	5.0	0.25	ug/kg
1,2-Dichloroethane	107-06-2	5.0 U	5.0	0.25	ug/kg
1,4-Dioxane	123-91-1	100 U	100	4.5	ug/kg
Trichloroethene	79-01-6	0.31 J	5.0	0.25	ug/kg
Methylcyclohexane	108-87-2	0.29 J	5.0	0.25	ug/kg
1,2-Dichloropropane	78-87-5	5.0 U	5.0	0.25	ug/kg
Bromodichloromethane	75-27-4	5.0 U	5.0	0.25	ug/kg
cis-1,3-Dichloropropene	10061-01-5	0.23 J	5.0	0.25	ug/kg
4-Methyl-2-pentanone	108-10-1	0.64 J	10	0.50	ug/kg
Toluene	108-88-3	0.33 J	5.0	0.25	ug/kg
trans-1,3-Dichloropropene	10061-02-6	0.23 J	5.0	0.25	ug/kg
1,1,2-Trichloroethane	79-00-5	0.43 J	5.0	0.25	ug/kg
Tetrachloroethene	127-18-4	0.21 J	5.0	0.25	ug/kg
2-Hexanone	591-78-6	0.59 J	10	0.50	ug/kg
Dibromochloromethane	124-48-1	0.19 J	5.0	0.25	ug/kg
1,2-Dibromoethane	106-93-4	5.0 U	5.0	0.25	ug/kg
Chlorobenzene	108-90-7	0.27 J	5.0	0.25	ug/kg
Ethylbenzene	100-41-4	0.28 J	5.0	0.25	ug/kg
o-Xylene	95-47-6	0.24 J	5.0	0.25	ug/kg
m,p-Xylene	179601-23-1	0.31 J	5.0	0.25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 01:34
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVA_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	0.22 J	5.0	0.25	ug/kg
Bromoform	75-25-2	5.0 U	5.0	0.25	ug/kg
Isopropylbenzene	98-82-8	0.25 J	5.0	0.25	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	5.0 U	5.0	0.25	ug/kg
1,3-Dichlorobenzene	541-73-1	0.30 J	5.0	0.25	ug/kg
1,4-Dichlorobenzene	106-46-7	0.32 J	5.0	0.25	ug/kg
1,2-Dichlorobenzene	95-50-1	0.30 J	5.0	0.25	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	0.63 J	5.0	0.25	ug/kg
1,2,4-Trichlorobenzene	120-82-1	0.28 J	5.0	0.25	ug/kg
1,2,3-Trichlorobenzene	87-61-6	0.33 J	5.0	0.25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 01:34
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVA_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	0.39 J	5.0	0.50	ug/kg
Chloromethane	74-87-3	0.55 J	5.0	0.50	ug/kg
Vinyl chloride	75-01-4	0.39 J	5.0	0.50	ug/kg
Bromomethane	74-83-9	0.71 J	5.0	0.50	ug/kg
Chloroethane	75-00-3	0.53 J	5.0	0.50	ug/kg
Trichlorofluoromethane	75-69-4	0.46 J	5.0	0.50	ug/kg
1,1-Dichloroethene	75-35-4	0.49 J	5.0	0.50	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.44 J	5.0	0.50	ug/kg
Acetone	67-64-1	3.1 J	10	1.0	ug/kg
Carbon disulfide	75-15-0	0.59 J	5.0	0.50	ug/kg
Methyl acetate	79-20-9	0.69 J	5.0	0.50	ug/kg
Methylene chloride	75-09-2	0.52 J	5.0	0.50	ug/kg
trans-1,2-Dichloroethene	156-60-5	0.50 J	5.0	0.50	ug/kg
Methyl tert-butyl ether	1634-04-4	0.47 J	5.0	0.50	ug/kg
1,1-Dichloroethane	75-34-3	0.49 J	5.0	0.50	ug/kg
cis-1,2-Dichloroethene	156-59-2	0.44 J	5.0	0.50	ug/kg
2-Butanone	78-93-3	1.1 J	10	1.0	ug/kg
Bromochloromethane	74-97-5	0.43 J	5.0	0.50	ug/kg
Chloroform	67-66-3	0.48 J	5.0	0.50	ug/kg
1,1,1-Trichloroethane	71-55-6	0.46 J	5.0	0.50	ug/kg
Cyclohexane	110-82-7	0.51 J	5.0	0.50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:03
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVB_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	0.43 J	5.0	0.50	ug/kg
Benzene	71-43-2	0.61 J	5.0	0.50	ug/kg
1,2-Dichloroethane	107-06-2	0.43 J	5.0	0.50	ug/kg
1,4-Dioxane	123-91-1	100 U	100	9.0	ug/kg
Trichloroethene	79-01-6	0.49 J	5.0	0.50	ug/kg
Methylcyclohexane	108-87-2	0.46 J	5.0	0.50	ug/kg
1,2-Dichloropropane	78-87-5	5.0 U	5.0	0.50	ug/kg
Bromodichloromethane	75-27-4	5.0 U	5.0	0.50	ug/kg
cis-1,3-Dichloropropene	10061-01-5	0.40 J	5.0	0.50	ug/kg
4-Methyl-2-pentanone	108-10-1	1.1 J	10	1.0	ug/kg
Toluene	108-88-3	0.52 J	5.0	0.50	ug/kg
trans-1,3-Dichloropropene	10061-02-6	0.40 J	5.0	0.50	ug/kg
1,1,2-Trichloroethane	79-00-5	0.70 J	5.0	0.50	ug/kg
Tetrachloroethene	127-18-4	0.39 J	5.0	0.50	ug/kg
2-Hexanone	591-78-6	1.0 J	10	1.0	ug/kg
Dibromochloromethane	124-48-1	0.40 J	5.0	0.50	ug/kg
1,2-Dibromoethane	106-93-4	5.0 U	5.0	0.50	ug/kg
Chlorobenzene	108-90-7	0.47 J	5.0	0.50	ug/kg
Ethylbenzene	100-41-4	0.45 J	5.0	0.50	ug/kg
o-Xylene	95-47-6	0.45 J	5.0	0.50	ug/kg
m,p-Xylene	179601-23-1	0.45 J	5.0	0.50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:03
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVB_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	0.43 J	5.0	0.50	ug/kg
Bromoform	75-25-2	5.0 U	5.0	0.50	ug/kg
Isopropylbenzene	98-82-8	0.43 J	5.0	0.50	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	0.51 J	5.0	0.50	ug/kg
1,3-Dichlorobenzene	541-73-1	0.47 J	5.0	0.50	ug/kg
1,4-Dichlorobenzene	106-46-7	0.52 J	5.0	0.50	ug/kg
1,2-Dichlorobenzene	95-50-1	0.48 J	5.0	0.50	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	0.94 J	5.0	0.50	ug/kg
1,2,4-Trichlorobenzene	120-82-1	0.44 J	5.0	0.50	ug/kg
1,2,3-Trichlorobenzene	87-61-6	0.47 J	5.0	0.50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:03
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVB_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	0.97 J	5.0	1.0	ug/kg
Chloromethane	74-87-3	1.1 J	5.0	1.0	ug/kg
Vinyl chloride	75-01-4	0.90 J	5.0	1.0	ug/kg
Bromomethane	74-83-9	1.2 J	5.0	1.0	ug/kg
Chloroethane	75-00-3	0.84 J	5.0	1.0	ug/kg
Trichlorofluoromethane	75-69-4	0.88 J	5.0	1.0	ug/kg
1,1-Dichloroethene	75-35-4	0.98 J	5.0	1.0	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.97 J	5.0	1.0	ug/kg
Acetone	67-64-1	4.8 J	10	2.0	ug/kg
Carbon disulfide	75-15-0	1.0 J	5.0	1.0	ug/kg
Methyl acetate	79-20-9	1.2 J	5.0	1.0	ug/kg
Methylene chloride	75-09-2	0.94 J	5.0	1.0	ug/kg
trans-1,2-Dichloroethene	156-60-5	0.90 J	5.0	1.0	ug/kg
Methyl tert-butyl ether	1634-04-4	0.94 J	5.0	1.0	ug/kg
1,1-Dichloroethane	75-34-3	0.95 J	5.0	1.0	ug/kg
cis-1,2-Dichloroethene	156-59-2	0.90 J	5.0	1.0	ug/kg
2-Butanone	78-93-3	2.1 J	10	2.0	ug/kg
Bromochloromethane	74-97-5	0.88 J	5.0	1.0	ug/kg
Chloroform	67-66-3	1.1 J	5.0	1.0	ug/kg
1,1,1-Trichloroethane	71-55-6	0.95 J	5.0	1.0	ug/kg
Cyclohexane	110-82-7	1.0 J	5.0	1.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:31
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVC_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	0.89 J	5.0	1.0	ug/kg
Benzene	71-43-2	1.1 J	5.0	1.0	ug/kg
1,2-Dichloroethane	107-06-2	0.96 J	5.0	1.0	ug/kg
1,4-Dioxane	123-91-1	25 J	100	18	ug/kg
Trichloroethene	79-01-6	1.0 J	5.0	1.0	ug/kg
Methylcyclohexane	108-87-2	0.98 J	5.0	1.0	ug/kg
1,2-Dichloropropane	78-87-5	0.56 J	5.0	1.0	ug/kg
Bromodichloromethane	75-27-4	0.88 J	5.0	1.0	ug/kg
cis-1,3-Dichloropropene	10061-01-5	0.86 J	5.0	1.0	ug/kg
4-Methyl-2-pentanone	108-10-1	2.1 J	10	2.0	ug/kg
Toluene	108-88-3	0.97 J	5.0	1.0	ug/kg
trans-1,3-Dichloropropene	10061-02-6	0.84 J	5.0	1.0	ug/kg
1,1,2-Trichloroethane	79-00-5	1.2 J	5.0	1.0	ug/kg
Tetrachloroethene	127-18-4	0.89 J	5.0	1.0	ug/kg
2-Hexanone	591-78-6	2.1 J	10	2.0	ug/kg
Dibromochloromethane	124-48-1	0.81 J	5.0	1.0	ug/kg
1,2-Dibromoethane	106-93-4	0.87 J	5.0	1.0	ug/kg
Chlorobenzene	108-90-7	0.91 J	5.0	1.0	ug/kg
Ethylbenzene	100-41-4	0.92 J	5.0	1.0	ug/kg
o-Xylene	95-47-6	0.96 J	5.0	1.0	ug/kg
m,p-Xylene	179601-23-1	0.94 J	5.0	1.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:31
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVC_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	0.86 J	5.0	1.0	ug/kg
Bromoform	75-25-2	0.79 J	5.0	1.0	ug/kg
Isopropylbenzene	98-82-8	0.88 J	5.0	1.0	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	0.91 J	5.0	1.0	ug/kg
1,3-Dichlorobenzene	541-73-1	0.92 J	5.0	1.0	ug/kg
1,4-Dichlorobenzene	106-46-7	1.0 J	5.0	1.0	ug/kg
1,2-Dichlorobenzene	95-50-1	0.96 J	5.0	1.0	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	1.3 J	5.0	1.0	ug/kg
1,2,4-Trichlorobenzene	120-82-1	0.92 J	5.0	1.0	ug/kg
1,2,3-Trichlorobenzene	87-61-6	0.99 J	5.0	1.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:31
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVC_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	2.0 J	5.0	2.0	ug/kg
Chloromethane	74-87-3	2.0 J	5.0	2.0	ug/kg
Vinyl chloride	75-01-4	1.9 J	5.0	2.0	ug/kg
Bromomethane	74-83-9	2.3 J	5.0	2.0	ug/kg
Chloroethane	75-00-3	2.2 J	5.0	2.0	ug/kg
Trichlorofluoromethane	75-69-4	1.8 J	5.0	2.0	ug/kg
1,1-Dichloroethene	75-35-4	1.9 J	5.0	2.0	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	1.8 J	5.0	2.0	ug/kg
Acetone	67-64-1	3.9 J	10	4.0	ug/kg
Carbon disulfide	75-15-0	1.9 J	5.0	2.0	ug/kg
Methyl acetate	79-20-9	2.2 J	5.0	2.0	ug/kg
Methylene chloride	75-09-2	2.0 J	5.0	2.0	ug/kg
trans-1,2-Dichloroethene	156-60-5	1.8 J	5.0	2.0	ug/kg
Methyl tert-butyl ether	1634-04-4	1.9 J	5.0	2.0	ug/kg
1,1-Dichloroethane	75-34-3	2.0 J	5.0	2.0	ug/kg
cis-1,2-Dichloroethene	156-59-2	1.9 J	5.0	2.0	ug/kg
2-Butanone	78-93-3	4.0 J	10	4.0	ug/kg
Bromochloromethane	74-97-5	1.8 J	5.0	2.0	ug/kg
Chloroform	67-66-3	2.2 J	5.0	2.0	ug/kg
1,1,1-Trichloroethane	71-55-6	2.0 J	5.0	2.0	ug/kg
Cyclohexane	110-82-7	2.0 J	5.0	2.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:59
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVD_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	1.9 J	5.0	2.0	ug/kg
Benzene	71-43-2	1.9 J	5.0	2.0	ug/kg
1,2-Dichloroethane	107-06-2	1.9 J	5.0	2.0	ug/kg
1,4-Dioxane	123-91-1	50 J	100	36	ug/kg
Trichloroethene	79-01-6	1.8 J	5.0	2.0	ug/kg
Methylcyclohexane	108-87-2	1.9 J	5.0	2.0	ug/kg
1,2-Dichloropropane	78-87-5	1.9 J	5.0	2.0	ug/kg
Bromodichloromethane	75-27-4	1.8 J	5.0	2.0	ug/kg
cis-1,3-Dichloropropene	10061-01-5	1.8 J	5.0	2.0	ug/kg
4-Methyl-2-pentanone	108-10-1	3.9 J	10	4.0	ug/kg
Toluene	108-88-3	1.9 J	5.0	2.0	ug/kg
trans-1,3-Dichloropropene	10061-02-6	1.7 J	5.0	2.0	ug/kg
1,1,2-Trichloroethane	79-00-5	2.1 J	5.0	2.0	ug/kg
Tetrachloroethene	127-18-4	1.8 J	5.0	2.0	ug/kg
2-Hexanone	591-78-6	3.7 J	10	4.0	ug/kg
Dibromochloromethane	124-48-1	1.7 J	5.0	2.0	ug/kg
1,2-Dibromoethane	106-93-4	1.8 J	5.0	2.0	ug/kg
Chlorobenzene	108-90-7	1.8 J	5.0	2.0	ug/kg
Ethylbenzene	100-41-4	1.8 J	5.0	2.0	ug/kg
o-Xylene	95-47-6	1.7 J	5.0	2.0	ug/kg
m,p-Xylene	179601-23-1	1.8 J	5.0	2.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:59
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVD_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	1.7 J	5.0	2.0	ug/kg
Bromoform	75-25-2	1.7 J	5.0	2.0	ug/kg
Isopropylbenzene	98-82-8	1.8 J	5.0	2.0	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	1.9 J	5.0	2.0	ug/kg
1,3-Dichlorobenzene	541-73-1	1.9 J	5.0	2.0	ug/kg
1,4-Dichlorobenzene	106-46-7	1.9 J	5.0	2.0	ug/kg
1,2-Dichlorobenzene	95-50-1	1.9 J	5.0	2.0	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	2.5 J	5.0	2.0	ug/kg
1,2,4-Trichlorobenzene	120-82-1	1.6 J	5.0	2.0	ug/kg
1,2,3-Trichlorobenzene	87-61-6	1.8 J	5.0	2.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:59
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVD_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Statistical Method Detection Limit (MDL) Study Summary
Method: SOM01.2

Matrix: SOIL
Analysis Level: L

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Dichlorodifluoromethane	75-71-8	0.9459	1.003	0.9780	1.029	1.016	0.9741	1.016	0.9946	1.0	99	2.954E-2	0.093	5.0	11
Chloromethane	74-87-3	1.066	0.9749	0.9648	1.064	1.022	1.077	1.034	1.029	1.0	103	4.476E-2	0.14	5.0	7
Vinyl chloride	75-01-4	0.8924	0.9204	0.8439	0.9182	0.9172	0.9335	0.9566	0.9117	1.0	91	3.561E-2	0.11	5.0	8
Bromomethane	74-83-9	1.251	0.9836	1.176	1.147	1.188	1.186	1.271	1.172	1.0	117	9.366E-2	0.29	5.0	4
Chloroethane	75-00-3	1.057	1.087	0.8542	1.049	1.032	1.108	1.110	1.042	1.0	104	8.817E-2	0.28	5.0	4
Trichlorofluoromethane	75-69-4	0.8754	0.8419	0.9187	0.9109	0.8833	0.9672	0.9892	0.9124	1.0	91	5.185E-2	0.16	5.0	6
1,1-Dichloroethene	75-35-4	0.9205	0.9569	0.9169	1.000	0.9131	0.9555	0.9609	0.9463	1.0	95	3.143E-2	0.099	5.0	10
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.8842	0.9037	0.9314	0.9366	0.9278	0.9506	0.9556	0.9271	1.0	93	2.537E-2	0.080	5.0	12
Acetone	67-64-1	4.430	4.639	3.713	4.114	3.845	4.166	3.893	4.114	2.0	206	3.317E-1	1.0	10	4
Carbon disulfide	75-15-0	1.080	1.088	1.074	1.049	1.012	1.075	1.009	1.055	1.0	106	3.285E-2	0.10	5.0	11
Methyl acetate	79-20-9	1.227	1.446	1.327	1.223	1.291	1.117	0.9680	1.228	1.0	123	1.534E-1	0.48	5.0	3
Methylene chloride	75-09-2	0.9426	1.023	0.9650	1.051	0.9158	1.023	0.8996	0.9743	1.0	97	5.877E-2	0.18	5.0	5
trans-1,2-Dichloroethene	156-60-5	0.8945	0.9827	0.9424	0.9489	0.9535	0.9562	0.9426	0.9458	1.0	95	2.643E-2	0.083	5.0	11
Methyl tert-butyl ether	1634-04-4	0.9208	1.012	0.9235	0.9711	0.9066	0.9503	0.9409	0.9465	1.0	95	3.588E-2	0.11	5.0	9
1,1-Dichloroethane	75-34-3	0.9215	0.9389	0.9244	0.9062	0.9023	0.9437	0.9540	0.9273	1.0	93	1.927E-2	0.061	5.0	15
cis-1,2-Dichloroethene	156-59-2	0.8847	0.9191	0.9065	0.8851	0.8625	0.9328	0.9321	0.9033	1.0	90	2.678E-2	0.084	5.0	11
2-Butanone	78-93-3	2.645	2.857	2.447	2.591	2.367	2.392	2.307	2.515	2.0	126	1.935E-1	0.61	10	4
Bromochloromethane	74-97-5	0.8409	0.8420	0.8991	0.8781	0.8269	0.8806	0.8873	0.8650	1.0	87	2.780E-2	0.087	5.0	10
Chloroform	67-66-3	0.9635	0.9119	0.9546	0.9543	1.009	1.037	1.066	0.9852	1.0	99	5.403E-2	0.17	5.0	6
1,1,1-Trichloroethane	71-55-6	0.9106	0.9131	0.9111	0.9570	0.9637	0.9481	0.9705	0.9392	1.0	94	2.666E-2	0.084	5.0	11
Cyclohexane	110-82-7	1.021	0.9827	1.010	1.009	1.004	1.018	1.009	1.008	1.0	101	1.246E-2	0.039	5.0	26

*X = Mean Value/MDL
X factor criteria:
DoD 1≤X≤5 for water
DoD 1≤X≤10 for soil
STL 1≤X≤10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 01/07/2008

Comments: _____

Analyzed By: Edward L. Coffey
Reviewed By: Mark T. Phillips

Analysis Date: 01/07/2008
Review Date: 01/09/2008

Study Name: SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-07-2008_MDLa
Study ID: 9T0S8I4K_MDL

Statistical Method Detection Limit (MDL) Study Summary
Method: SOM01.2

Matrix: SOIL
Analysis Level: L

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Carbon tetrachloride	56-23-5	0.9013	0.8865	0.9224	0.9319	0.9375	0.8837	0.9027	0.9094	1.0	91	2.145E-2	0.067	5.0	14
Benzene	71-43-2	1.018	0.9457	1.021	1.001	1.061	1.005	1.026	1.011	1.0	101	3.482E-2	0.11	5.0	9
1,2-Dichloroethane	107-06-2	0.9321	0.9411	0.9228	0.8589	0.8532	0.9254	0.8760	0.9014	1.0	90	3.725E-2	0.12	5.0	8
1,4-Dioxane	123-91-1	24.90	27.26	28.08	26.32	28.75	25.72	23.36	26.34	18	146	1.872E+0	5.9	100	4
Trichloroethene	79-01-6	0.9859	0.9408	0.9888	0.9664	1.004	0.9400	1.001	0.9753	1.0	98	2.675E-2	0.084	5.0	12
Methylcyclohexane	108-87-2	1.005	0.9268	0.9384	1.083	1.002	1.022	1.001	0.9969	1.0	100	5.242E-2	0.16	5.0	6
1,2-Dichloropropane	78-87-5	0.9379	0.7782	0.7700	0.7460	0.8392	0.7454	0.7959	0.8018	1.0	80	6.809E-2	0.21	5.0	4
Bromodichloromethane	75-27-4	0.8826	0.8923	0.8944	0.9082	0.8629	0.8897	0.8672	0.8853	1.0	89	1.588E-2	0.050	5.0	18
cis-1,3-Dichloropropene	10061-01-5	0.8856	0.8970	0.8447	0.8784	0.8809	0.8848	0.8478	0.8742	1.0	87	1.997E-2	0.063	5.0	14
4-Methyl-2-pentanone	108-10-1	2.001	2.110	1.990	2.138	2.048	2.101	2.089	2.068	2.0	103	5.652E-2	0.18	10	11
Toluene	108-88-3	0.9603	0.9519	0.9688	0.9523	0.9655	0.9548	0.9826	0.9623	1.0	96	1.105E-2	0.035	5.0	27
trans-1,3-Dichloropropene	10061-02-6	0.8383	0.8895	0.8522	0.8591	0.8550	0.8414	0.8775	0.8590	1.0	86	1.859E-2	0.058	5.0	15
1,1,2-Trichloroethane	79-00-5	1.203	1.272	1.230	1.214	1.157	1.206	1.235	1.217	1.0	122	3.522E-2	0.11	5.0	11
Tetrachloroethene	127-18-4	0.8799	0.8683	0.9035	0.9186	0.9235	0.8699	0.8579	0.8888	1.0	89	2.620E-2	0.082	5.0	11
2-Hexanone	591-78-6	2.731	2.518	2.316	2.462	2.365	1.901	2.202	2.356	2.0	118	2.616E-1	0.82	10	3
Dibromochloromethane	124-48-1	0.8168	0.8408	0.8271	0.8540	0.8167	0.7889	0.8143	0.8227	1.0	82	2.086E-2	0.066	5.0	12
1,2-Dibromoethane	106-93-4	0.9121	0.9026	0.8998	0.8700	0.9094	0.8771	0.8997	0.8958	1.0	90	1.604E-2	0.050	5.0	18
Chlorobenzene	108-90-7	0.9280	0.9431	0.9479	0.9194	0.9308	0.9366	0.9170	0.9318	1.0	93	1.153E-2	0.036	5.0	26
Ethylbenzene	100-41-4	0.9193	0.9249	0.9609	0.9334	0.9418	0.9121	0.9195	0.9303	1.0	93	1.671E-2	0.053	5.0	18
o-Xylene	95-47-6	0.9134	0.9237	0.9167	0.9032	0.9496	0.9148	0.8881	0.9156	1.0	92	1.888E-2	0.059	5.0	16
m,p-Xylene	179601-23-	0.9557	0.9638	0.9546	0.9487	0.9649	0.9520	0.9430	0.9547	1.0	95	7.832E-3	0.025	5.0	38

*X = Mean Value/MDL
X factor criteria:
DoD 1≤X≤5 for water
DoD 1≤X≤10 for soil
STL 1≤X≤10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 01/07/2008

Comments: _____

Analyzed By: Edward L. Coffey
Reviewed By: Mark T. Phillips

Analysis Date: 01/07/2008
Review Date: 01/09/2008

Study Name: SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-07-2008_MDLa
Study ID: 9T0S8I4K_MDL

Statistical Method Detection Limit (MDL) Study Summary
Method: SOM01.2

Matrix: SOIL
Analysis Level: L

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Styrene	100-42-5	0.8737	0.9130	0.8942	0.8732	0.8445	0.8600	0.8610	0.8742	1.0	87	2.297E-2	0.072	5.0	12
Bromoform	75-25-2	0.7991	0.8204	0.7978	0.8184	0.7778	0.7550	0.8349	0.8005	1.0	80	2.737E-2	0.086	5.0	9
Isopropylbenzene	98-82-8	0.8943	0.8961	0.9023	0.8820	0.9006	0.8919	0.8745	0.8917	1.0	89	1.006E-2	0.032	5.0	28
1,1,2,2-Tetrachloroethane	79-34-5	0.9517	1.001	0.9602	0.9310	0.9328	0.9556	0.9310	0.9519	1.0	95	2.494E-2	0.078	5.0	12
1,3-Dichlorobenzene	541-73-1	0.9928	0.9794	1.010	0.9607	0.9297	0.8934	0.9766	0.9632	1.0	96	3.981E-2	0.13	5.0	7
1,4-Dichlorobenzene	106-46-7	1.095	1.065	1.024	1.012	1.032	0.9832	0.9688	1.026	1.0	103	4.401E-2	0.14	5.0	7
1,2-Dichlorobenzene	95-50-1	1.026	1.013	0.9975	0.9929	0.9872	0.9581	0.9929	0.9954	1.0	100	2.130E-2	0.067	5.0	15
1,2-Dibromo-3-chloropropane	96-12-8	1.452	1.346	0.8886	1.296	1.485	0.9426	1.430	1.263	1.0	126	2.462E-1	0.77	5.0	2
1,2,4-Trichlorobenzene	120-82-1	1.170	1.066	1.048	1.000	0.9344	0.9454	0.9314	1.014	1.0	101	8.780E-2	0.28	5.0	4
1,2,3-Trichlorobenzene	87-61-6	1.220	1.119	1.159	1.045	1.056	0.9967	1.002	1.085	1.0	109	8.365E-2	0.26	5.0	4

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 01/07/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1≤X≤5 for water
DoD 1≤X≤10 for soil
STL 1≤X≤10 for all

Comments: _____

Analyzed By: Edward L. Coffey
Reviewed By: Mark T. Phillips

Analysis Date: 01/07/2008
Review Date: 01/09/2008

Study Name: SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-07-2008_MDLa
Study ID: 9T0S8I4K_MDL

Verified MDL Report

EFFECTIVE DATE:	6/26/2008				**MATRIX:**	SOIL			
TEST METHOD:	SOM01.2	PREP METHOD: SOM01.2			**DEPARTMENT REVIEW:**	Mark T. Phillips			
CLEANUP METHOD(s):	NA				**QA APPROVAL:**	Kirstin L. McCracken			
STUDY ID:	EI0ZI9Z5_ApprovedMdlvs				**DATE APPROVED:**	6/26/2008			
ANALYTE	**CAS #**	**MDLV SOURCE**	**SOURCE STUDY**	**SOURCE INSTRUMENT**	**SOURCE ANALYSIS DATE**	**vMDL ug/kg**	**QL ug/kg**	**QL/vMDL Ratio**	**RL ug/kg**
Dichlorodifluoromethane	75-71-8	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.8	250	26	250
Chloromethane	74-87-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	7.0	250	36	250
Vinyl chloride	75-01-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.6	250	38	250
Bromomethane	74-83-9	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	39	250	6	250
Chloroethane	75-00-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	17	250	15	250
Trichlorofluoromethane	75-69-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.6	250	29	250
1,1-Dichloroethene	75-35-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	13	250	19	250
Acetone	67-64-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	83	500	6	500
Carbon disulfide	75-15-0	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.0	250	28	250
Methyl acetate	79-20-9	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	16	250	16	250
Methylene chloride	75-09-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	14	250	18	250
trans-1,2-Dichloroethene	156-60-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.1	250	41	250
Methyl tert-butyl ether	1634-04-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.0	250	31	250
1,1-Dichloroethane	75-34-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.1	250	31	250
cis-1,2-Dichloroethene	156-59-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.0	250	42	250
2-Butanone	78-93-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	73	500	7	500
Bromochloromethane	74-97-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	3.3	250	76	250
Chloroform	67-66-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.5	250	29	250
1,1,1-Trichloroethane	71-55-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.9	250	28	250
Cyclohexane	110-82-7	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	15	250	17	250
Carbon tetrachloride	56-23-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	12	250	21	250
Benzene	71-43-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	13	250	19	250
1,2-Dichloroethane	107-06-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
1,4-Dioxane	123-91-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	490	5000	10	5000
Trichloroethene	79-01-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
Methylcyclohexane	108-87-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	15	250	17	250
1,2-Dichloropropane	78-87-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	22	250	11	250
Bromodichloromethane	75-27-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.5	250	38	250
cis-1,3-Dichloropropene	10061-01-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	7.8	250	32	250
4-Methyl-2-pentanone	108-10-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	20	500	25	500
Toluene	108-88-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.5	250	29	250
trans-1,3-Dichloropropene	10061-02-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	12	250	21	250
1,1,2-Trichloroethane	79-00-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.0	250	31	250
Tetrachloroethene	127-18-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.1	250	31	250

Verified MDL Report

EFFECTIVE DATE:	6/26/2008				**MATRIX:**	SOIL			
TEST METHOD:	SOM01.2	**PREP METHOD:** SOM01.2			**DEPARTMENT REVIEW:**	Mark T. Phillips			
CLEANUP METHOD(s):	NA				**QA APPROVAL:**	Kirstin L. McCracken			
STUDY ID:	EI0ZI9Z5_ApprovedMdlvs				**DATE APPROVED:**	6/26/2008			
ANALYTE	**CAS #**	**MDLV SOURCE**	**SOURCE STUDY**	**SOURCE INSTRUMENT**	**SOURCE ANALYSIS DATE**	**vMDL ug/kg**	**QL ug/kg**	**QL/vMDL Ratio**	**RL ug/kg**
2-Hexanone	591-78-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	40	500	13	500
Dibromochloromethane	124-48-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	5.8	250	43	250
1,2-Dibromoethane	106-93-4	MDLV Standard	EH0XWSZR_MDLV	M.i	6/24/2008	25	250	10	250
Chlorobenzene	108-90-7	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.9	250	28	250
Ethylbenzene	100-41-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.6	250	38	250
o-Xylene	95-47-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.1	250	31	250
m,p-Xylene	179601-23-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.1	250	27	250
Styrene	100-42-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.0	250	31	250
Bromoform	75-25-2	MDLV Standard	EH0XWSZR_MDLV	M.i	6/24/2008	25	250	10	250
Isopropylbenzene	98-82-8	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	7.7	250	32	250
1,1,2,2-Tetrachloroethane	79-34-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.0	250	28	250
1,3-Dichlorobenzene	541-73-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.7	250	26	250
1,4-Dichlorobenzene	106-46-7	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.4	250	27	250
1,2-Dichlorobenzene	95-50-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	10	250	25	250
1,2-Dibromo-3-chloropropane	96-12-8	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	34	250	7	250
1,2,4-Trichlorobenzene	120-82-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
1,2,3-Trichlorobenzene	87-61-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	12	250	21	250

MDL VERIFICATION STANDARD SUMMARY

DATE COMPLETED:	6/24/2008	INSTRUMENT ID(s):	M.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s):	Michael R. Veilleux
CLEANUP METHOD(s):	NA	DEPARTMENT REVIEW:	Mark T. Phillips
MATRIX:	SOIL	DATE REVIEWED:	6/25/2008

		CALCULATED	VERIFIED	MDLVA			MDLVB			MDLVC		
		MDL	MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	9.8	9.8	108.6	100	10	18.11	13	1	29.53	25	3
Chloromethane	74-87-3	7.0	7.0	107.5	100	14	19.42	13	2	29.67	25	4
Vinyl chloride	75-01-4	6.6	6.6	103.4	100	15	NA	13	2	26.02	25	4
Bromomethane	74-83-9	39	39	133.4	100	3	24.87	13	NA	28.48	25	NA
Chloroethane	75-00-3	17	17	124.4	100	6	NA	13	NA	NA	25	2
Trichlorofluoromethane	75-69-4	8.6	8.6	101.4	100	12	17.34	13	2	27.34	25	3
1,1-Dichloroethene	75-35-4	11	11	107.4	100	9	24.43	13	1	34.69	25	2
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	13	13	99.38	100	8	17.92	13	1	27.19	25	2
Acetone	67-64-1	83	83	181.5	200	2	NA	25	NA	91.37	50	NA
Carbon disulfide	75-15-0	9.0	9.0	95.42	100	11	NA	13	1	23.99	25	3
Methyl acetate	79-20-9	16	16	128.7	100	6	NA	13	NA	61.13	25	2
Methylene chloride	75-09-2	14	14	100.8	100	7	21.78	13	NA	28.96	25	2
trans-1,2-Dichloroethene	156-60-5	6.1	6.1	102.9	100	16	22.69	13	2	32.82	25	4
Methyl tert-butyl ether	1634-04-4	8.0	8.0	100.3	100	13	22.76	13	2	30.02	25	3
1,1-Dichloroethane	75-34-3	8.1	8.1	105.6	100	12	18.45	13	2	28.96	25	3
cis-1,2-Dichloroethene	156-59-2	6.0	6.0	105.3	100	17	19.39	13	2	32.88	25	4
2-Butanone	78-93-3	73	73	273.3	200	3	132.7	25	NA	139.3	50	NA
Bromochloromethane	74-97-5	3.3	3.3	96.14	100	30	14.12	13	4	24.84	25	8
Chloroform	67-66-3	8.5	8.5	106.5	100	12	20.74	13	2	29.39	25	3
1,1,1-Trichloroethane	71-55-6	8.9	8.9	98.31	100	11	17.43	13	2	28.52	25	3
Cyclohexane	110-82-7	15	15	102.5	100	7	22.12	13	NA	30.71	25	2
Carbon tetrachloride	56-23-5	12	12	95.62	100	8	16.17	13	1	24.61	25	2
Benzene	71-43-2	13	13	97.79	100	8	19.66	13	1	26.87	25	2
1,2-Dichloroethane	107-06-2	11	11	103.2	100	9	17.85	13	1	28.61	25	2
1,4-Dioxane	123-91-1	490	490	2053	1800	4	NA	230	NA	NA	450	NA
Trichloroethene	79-01-6	11	11	102.1	100	9	19.00	13	1	30.97	25	2
Methylcyclohexane	108-87-2	15	15	105.4	100	7	19.96	13	NA	32.01	25	2
1,2-Dichloropropane	78-87-5	22	22	108.7	100	5	14.34	13	NA	26.62	25	1
Bromodichloromethane	75-27-4	6.5	6.5	96.42	100	15	18.21	13	2	26.87	25	4
cis-1,3-Dichloropropene	10061-01-5	7.8	7.8	98.51	100	13	19.18	13	2	27.77	25	3
4-Methyl-2-pentanone	108-10-1	20	20	200.7	200	10	39.09	25	1	71.17	50	3
Toluene	108-88-3	8.5	8.5	101.3	100	12	23.46	13	2	34.01	25	3
trans-1,3-Dichloropropene	10061-02-6	12	12	101.6	100	8	19.08	13	1	29.30	25	2

MDL VERIFICATION STANDARD SUMMARY

DATE COMPLETED:	6/24/2008						INSTRUMENT ID(s):	M.i				
TEST METHOD:	SOM01.2						COLUMN ID(s):	DB-624				
PREP METHOD:	SOM01.2						ANALYST(s):	Michael R. Veilleux				
CLEANUP METHOD(s):	NA						DEPARTMENT REVIEW:	Mark T. Phillips				
MATRIX:	SOIL						DATE REVIEWED:	6/25/2008				
		CALCULATED	VERIFIED	MDLVA			MDLVB			MDLVC		
		MDL	MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	8.0	8.0	100.4	100	13	17.80	13	2	27.57	25	3
Tetrachloroethene	127-18-4	8.1	8.1	96.33	100	12	15.53	13	2	24.60	25	3
2-Hexanone	591-78-6	40	40	228.4	200	5	50.98	25	NA	59.87	50	1
Dibromochloromethane	124-48-1	5.8	5.8	94.37	100	17	15.43	13	2	24.83	25	4
1,2-Dibromoethane	106-93-4	5.5	25	94.60	100	18	NA	13	2	23.93	25	5
Chlorobenzene	108-90-7	8.9	8.9	98.48	100	11	17.63	13	2	25.77	25	3
Ethylbenzene	100-41-4	6.6	6.6	99.70	100	15	19.24	13	2	28.52	25	4
o-Xylene	95-47-6	8.1	8.1	102.6	100	12	18.32	13	2	28.58	25	3
m,p-Xylene	179601-23-1	9.1	9.1	101.3	100	11	21.32	13	1	30.37	25	3
Styrene	100-42-5	8.0	8.0	95.82	100	13	16.81	13	2	26.41	25	3
Bromoform	75-25-2	5.2	25	91.22	100	19	NA	13	3	24.20	25	5
Isopropylbenzene	98-82-8	7.7	7.7	99.14	100	13	18.21	13	2	27.69	25	3
1,1,2,2-Tetrachloroethane	79-34-5	9.0	9.0	99.40	100	11	18.71	13	1	27.86	25	3
1,3-Dichlorobenzene	541-73-1	9.7	9.7	91.92	100	10	17.53	13	1	27.80	25	3
1,4-Dichlorobenzene	106-46-7	9.4	9.4	98.45	100	11	18.94	13	1	27.63	25	3
1,2-Dichlorobenzene	95-50-1	10	10	97.38	100	10	17.01	13	1	27.46	25	3
1,2-Dibromo-3-chloropropane	96-12-8	34	34	108.9	100	3	16.29	13	NA	31.34	25	NA
1,2,4-Trichlorobenzene	120-82-1	11	11	87.44	100	9	14.19	13	1	26.80	25	2
1,2,3-Trichlorobenzene	87-61-6	12	12	95.94	100	8	18.71	13	1	28.39	25	2

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	6/24/2008	INSTRUMENT ID(s):	M.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s)	Michael R. Veilleux
CLEANUP METHOD(s):	NA	DEPARTMENT REVIEW:	Mark T. Phillips
MATRIX:	SOIL	REVIEW DATE:	6/25/2008

		CALCULATED	VERIFIED	MDLVD								
		MDL	MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	9.8	9.8	51.30	50	5						
Chloromethane	74-87-3	7.0	7.0	50.09	50	7						
Vinyl chloride	75-01-4	6.6	6.6	50.78	50	8						
Bromomethane	74-83-9	39	39	62.90	50	1						
Chloroethane	75-00-3	17	17	66.90	50	3						
Trichlorofluoromethane	75-69-4	8.6	8.6	46.34	50	6						
1,1-Dichloroethene	75-35-4	11	11	58.44	50	5						
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	13	13	50.78	50	4						
Acetone	67-64-1	83	83	132.4	100	1						
Carbon disulfide	75-15-0	9.0	9.0	51.11	50	6						
Methyl acetate	79-20-9	16	16	79.51	50	3						
Methylene chloride	75-09-2	14	14	52.66	50	4						
trans-1,2-Dichloroethene	156-60-5	6.1	6.1	53.83	50	8						
Methyl tert-butyl ether	1634-04-4	8.0	8.0	49.79	50	6						
1,1-Dichloroethane	75-34-3	8.1	8.1	51.23	50	6						
cis-1,2-Dichloroethene	156-59-2	6.0	6.0	49.44	50	8						
2-Butanone	78-93-3	73	73	159.2	100	1						
Bromochloromethane	74-97-5	3.3	3.3	46.90	50	15						
Chloroform	67-66-3	8.5	8.5	51.35	50	6						
1,1,1-Trichloroethane	71-55-6	8.9	8.9	51.30	50	6						
Cyclohexane	110-82-7	15	15	52.02	50	3						
Carbon tetrachloride	56-23-5	12	12	46.63	50	4						
Benzene	71-43-2	13	13	50.31	50	4						
1,2-Dichloroethane	107-06-2	11	11	52.23	50	5						
1,4-Dioxane	123-91-1	490	490	1534	900	2						
Trichloroethene	79-01-6	11	11	51.03	50	5						
Methylcyclohexane	108-87-2	15	15	47.78	50	3						
1,2-Dichloropropane	78-87-5	22	22	42.83	50	2						
Bromodichloromethane	75-27-4	6.5	6.5	46.06	50	8						
cis-1,3-Dichloropropene	10061-01-5	7.8	7.8	48.67	50	6						
4-Methyl-2-pentanone	108-10-1	20	20	111.8	100	5						
Toluene	108-88-3	8.5	8.5	54.92	50	6						
trans-1,3-Dichloropropene	10061-02-6	12	12	49.06	50	4						

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	6/24/2008	INSTRUMENT ID(s):	M.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s)	Michael R. Veilleux
CLEANUP METHOD(s):	NA	DEPARTMENT REVIEW:	Mark T. Phillips
MATRIX:	SOIL	REVIEW DATE:	6/25/2008

				MDLVD								
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	8.0	8.0	49.83	50	6						
Tetrachloroethene	127-18-4	8.1	8.1	50.12	50	6						
2-Hexanone	591-78-6	40	40	87.97	100	3						
Dibromochloromethane	124-48-1	5.8	5.8	44.60	50	9						
1,2-Dibromoethane	106-93-4	5.5	25	45.09	50	9						
Chlorobenzene	108-90-7	8.9	8.9	49.31	50	6						
Ethylbenzene	100-41-4	6.6	6.6	50.66	50	8						
o-Xylene	95-47-6	8.1	8.1	49.86	50	6						
m,p-Xylene	179601-23-1	9.1	9.1	52.02	50	6						
Styrene	100-42-5	8.0	8.0	47.23	50	6						
Bromoform	75-25-2	5.2	25	44.69	50	10						
Isopropylbenzene	98-82-8	7.7	7.7	47.83	50	7						
1,1,2,2-Tetrachloroethane	79-34-5	9.0	9.0	50.14	50	6						
1,3-Dichlorobenzene	541-73-1	9.7	9.7	48.02	50	5						
1,4-Dichlorobenzene	106-46-7	9.4	9.4	51.23	50	5						
1,2-Dichlorobenzene	95-50-1	10	10	50.14	50	5						
1,2-Dibromo-3-chloropropane	96-12-8	34	34	51.44	50	2						
1,2,4-Trichlorobenzene	120-82-1	11	11	48.77	50	5						
1,2,3-Trichlorobenzene	87-61-6	12	12	44.86	50	4						

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	108.6 J	250	100	ug/kg
Chloromethane	74-87-3	107.5 J	250	100	ug/kg
Vinyl chloride	75-01-4	103.4 J	250	100	ug/kg
Bromomethane	74-83-9	133.4 J	250	100	ug/kg
Chloroethane	75-00-3	124.4 J	250	100	ug/kg
Trichlorofluoromethane	75-69-4	101.4 J	250	100	ug/kg
1,1-Dichloroethene	75-35-4	107.4 J	250	100	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	99.38 J	250	100	ug/kg
Acetone	67-64-1	181.5 J	500	200	ug/kg
Carbon disulfide	75-15-0	95.42 J	250	100	ug/kg
Methyl acetate	79-20-9	128.7 J	250	100	ug/kg
Methylene chloride	75-09-2	100.8 J	250	100	ug/kg
trans-1,2-Dichloroethene	156-60-5	102.9 J	250	100	ug/kg
Methyl tert-butyl ether	1634-04-4	100.3 J	250	100	ug/kg
1,1-Dichloroethane	75-34-3	105.6 J	250	100	ug/kg
cis-1,2-Dichloroethene	156-59-2	105.3 J	250	100	ug/kg
2-Butanone	78-93-3	273.3 J	500	200	ug/kg
Bromochloromethane	74-97-5	96.14 J	250	100	ug/kg
Chloroform	67-66-3	106.5 J	250	100	ug/kg
1,1,1-Trichloroethane	71-55-6	98.31 J	250	100	ug/kg
Cyclohexane	110-82-7	102.5 J	250	100	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 20:26
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVA_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	95.62 J	250	100	ug/kg
Benzene	71-43-2	97.79 J	250	100	ug/kg
1,2-Dichloroethane	107-06-2	103.2 J	250	100	ug/kg
1,4-Dioxane	123-91-1	2053 J	5000	1800	ug/kg
Trichloroethene	79-01-6	102.1 J	250	100	ug/kg
Methylcyclohexane	108-87-2	105.4 J	250	100	ug/kg
1,2-Dichloropropane	78-87-5	108.7 J	250	100	ug/kg
Bromodichloromethane	75-27-4	96.42 J	250	100	ug/kg
cis-1,3-Dichloropropene	10061-01-5	98.51 J	250	100	ug/kg
4-Methyl-2-pentanone	108-10-1	200.7 J	500	200	ug/kg
Toluene	108-88-3	101.3 J	250	100	ug/kg
trans-1,3-Dichloropropene	10061-02-6	101.6 J	250	100	ug/kg
1,1,2-Trichloroethane	79-00-5	100.4 J	250	100	ug/kg
Tetrachloroethene	127-18-4	96.33 J	250	100	ug/kg
2-Hexanone	591-78-6	228.4 J	500	200	ug/kg
Dibromochloromethane	124-48-1	94.37 J	250	100	ug/kg
1,2-Dibromoethane	106-93-4	94.60 J	250	100	ug/kg
Chlorobenzene	108-90-7	98.48 J	250	100	ug/kg
Ethylbenzene	100-41-4	99.70 J	250	100	ug/kg
o-Xylene	95-47-6	102.6 J	250	100	ug/kg
m,p-Xylene	179601-23-1	101.3 J	250	100	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 20:26
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVA_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	95.82 J	250	100	ug/kg
Bromoform	75-25-2	91.22 J	250	100	ug/kg
Isopropylbenzene	98-82-8	99.14 J	250	100	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	99.40 J	250	100	ug/kg
1,3-Dichlorobenzene	541-73-1	91.92 J	250	100	ug/kg
1,4-Dichlorobenzene	106-46-7	98.45 J	250	100	ug/kg
1,2-Dichlorobenzene	95-50-1	97.38 J	250	100	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	108.9 J	250	100	ug/kg
1,2,4-Trichlorobenzene	120-82-1	87.44 J	250	100	ug/kg
1,2,3-Trichlorobenzene	87-61-6	95.94 J	250	100	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 20:26
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVA_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	18.11 J	250	13	ug/kg
Chloromethane	74-87-3	19.42 J	250	13	ug/kg
Vinyl chloride	75-01-4	250.0 U	250	13	ug/kg
Bromomethane	74-83-9	24.87 J	250	13	ug/kg
Chloroethane	75-00-3	250.0 U	250	13	ug/kg
Trichlorofluoromethane	75-69-4	17.34 J	250	13	ug/kg
1,1-Dichloroethene	75-35-4	24.43 J	250	13	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	17.92 J	250	13	ug/kg
Acetone	67-64-1	500.0 U	500	25	ug/kg
Carbon disulfide	75-15-0	250.0 U	250	13	ug/kg
Methyl acetate	79-20-9	250.0 U	250	13	ug/kg
Methylene chloride	75-09-2	21.78 J	250	13	ug/kg
trans-1,2-Dichloroethene	156-60-5	22.69 J	250	13	ug/kg
Methyl tert-butyl ether	1634-04-4	22.76 J	250	13	ug/kg
1,1-Dichloroethane	75-34-3	18.45 J	250	13	ug/kg
cis-1,2-Dichloroethene	156-59-2	19.39 J	250	13	ug/kg
2-Butanone	78-93-3	132.7 J	500	25	ug/kg
Bromochloromethane	74-97-5	14.12 J	250	13	ug/kg
Chloroform	67-66-3	20.74 J	250	13	ug/kg
1,1,1-Trichloroethane	71-55-6	17.43 J	250	13	ug/kg
Cyclohexane	110-82-7	22.12 J	250	13	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:03
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVB_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	16.17 J	250	13	ug/kg
Benzene	71-43-2	19.66 J	250	13	ug/kg
1,2-Dichloroethane	107-06-2	17.85 J	250	13	ug/kg
1,4-Dioxane	123-91-1	5000 U	5000	230	ug/kg
Trichloroethene	79-01-6	19.00 J	250	13	ug/kg
Methylcyclohexane	108-87-2	19.96 J	250	13	ug/kg
1,2-Dichloropropane	78-87-5	14.34 J	250	13	ug/kg
Bromodichloromethane	75-27-4	18.21 J	250	13	ug/kg
cis-1,3-Dichloropropene	10061-01-5	19.18 J	250	13	ug/kg
4-Methyl-2-pentanone	108-10-1	39.09 J	500	25	ug/kg
Toluene	108-88-3	23.46 J	250	13	ug/kg
trans-1,3-Dichloropropene	10061-02-6	19.08 J	250	13	ug/kg
1,1,2-Trichloroethane	79-00-5	17.80 J	250	13	ug/kg
Tetrachloroethene	127-18-4	15.53 J	250	13	ug/kg
2-Hexanone	591-78-6	50.98 J	500	25	ug/kg
Dibromochloromethane	124-48-1	15.43 J	250	13	ug/kg
1,2-Dibromoethane	106-93-4	250.0 U	250	13	ug/kg
Chlorobenzene	108-90-7	17.63 J	250	13	ug/kg
Ethylbenzene	100-41-4	19.24 J	250	13	ug/kg
o-Xylene	95-47-6	18.32 J	250	13	ug/kg
m,p-Xylene	179601-23-1	21.32 J	250	13	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:03
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVB_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	16.81 J	250	13	ug/kg
Bromoform	75-25-2	250.0 U	250	13	ug/kg
Isopropylbenzene	98-82-8	18.21 J	250	13	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	18.71 J	250	13	ug/kg
1,3-Dichlorobenzene	541-73-1	17.53 J	250	13	ug/kg
1,4-Dichlorobenzene	106-46-7	18.94 J	250	13	ug/kg
1,2-Dichlorobenzene	95-50-1	17.01 J	250	13	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	16.29 J	250	13	ug/kg
1,2,4-Trichlorobenzene	120-82-1	14.19 J	250	13	ug/kg
1,2,3-Trichlorobenzene	87-61-6	18.71 J	250	13	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:03
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVB_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	29.53 J	250	25	ug/kg
Chloromethane	74-87-3	29.67 J	250	25	ug/kg
Vinyl chloride	75-01-4	26.02 J	250	25	ug/kg
Bromomethane	74-83-9	28.48 J	250	25	ug/kg
Chloroethane	75-00-3	250.0 U	250	25	ug/kg
Trichlorofluoromethane	75-69-4	27.34 J	250	25	ug/kg
1,1-Dichloroethene	75-35-4	34.69 J	250	25	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	27.19 J	250	25	ug/kg
Acetone	67-64-1	91.37 J	500	50	ug/kg
Carbon disulfide	75-15-0	23.99 J	250	25	ug/kg
Methyl acetate	79-20-9	61.13 J	250	25	ug/kg
Methylene chloride	75-09-2	28.96 J	250	25	ug/kg
trans-1,2-Dichloroethene	156-60-5	32.82 J	250	25	ug/kg
Methyl tert-butyl ether	1634-04-4	30.02 J	250	25	ug/kg
1,1-Dichloroethane	75-34-3	28.96 J	250	25	ug/kg
cis-1,2-Dichloroethene	156-59-2	32.88 J	250	25	ug/kg
2-Butanone	78-93-3	139.3 J	500	50	ug/kg
Bromochloromethane	74-97-5	24.84 J	250	25	ug/kg
Chloroform	67-66-3	29.39 J	250	25	ug/kg
1,1,1-Trichloroethane	71-55-6	28.52 J	250	25	ug/kg
Cyclohexane	110-82-7	30.71 J	250	25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:31
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVC_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	24.61 J	250	25	ug/kg
Benzene	71-43-2	26.87 J	250	25	ug/kg
1,2-Dichloroethane	107-06-2	28.61 J	250	25	ug/kg
1,4-Dioxane	123-91-1	5000 U	5000	450	ug/kg
Trichloroethene	79-01-6	30.97 J	250	25	ug/kg
Methylcyclohexane	108-87-2	32.01 J	250	25	ug/kg
1,2-Dichloropropane	78-87-5	26.62 J	250	25	ug/kg
Bromodichloromethane	75-27-4	26.87 J	250	25	ug/kg
cis-1,3-Dichloropropene	10061-01-5	27.77 J	250	25	ug/kg
4-Methyl-2-pentanone	108-10-1	71.17 J	500	50	ug/kg
Toluene	108-88-3	34.01 J	250	25	ug/kg
trans-1,3-Dichloropropene	10061-02-6	29.30 J	250	25	ug/kg
1,1,2-Trichloroethane	79-00-5	27.57 J	250	25	ug/kg
Tetrachloroethene	127-18-4	24.60 J	250	25	ug/kg
2-Hexanone	591-78-6	59.87 J	500	50	ug/kg
Dibromochloromethane	124-48-1	24.83 J	250	25	ug/kg
1,2-Dibromoethane	106-93-4	23.93 J	250	25	ug/kg
Chlorobenzene	108-90-7	25.77 J	250	25	ug/kg
Ethylbenzene	100-41-4	28.52 J	250	25	ug/kg
o-Xylene	95-47-6	28.58 J	250	25	ug/kg
m,p-Xylene	179601-23-1	30.37 J	250	25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:31
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVC_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	26.41 J	250	25	ug/kg
Bromoform	75-25-2	24.20 J	250	25	ug/kg
Isopropylbenzene	98-82-8	27.69 J	250	25	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	27.86 J	250	25	ug/kg
1,3-Dichlorobenzene	541-73-1	27.80 J	250	25	ug/kg
1,4-Dichlorobenzene	106-46-7	27.63 J	250	25	ug/kg
1,2-Dichlorobenzene	95-50-1	27.46 J	250	25	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	31.34 J	250	25	ug/kg
1,2,4-Trichlorobenzene	120-82-1	26.80 J	250	25	ug/kg
1,2,3-Trichlorobenzene	87-61-6	28.39 J	250	25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:31
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVC_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	51.30 J	250	50	ug/kg
Chloromethane	74-87-3	50.09 J	250	50	ug/kg
Vinyl chloride	75-01-4	50.78 J	250	50	ug/kg
Bromomethane	74-83-9	62.90 J	250	50	ug/kg
Chloroethane	75-00-3	66.90 J	250	50	ug/kg
Trichlorofluoromethane	75-69-4	46.34 J	250	50	ug/kg
1,1-Dichloroethene	75-35-4	58.44 J	250	50	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	50.78 J	250	50	ug/kg
Acetone	67-64-1	132.4 J	500	100	ug/kg
Carbon disulfide	75-15-0	51.11 J	250	50	ug/kg
Methyl acetate	79-20-9	79.51 J	250	50	ug/kg
Methylene chloride	75-09-2	52.66 J	250	50	ug/kg
trans-1,2-Dichloroethene	156-60-5	53.83 J	250	50	ug/kg
Methyl tert-butyl ether	1634-04-4	49.79 J	250	50	ug/kg
1,1-Dichloroethane	75-34-3	51.23 J	250	50	ug/kg
cis-1,2-Dichloroethene	156-59-2	49.44 J	250	50	ug/kg
2-Butanone	78-93-3	159.2 J	500	100	ug/kg
Bromochloromethane	74-97-5	46.90 J	250	50	ug/kg
Chloroform	67-66-3	51.35 J	250	50	ug/kg
1,1,1-Trichloroethane	71-55-6	51.30 J	250	50	ug/kg
Cyclohexane	110-82-7	52.02 J	250	50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:59
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVD_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	46.63 J	250	50	ug/kg
Benzene	71-43-2	50.31 J	250	50	ug/kg
1,2-Dichloroethane	107-06-2	52.23 J	250	50	ug/kg
1,4-Dioxane	123-91-1	1534 J	5000	900	ug/kg
Trichloroethene	79-01-6	51.03 J	250	50	ug/kg
Methylcyclohexane	108-87-2	47.78 J	250	50	ug/kg
1,2-Dichloropropane	78-87-5	42.83 J	250	50	ug/kg
Bromodichloromethane	75-27-4	46.06 J	250	50	ug/kg
cis-1,3-Dichloropropene	10061-01-5	48.67 J	250	50	ug/kg
4-Methyl-2-pentanone	108-10-1	111.8 J	500	100	ug/kg
Toluene	108-88-3	54.92 J	250	50	ug/kg
trans-1,3-Dichloropropene	10061-02-6	49.06 J	250	50	ug/kg
1,1,2-Trichloroethane	79-00-5	49.83 J	250	50	ug/kg
Tetrachloroethene	127-18-4	50.12 J	250	50	ug/kg
2-Hexanone	591-78-6	87.97 J	500	100	ug/kg
Dibromochloromethane	124-48-1	44.60 J	250	50	ug/kg
1,2-Dibromoethane	106-93-4	45.09 J	250	50	ug/kg
Chlorobenzene	108-90-7	49.31 J	250	50	ug/kg
Ethylbenzene	100-41-4	50.66 J	250	50	ug/kg
o-Xylene	95-47-6	49.86 J	250	50	ug/kg
m,p-Xylene	179601-23-1	52.02 J	250	50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:59
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVD_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	47.23 J	250	50	ug/kg
Bromoform	75-25-2	44.69 J	250	50	ug/kg
Isopropylbenzene	98-82-8	47.83 J	250	50	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	50.14 J	250	50	ug/kg
1,3-Dichlorobenzene	541-73-1	48.02 J	250	50	ug/kg
1,4-Dichlorobenzene	106-46-7	51.23 J	250	50	ug/kg
1,2-Dichlorobenzene	95-50-1	50.14 J	250	50	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	51.44 J	250	50	ug/kg
1,2,4-Trichlorobenzene	120-82-1	48.77 J	250	50	ug/kg
1,2,3-Trichlorobenzene	87-61-6	44.86 J	250	50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:59
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVD_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2

Matrix: SOIL
Analysis Level: Medium

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Dichlorodifluoromethane	75-71-8	62.27	62.35	56.42	53.83	59.94	57.48	58.81	58.73	50	117	3.110E+0	9.8	250	6
Chloromethane	74-87-3	59.58	61.46	56.60	57.72	59.05	63.14	60.53	59.73	50	119	2.220E+0	7.0	250	9
Vinyl chloride	75-01-4	63.87	57.95	60.50	58.88	62.56	61.75	62.26	61.11	50	122	2.113E+0	6.6	250	9
Bromomethane	74-83-9	63.55	66.19	49.90	87.65	54.43	55.72	63.54	63.00	50	126	1.236E+1	39	250	2
Chloroethane	75-00-3	78.89	69.12	78.18	67.05	80.58	80.77	75.52	75.73	50	151	5.538E+0	17	250	4
Trichlorofluoromethane	75-69-4	59.93	60.05	54.98	55.82	58.80	53.84	54.07	56.78	50	114	2.734E+0	8.6	250	7
1,1-Dichloroethene	75-35-4	65.25	70.88	65.61	58.95	63.66	65.00	66.07	65.06	50	130	3.524E+0	11	250	6
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	63.78	60.15	51.55	52.83	58.32	56.95	56.34	57.13	50	114	4.184E+0	13	250	4
Acetone	67-64-1	162.2	140.2	165.0	111.2	142.7	93.02	123.9	134.0	100	134	2.637E+1	83	500	2
Carbon disulfide	75-15-0	57.11	60.38	51.41	53.46	55.75	54.43	56.55	55.58	50	111	2.874E+0	9.0	250	6
Methyl acetate	79-20-9	95.20	93.64	95.30	93.55	102.0	92.10	106.2	96.86	50	194	5.209E+0	16	250	6
Methylene chloride	75-09-2	63.71	64.41	56.40	58.67	67.07	55.95	57.93	60.59	50	121	4.400E+0	14	250	4
trans-1,2-Dichloroethene	156-60-5	63.07	64.57	58.94	61.50	59.50	61.28	60.83	61.38	50	123	1.951E+0	6.1	250	10
Methyl tert-butyl ether	1634-04-4	61.81	61.69	56.68	55.59	60.65	57.14	58.54	58.87	50	118	2.531E+0	8.0	250	7
1,1-Dichloroethane	75-34-3	60.83	64.99	59.47	57.40	61.45	58.20	58.50	60.12	50	120	2.586E+0	8.1	250	7
cis-1,2-Dichloroethene	156-59-2	59.57	59.96	57.73	57.91	62.47	56.65	59.08	59.05	50	118	1.897E+0	6.0	250	10
2-Butanone	78-93-3	201.4	231.0	201.5	198.0	187.1	159.0	172.3	192.9	100	193	2.321E+1	73	500	3
Bromochloromethane	74-97-5	53.58	53.75	51.59	53.39	52.67	53.00	55.01	53.28	50	107	1.051E+0	3.3	250	16
Chloroform	67-66-3	59.74	64.52	58.76	56.12	62.52	59.71	60.76	60.30	50	121	2.691E+0	8.5	250	7
1,1,1-Trichloroethane	71-55-6	61.25	58.02	53.54	54.19	59.96	57.80	58.20	57.57	50	115	2.816E+0	8.9	250	6
Cyclohexane	110-82-7	67.06	60.89	57.87	55.01	65.69	59.03	56.15	60.24	50	120	4.615E+0	15	250	4

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 06/24/2008

Comments: _____

Analyzed By: Michael R. Veilleux
Reviewed By: Edward L. Coffey

Analysis Date: 06/24/2008
Review Date: 06/25/2008

Study Name: SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLa
Study ID: EH0XVX46_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2

Matrix: SOIL
Analysis Level: Medium

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Carbon tetrachloride	56-23-5	56.49	52.71	47.33	46.75	54.11	48.37	54.02	51.40	50	103	3.856E+0	12	250	4
Benzene	71-43-2	59.69	59.78	51.91	51.74	62.49	58.13	56.53	57.18	50	114	4.081E+0	13	250	4
1,2-Dichloroethane	107-06-2	59.49	59.27	55.26	51.81	63.10	56.38	59.36	57.81	50	116	3.649E+0	11	250	5
1,4-Dioxane	123-91-1	1604	1320	1509	1339	1174	1376	1189	1359	900	151	1.570E+2	490	5000	3
Trichloroethene	79-01-6	63.62	63.24	55.46	54.83	59.53	61.52	59.32	59.65	50	119	3.489E+0	11	250	5
Methylcyclohexane	108-87-2	64.98	70.54	57.82	57.13	59.17	63.97	63.05	62.38	50	125	4.743E+0	15	250	4
1,2-Dichloropropane	78-87-5	66.78	52.99	48.08	47.73	57.49	50.20	48.20	53.07	50	106	6.987E+0	22	250	2
Bromodichloromethane	75-27-4	58.36	59.03	54.00	53.85	57.24	55.84	55.07	56.20	50	112	2.063E+0	6.5	250	9
cis-1,3-Dichloropropene	10061-01-5	58.97	59.81	53.93	52.95	56.78	55.95	55.91	56.33	50	113	2.476E+0	7.8	250	7
4-Methyl-2-pentanone	108-10-1	116.3	123.2	131.1	121.1	127.2	114.9	129.9	123.4	100	123	6.377E+0	20	500	6
Toluene	108-88-3	65.30	67.56	62.21	59.39	63.84	61.22	63.89	63.34	50	127	2.695E+0	8.5	250	7
trans-1,3-Dichloropropene	10061-02-6	62.47	62.40	56.58	51.20	55.68	56.14	56.83	57.33	50	115	3.972E+0	12	250	5
1,1,2-Trichloroethane	79-00-5	55.87	58.66	55.00	53.32	60.69	55.01	57.65	56.60	50	113	2.532E+0	8.0	250	7
Tetrachloroethene	127-18-4	52.98	58.38	52.81	51.68	57.27	54.33	56.65	54.87	50	110	2.567E+0	8.1	250	7
2-Hexanone	591-78-6	142.1	155.0	140.3	118.2	129.8	121.7	135.8	134.7	100	135	1.268E+1	40	500	3
Dibromochloromethane	124-48-1	53.56	54.78	50.59	50.54	53.60	50.31	53.23	52.37	50	105	1.837E+0	5.8	250	9
1,2-Dibromoethane	106-93-4	54.49	55.91	54.90	52.56	58.20	54.32	55.78	55.17	50	110	1.740E+0	5.5	250	10
Chlorobenzene	108-90-7	57.77	60.87	53.99	54.26	60.34	54.96	55.91	56.87	50	114	2.844E+0	8.9	250	6
Ethylbenzene	100-41-4	58.14	61.22	56.40	55.47	60.12	57.15	59.44	58.28	50	117	2.086E+0	6.6	250	9
o-Xylene	95-47-6	56.64	60.34	54.73	55.36	61.46	55.84	57.73	57.44	50	115	2.567E+0	8.1	250	7
m,p-Xylene	179601-23-	58.82	62.62	53.64	57.38	61.24	57.52	58.90	58.59	50	117	2.902E+0	9.1	250	6

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 06/24/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: Michael R. Veilleux
Reviewed By: Edward L. Coffey

Analysis Date: 06/24/2008
Review Date: 06/25/2008

Study Name: SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLa
Study ID: EH0XVX46_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2

Matrix: SOIL
Analysis Level: Medium

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Styrene	100-42-5	56.45	59.83	55.59	52.67	59.04	54.26	55.32	56.17	50	112	2.539E+0	8.0	250	7
Bromoform	75-25-2	52.08	53.96	49.54	50.17	52.79	49.96	50.52	51.29	50	103	1.667E+0	5.2	250	10
Isopropylbenzene	98-82-8	58.35	60.91	54.25	54.74	58.92	56.38	59.12	57.52	50	115	2.464E+0	7.7	250	7
1,1,2,2-Tetrachloroethane	79-34-5	57.72	62.00	56.90	55.41	60.42	53.58	58.16	57.74	50	115	2.856E+0	9.0	250	6
1,3-Dichlorobenzene	541-73-1	57.53	57.94	51.71	53.36	60.23	53.27	56.54	55.80	50	112	3.078E+0	9.7	250	6
1,4-Dichlorobenzene	106-46-7	60.60	62.21	57.56	53.15	58.36	56.66	56.18	57.82	50	116	2.978E+0	9.4	250	6
1,2-Dichlorobenzene	95-50-1	58.30	60.48	53.25	51.31	58.21	55.47	56.92	56.28	50	113	3.173E+0	10	250	6
1,2-Dibromo-3-chloropropane	96-12-8	59.41	58.79	74.17	59.13	67.62	56.37	86.30	65.97	50	132	1.093E+1	34	250	2
1,2,4-Trichlorobenzene	120-82-1	60.43	58.09	54.10	50.06	56.00	52.52	52.66	54.84	50	110	3.575E+0	11	250	5
1,2,3-Trichlorobenzene	87-61-6	58.55	61.41	53.01	53.87	58.47	56.03	50.94	56.04	50	112	3.673E+0	12	250	5

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 06/24/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: Michael R. Veilleux
Reviewed By: Edward L. Coffey

Analysis Date: 06/24/2008
Review Date: 06/25/2008

Study Name: SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLa
Study ID: EH0XVX46_MDL

Verified MDL Report

EFFECTIVE DATE:	7/10/2008	**MATRIX:**	SOIL
TEST METHOD:	SOM01.2 PREP METHOD: SOM01.2	**DEPARTMENT REVIEW:**	Jacob Bailey
CLEANUP METHOD(s):	SOM01.2 Sulfuic Acid, SOM01.2 Sulfur	**QA APPROVAL:**	Kirstin L. McCracken
STUDY ID:	EW0ZLPRQ_ApprovedMdlvs	**DATE APPROVED:**	7/10/2008

ANALYTE	CAS #	MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	vMDL ug/kg	QL ug/kg	QL/vMDL Ratio	RL ug/kg
Aroclor-1221	11104-28-2	Statistical MDL	E90H5C50_MDL	5253_2.i	5/14/2008	4.3	33	8	33
Aroclor-1254	11097-69-1	Statistical MDL	E90H357V_MDL	5253_1.i	5/14/2008	3.2	33	10	33
Aroclor-1242	53469-21-9	Statistical MDL	E90H7MRE_MDL	5253_1.i	5/15/2008	6.5	33	5	33
Aroclor-1016	12674-11-2	Statistical MDL	E90HBRPE_MDL	5253_1.i	5/15/2008	4.4	33	8	33
Aroclor-1260	11096-82-5	Statistical MDL	E90HBRPE_MDL	5253_1.i	5/15/2008	4.9	33	7	33
Aroclor-1262	37324-23-5	Statistical MDL	E90HEWS5_MDL	5253_1.i	5/15/2008	5.0	33	7	33
Aroclor-1232	11141-16-5	Statistical MDL	E90HJHDX_MDL	5253_1.i	5/16/2008	6.0	33	6	33
Aroclor-1268	11100-14-4	Statistical MDL	E90HJHDX_MDL	5253_1.i	5/16/2008	1.9	33	17	33
Aroclor-1248	12672-29-6	Statistical MDL	E90HMLHY_MDL	5253_1.i	5/16/2008	2.6	33	13	33

MDL VERIFICATION STANDARD SUMMARY

DATE COMPLETED:	05/24/08	INSTRUMENT ID(s):	5253_1.i & 5253_2.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	RTX-35 & RTX-5
PREP METHOD:	SOM01.2	ANALYST(s):	David P. Downing
CLEANUP METHOD(s):	SOM01.2 Sulfuic Acid, SOM01.2 Sulfur	DEPARTMENT REVIEW:	Jacob Bailey
MATRIX:	SOIL	DATE REVIEWED:	06/17/08

				MDLVA			MDLVB			MDLVC		
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Aroclor-1221	11104-28-2	4.3	4.3	9.046	8.3	2	9.479	8.3	2			
Aroclor-1254	11097-69-1	3.2	3.2	8.793	8.3	3	9.792	8.3	3			
Aroclor-1242	53469-21-9	6.5	6.5							11.03	8.3	1
Aroclor-1016	12674-11-2	4.4	4.4									
Aroclor-1260	11096-82-5	4.9	4.9									
Aroclor-1262	37324-23-5	5.0	5.0									
Aroclor-1232	11141-16-5	6.0	6.0									
Aroclor-1268	11100-14-4	1.9	1.9									
Aroclor-1248	12672-29-6	2.6	2.6									

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	05/24/08	INSTRUMENT ID(s):	5253_I.i & 5253_2.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	RTX-35 & RTX-5
PREP METHOD:	SOM01.2	ANALYST(s)	David P. Downing
CLEANUP METHOD(s):	SOM01.2 Sulfuic Acid, SOM01.2 Sulfur	DEPARTMENT REVIEW:	Jacob Bailey
MATRIX:	SOIL	REVIEW DATE:	06/17/08

				MDLVD			MDLVE			MDLVF		
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Aroclor-1221	11104-28-2	4.3	4.3									
Aroclor-1254	11097-69-1	3.2	3.2									
Aroclor-1242	53469-21-9	6.5	6.5	11.67	8.3	1						
Aroclor-1016	12674-11-2	4.4	4.4				8.083	8.3	2	8.399	8.3	2
Aroclor-1260	11096-82-5	4.9	4.9				8.861	8.3	2	9.334	8.3	2
Aroclor-1262	37324-23-5	5.0	5.0									
Aroclor-1232	11141-16-5	6.0	6.0									
Aroclor-1268	11100-14-4	1.9	1.9									
Aroclor-1248	12672-29-6	2.6	2.6									

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	05/24/08	**INSTRUMENT ID(s):**	5253_1.i & 5253_2.i
TEST METHOD:	SOM01.2	**COLUMN ID(s):**	RTX-35 & RTX-5
PREP METHOD:	SOM01.2	**ANALYST(s)**	David P. Downing
CLEANUP METHOD(s):	SOM01.2 Sulfuic Acid, SOM01.2 Sulfur	**DEPARTMENT REVIEW:**	Jacob Bailey
MATRIX:	SOIL	**REVIEW DATE:**	06/17/08

				MDLVG			MDLVH			MDLVI		
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Aroclor-1221	11104-28-2	4.3	4.3									
Aroclor-1254	11097-69-1	3.2	3.2									
Aroclor-1242	53469-21-9	6.5	6.5									
Aroclor-1016	12674-11-2	4.4	4.4									
Aroclor-1260	11096-82-5	4.9	4.9									
Aroclor-1262	37324-23-5	5.0	5.0	9.122	8.3	2	9.661	8.3	2			
Aroclor-1232	11141-16-5	6.0	6.0							9.050	8.3	1
Aroclor-1268	11100-14-4	1.9	1.9							9.609	8.3	4
Aroclor-1248	12672-29-6	2.6	2.6									

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	05/24/08	INSTRUMENT ID(s):	5253_1.i & 5253_2.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	RTX-35 & RTX-5
PREP METHOD:	SOM01.2	ANALYST(s)	David P. Downing
CLEANUP METHOD(s):	SOM01.2 Sulfuic Acid, SOM01.2 Sulfur	DEPARTMENT REVIEW:	Jacob Bailey
MATRIX:	SOIL	REVIEW DATE:	06/17/08

				MDLVJ			MDLVK			MDLVL		
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Aroclor-1221	11104-28-2	4.3	4.3									
Aroclor-1254	11097-69-1	3.2	3.2									
Aroclor-1242	53469-21-9	6.5	6.5									
Aroclor-1016	12674-11-2	4.4	4.4									
Aroclor-1260	11096-82-5	4.9	4.9									
Aroclor-1262	37324-23-5	5.0	5.0									
Aroclor-1232	11141-16-5	6.0	6.0	8.072	8.3	1						
Aroclor-1268	11100-14-4	1.9	1.9	9.585	8.3	4						
Aroclor-1248	12672-29-6	2.6	2.6				9.651	8.3	3	9.621	8.3	3

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	05/24/08	INSTRUMENT ID(s):	5253_1.i & 5253_2.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	RTX-35 & RTX-5
PREP METHOD:	SOM01.2	ANALYST(s)	David P. Downing
CLEANUP METHOD(s):	SOM01.2 Sulfuic Acid, SOM01.2 Sulfur	DEPARTMENT REVIEW:	Jacob Bailey
MATRIX:	SOIL	REVIEW DATE:	06/17/08

		CALCULATED	VERIFIED	MDLVM			MDLVN					
		MDL	MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Aroclor-1221	11104-28-2	4.3	4.3									
Aroclor-1254	11097-69-1	3.2	3.2									
Aroclor-1242	53469-21-9	6.5	6.5									
Aroclor-1016	12674-11-2	4.4	4.4									
Aroclor-1260	11096-82-5	4.9	4.9									
Aroclor-1262	37324-23-5	5.0	5.0									
Aroclor-1232	11141-16-5	6.0	6.0	NA	5.0	NA	NA	5.0	NA			
Aroclor-1268	11100-14-4	1.9	1.9	5.678	5.0	3	5.826	5.0	3			
Aroclor-1248	12672-29-6	2.6	2.6									

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1221	11104-28-2	9.046 J	33	8.3	ug/kg
Aroclor-1254	11097-69-1	8.793 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/14/2008 23:38
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVA_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-14-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1221	11104-28-2	9.479 J	33	8.3	ug/kg
Aroclor-1254	11097-69-1	9.792 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/14/2008 23:38
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVB_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-14-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1242	53469-21-9	11.03 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/15/2008 02:48
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVC_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-15-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1242	53469-21-9	11.67 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/15/2008 02:48
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVD_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-15-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVE
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1016	12674-11-2	8.083 J	33	8.3	ug/kg
Aroclor-1260	11096-82-5	8.861 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/15/2008 08:45
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVE_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-15-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVF
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1016	12674-11-2	8.399 J	33	8.3	ug/kg
Aroclor-1260	11096-82-5	9.334 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/15/2008 08:45
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVF_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-15-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVG
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1262	37324-23-5	9.122 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/15/2008 11:55
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVG_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-15-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVH
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1262	37324-23-5	9.661 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/15/2008 11:55
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVH_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-15-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVI
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1232	11141-16-5	9.050 J	33	8.3	ug/kg
Aroclor-1268	11100-14-4	9.609 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/16/2008 17:09
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVI_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-16-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVJ
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1232	11141-16-5	8.072 J	33	8.3	ug/kg
Aroclor-1268	11100-14-4	9.585 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/16/2008 17:09
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVJ_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-16-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVK
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1248	12672-29-6	9.651 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur
Prepared By: John F. Fodge
Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/16/2008 20:20
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVK_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-16-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVL
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1248	12672-29-6	9.621 J	33	8.3	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Date: 05/12/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/16/2008 20:20
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVL_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-16-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVM
Matrix: SOIL
Instrument ID: 5253_1.i
Analysis Level: Routine
Column ID: RTX-5
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1232	11141-16-5	33.00 U	33	5.0	ug/kg
Aroclor-1268	11100-14-4	5.678 J	33	5.0	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Date: 05/21/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/24/2008 03:55
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVM_SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2
Fraction: PCB

Sample ID: MDLVN
Matrix: SOIL
Instrument ID: 5253_2.i
Analysis Level: Routine
Column ID: RTX-35
Column Number: 2

Compound	CAS #	Result	RL	Spike Concentration	Units
Aroclor-1232	11141-16-5	33.00 U	33	5.0	ug/kg
Aroclor-1268	11100-14-4	5.826 J	33	5.0	ug/kg

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Date: 05/21/2008
Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL

Comments: _____

Analyzed By: David P. Downing
Analysis Date & Time: 05/24/2008 03:55
Reviewed By: Jacob L. Bailey
Review Date: 06/17/2008
Study Name: MDLVN_SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-24-2008_MDLVa

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_1.i
Column ID: RTX-5

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1221	11104-28-2	16.02	14.05	15.98	15.16	14.61	18.07	15.15	15.58	13	120	1.304E+0	4.1	33	4
Aroclor-1254	11097-69-1	15.33	14.18	15.45	14.36	12.92	14.92	13.08	14.32	13	110	1.015E+0	3.2	33	4

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/14/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-14-2008_MDLa
Study ID: E90H357V_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_2.i
Column ID: RTX-35

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1221	11104-28-2	15.07	13.54	15.10	15.38	14.17	17.90	14.65	15.12	13	116	1.380E+0	4.3	33	4
Aroclor-1254	11097-69-1	15.93	15.35	16.25	15.52	13.57	15.57	14.20	15.20	13	117	9.621E-1	3.0	33	5

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/14/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-14-2008_MDLa
Study ID: E90H5C50_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_1.i
Column ID: RTX-5

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1242	53469-21-9	12.50	11.98	13.97	14.46	15.04	18.01	12.71	14.10	13	108	2.054E+0	6.5	33	2

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/15/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-15-2008_MDLa
Study ID: E90H7MRE_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_2.i
Column ID: RTX-35

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1242	53469-21-9	12.76	12.58	14.38	14.87	15.45	18.36	12.98	14.48	13	111	2.040E+0	6.4	33	2

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Melissa L. Tice

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/15/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-15-2008_MDLa
Study ID: E90H97NL_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_1.i
Column ID: RTX-5

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1016	12674-11-2	9.529	12.18	10.93	12.43	12.49	11.78	14.07	11.92	13	92	1.414E+0	4.4	33	3
Aroclor-1260	11096-82-5	10.45	13.10	11.60	13.35	13.10	14.47	14.91	13.00	13	100	1.550E+0	4.9	33	3

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/15/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-15-2008_MDLb
Study ID: E90HBRPE_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_2.i
Column ID: RTX-35

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1016	12674-11-2	9.844	12.31	11.11	12.56	12.58	11.82	14.23	12.06	13	93	1.364E+0	4.3	33	3
Aroclor-1260	11096-82-5	10.72	13.48	11.90	14.00	13.60	12.93	15.31	13.13	13	101	1.484E+0	4.7	33	3

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/15/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-15-2008_MDLb
Study ID: E90HDFCJ_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_1.i
Column ID: RTX-5

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1262	37324-23-5	13.63	11.69	11.88	16.32	12.19	13.85	13.21	13.25	13	102	1.600E+0	5.0	33	3

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/15/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-15-2008_MDLc
Study ID: E90HEWS5_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_2.i
Column ID: RTX-35

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1262	37324-23-5	14.14	12.11	12.32	16.76	12.73	14.29	13.45	13.69	13	105	1.599E+0	5.0	33	3

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: Joshua S. Peimer

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/15/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-15-2008_MDLc
Study ID: E90HGWHA_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_1.i
Column ID: RTX-5

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1232	11141-16-5	20.07	14.71	15.49	16.12	17.50	18.83	16.34	17.01	13	131	1.904E+0	6.0	33	3
Aroclor-1268	11100-14-4	15.14	13.74	13.88	14.46	13.51	14.57	13.66	14.14	13	109	5.975E-1	1.9	33	7

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/16/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-16-2008_MDLa
Study ID: E90HJHDX_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_2.i
Column ID: RTX-35

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1232	11141-16-5	14.67	13.10	13.56	13.45	13.90	16.45	14.34	14.21	13	109	1.124E+0	3.5	33	4
Aroclor-1268	11100-14-4	14.90	13.57	13.69	14.16	13.22	14.35	13.63	13.93	13	107	5.703E-1	1.8	33	8

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/16/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-16-2008_MDLa
Study ID: E90HL1N3_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_1.i
Column ID: RTX-5

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1248	12672-29-6	14.14	14.41	14.39	14.75	13.61	13.09	15.70	14.30	13	110	8.315E-1	2.6	33	6

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X≤10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/16/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_1.i_RTX-5_05-16-2008_MDLb
Study ID: E90HMLHY_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2
Fraction: PCB

Matrix: SOIL
Analysis Level: Routine

Instrument ID: 5253_2.i
Column ID: RTX-35

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Aroclor-1248	12672-29-6	14.11	14.46	14.55	14.38	13.63	13.13	15.23	14.21	13	109	6.783E-1	2.1	33	7

Cleanup Method(s): SOM01.2 Sulfuic Acid
SOM01.2 Sulfur Sulfur

Prepared By: John F. Fodge

Preparation Method: SOM01.2
Preparation Factor: 30.0 g concentrated to 10000 uL
Prep Date: 05/12/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: David P. Downing
Reviewed By: Jacob L. Bailey

Analysis Date: 05/16/2008
Review Date: 06/17/2008

Study Name: SOM01.2_SOM01.2_PCB_L_SOIL_5253_2.i_RTX-35_05-16-2008_MDLb
Study ID: E90HO2WO_MDL

TestAmerica

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Sample Data Summary – SOM01.2 Volatiles – Soils

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B1E

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768413

Sample wt/vol: 5.51 (g/mL) g Lab File ID: 768413

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 14 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	5.3	U
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	U
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	3.5	J
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B1E

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768413

Sample wt/vol: 5.51 (g/mL) g Lab File ID: 768413

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 14 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.3	U
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	2.7	J
100-41-4	Ethylbenzene	4.2	J
95-47-6	o-Xylene	170	
179601-23-1	m,p-Xylene	17	
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	270	E
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	16	
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B1E

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768413

Sample wt/vol: 5.51 (g/mL) g Lab File ID: 768413

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 14 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	58	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.68	8.0	NJ
03	103-65-1	Benzene, propyl-	14.61	7.3	NJ
04	611-14-3	Benzene, 1-ethyl-2-methyl-	14.72	17	NJ
05	526-73-8	Benzene, 1,2,3-trimethyl-	14.82	13	NJ
06	611-14-3	Benzene, 1-ethyl-2-methyl-	15.07	54	NJ
07	95-63-6	Benzene, 1,2,4-trimethyl-	15.24	120	NJ
08	108-67-8	Benzene, 1,3,5-trimethyl-	15.70	100	NJ
09	496-11-7	Indane	15.92	12	NJ
10	874-35-1	1H-Indene, 2,3-dihydro-5-met	17.17	6.9	NJ
11	95-15-8	Benzo[b]thiophene	17.94	9.1	NJ
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C1D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768414

Sample wt/vol: 5.43 (g/mL) g Lab File ID: 768414

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 13 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	5.3	U
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	U
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C1D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768414

Sample wt/vol: 5.43 (g/mL) g Lab File ID: 768414

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 13 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.3	U
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
95-47-6	o-Xylene	5.3	U
179601-23-1	m,p-Xylene	5.3	U
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C1D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768414

Sample wt/vol: 5.43 (g/mL) g Lab File ID: 768414

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 13 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	61	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.68	9.2	NJ
03					
04					
05					
06					
07					
08					
09					
10					
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28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
T2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768918

Sample wt/vol: 5.39 (g/mL) g Lab File ID: 768918

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
T2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768918

Sample wt/vol: 5.39 (g/mL) g Lab File ID: 768918

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
T2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768918

Sample wt/vol: 5.39 (g/mL) g Lab File ID: 768918

Level: (TRACE or LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	56	JXB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415

Sample wt/vol: 5.15 (g/mL) g Lab File ID: 768415

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2	U
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	5.2	U
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415

Sample wt/vol: 5.15 (g/mL) g Lab File ID: 768415

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.2	U
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
U1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415

Sample wt/vol: 5.15 (g/mL) g Lab File ID: 768415

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	56	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.70	8.5	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
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25					
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27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U3C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768919

Sample wt/vol: 4.77 (g/mL) g Lab File ID: 768919

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 4.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.5	U
74-87-3	Chloromethane	5.5	U
75-01-4	Vinyl chloride	5.5	U
74-83-9	Bromomethane	5.5	U
75-00-3	Chloroethane	5.5	U
75-69-4	Trichlorofluoromethane	5.5	U
75-35-4	1,1-Dichloroethene	5.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.5	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.5	U
79-20-9	Methyl acetate	5.5	U
75-09-2	Methylene chloride	5.5	U
156-60-5	trans-1,2-Dichloroethene	5.5	U
1634-04-4	Methyl tert-butyl ether	5.5	U
75-34-3	1,1-Dichloroethane	5.5	U
156-59-2	cis-1,2-Dichloroethene	5.5	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.5	U
67-66-3	Chloroform	5.5	U
71-55-6	1,1,1-Trichloroethane	5.5	U
110-82-7	Cyclohexane	5.5	U
56-23-5	Carbon tetrachloride	5.5	U
71-43-2	Benzene	5.5	U
107-06-2	1,2-Dichloroethane	5.5	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U3C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768919

Sample wt/vol: 4.77 (g/mL) g Lab File ID: 768919

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 4.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.5	U
108-87-2	Methylcyclohexane	5.5	U
78-87-5	1,2-Dichloropropane	5.5	U
75-27-4	Bromodichloromethane	5.5	U
10061-01-5	cis-1,3-Dichloropropene	5.5	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.5	U
10061-02-6	trans-1,3-Dichloropropene	5.5	U
79-00-5	1,1,2-Trichloroethane	5.5	U
127-18-4	Tetrachloroethene	5.5	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.5	U
106-93-4	1,2-Dibromoethane	5.5	U
108-90-7	Chlorobenzene	5.5	U
100-41-4	Ethylbenzene	5.5	U
95-47-6	o-Xylene	5.5	U
179601-23-1	m,p-Xylene	5.5	U
100-42-5	Styrene	5.5	U
75-25-2	Bromoform	5.5	U
98-82-8	Isopropylbenzene	5.5	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U
541-73-1	1,3-Dichlorobenzene	5.5	U
106-46-7	1,4-Dichlorobenzene	5.5	U
95-50-1	1,2-Dichlorobenzene	5.5	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	U
120-82-1	1,2,4-Trichlorobenzene	5.5	U
87-61-6	1,2,3-Trichlorobenzene	5.5	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
U3C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768919

Sample wt/vol: 4.77 (g/mL) g Lab File ID: 768919

Level: (TRACE or LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 4.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	62	JXB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768920

Sample wt/vol: 5.60 (g/mL) g Lab File ID: 768920

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	9.6	U
75-15-0	Carbon disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	4.8	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
78-93-3	2-Butanone	9.6	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	96	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768920

Sample wt/vol: 5.60 (g/mL) g Lab File ID: 768920

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	4.8	U
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.6	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	2.7	J
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
U4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768920

Sample wt/vol: 5.60 (g/mL) g Lab File ID: 768920

Level: (TRACE or LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	54	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.67	6.2	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U5C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768921

Sample wt/vol: 5.04 (g/mL) g Lab File ID: 768921

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	5.4	U
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	5.4	U
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U5C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768921

Sample wt/vol: 5.04 (g/mL) g Lab File ID: 768921

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.4	U
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
95-47-6	o-Xylene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
U5C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768921

Sample wt/vol: 5.04 (g/mL) g Lab File ID: 768921

Level: (TRACE or LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	59	JXB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U6C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768922

Sample wt/vol: 5.15 (g/mL) g Lab File ID: 768922

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	5.4	U
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	5.4	U
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U6C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768922

Sample wt/vol: 5.15 (g/mL) g Lab File ID: 768922

Level: (TRACE/LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.4	U
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
95-47-6	o-Xylene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
U6C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768922

Sample wt/vol: 5.15 (g/mL) g Lab File ID: 768922

Level: (TRACE or LOW/MED) LOW Date Received: 09/24/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	58	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.68	7.7	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03A

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03A

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03A

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	52	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI8

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03B

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	4.1	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI8

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03B

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI8

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03B

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	54	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768417

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 768417

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.5	B
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768417

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 768417

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768417

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 768417

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	55	JXB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VIBLKZ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VIBLKZ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB05A

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VIBLKZ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VIBLKZ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB05A

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VIBLKZ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VIBLKZ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB05A

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	57	JXB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MS

Sample wt/vol: 5.08 (g/mL) g Lab File ID: 768415M

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	55	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	5.3	U
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	U
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	54	
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MS

Sample wt/vol: 5.08 (g/mL) g Lab File ID: 768415M

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	53	
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	51	
100-41-4	Ethylbenzene	5.3	U
95-47-6	o-Xylene	5.3	U
179601-23-1	m,p-Xylene	5.3	U
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MD

Sample wt/vol: 5.12 (g/mL) g Lab File ID: 768415S

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	58	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	5.3	U
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	U
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	56	
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MD

Sample wt/vol: 5.12 (g/mL) g Lab File ID: 768415S

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	54	
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	54	
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	53	
100-41-4	Ethylbenzene	5.3	U
95-47-6	o-Xylene	5.3	U
179601-23-1	m,p-Xylene	5.3	U
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

SOM01.2

2C - FORM II VOA-3
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC1 (VCL)#	VDMC2 (CLA)#	VDMC3 (DCE)#	VDMC4 (BUT)#	VDMC5 (CLF)#	VDMC6 (DCA)#	VDMC7 (BEN)#
01	VBLKI1	102	104	78	63	100	93	98
02	C1D	111	110	84	85	105	104	103
03	U1C	115	115	85	54	105	92	102
04	U1CMS	107	107	106	72	104	101	104
05	U1CMSD	106	107	107	76	104	103	103
06	B1E	108	109	82	68	107	101	104
07	VIBLKZ1	109	108	84	70	106	99	101
08	T2C	109	109	83	71	107	102	103
09	U3C	110	111	84	70	107	103	105
10	U4C	106	109	83	90	105	102	106
11	U5C	109	111	85	85	107	103	108
12	VBLKI8	102	102	79	66	97	94	99
13	U6C	104	105	80	78	101	95	100
14	VHBLK01	105	105	80	78	97	97	102
15								
16								
17								
18								
19								
20								
21								
22								
23								
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25								
26								
27								
28								
29								
30								

		QC LIMITS
VDMC1	(VCL) = Vinyl chloride-d3	(68-122)
VDMC2	(CLA) = Chloroethane-d5	(61-130)
VDMC3	(DCE) = 1,1-Dichloroethene-d2	(45-132)
VDMC4	(BUT) = 2-Butanone-d5	(20-182)
VDMC5	(CLF) = Chloroform-d	(72-123)
VDMC6	(DCA) = 1,2-Dichloroethane-d4	(79-122)
VDMC7	(BEN) = Benzene-d6	(80-121)

Column to be used to flag recovery values
* Values outside of contract required QC limits

2D - FORM II VOA-4
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (DXE) #	VDMC13 (TCA) #	VDMC14 (DCZ) #	TOT OUT
01	VBLKI1	89	94	92	72	85	86	87	0
02	C1D	96	101	101	91	116	99	94	0
03	U1C	93	98	93	64	88	81	92	0
04	U1CMS	95	98	100	81	116	94	94	0
05	U1CMSD	94	99	100	84	118	95	96	0
06	B1E	95	100	99	78	102	91	94	0
07	VIBLKZ1	94	98	97	77	98	91	94	0
08	T2C	94	98	98	78	105	94	94	0
09	U3C	97	100	100	81	106	94	95	0
10	U4C	98	100	101	96	119	98	95	0
11	U5C	100	102	101	89	111	95	98	0
12	VBLKI8	90	95	96	73	91	89	91	0
13	U6C	92	96	98	87	104	92	92	0
14	VHBLK01	93	99	100	87	103	94	96	0
15									
16									
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30									

	QC LIMITS
VDMC8 (DPA) = 1,2-Dichloropropane-d6	(74-124)
VDMC9 (TOL) = Toluene-d8	(78-121)
VDMC10 (TDP) = trans-1,3-Dichloropropene-d4	(72-130)
VDMC11 (HEX) = 2-Hexanone-d5	(17-184)
VDMC12 (DXE) = 1,4-Dioxane-d8	(50-150)
VDMC13 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(56-161)
VDMC14 (DCZ) = 1,2-Dichlorobenzene-d4	(70-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

3B - FORM III VOA-2
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix Spike - EPA Sample No.: U1C Level: (LOW/MED) LOW

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	53		55	104	59-172
Trichloroethene	53		53	100	62-137
Benzene	53		54	102	66-142
Toluene	53		52	98	59-139
Chlorobenzene	53		51	96	60-133

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	53	58	109	5	0-22	59-172
Trichloroethene	53	54	102	2	0-24	62-137
Benzene	53	56	106	4	0-21	66-142
Toluene	53	54	102	4	0-21	59-139
Chlorobenzene	53	53	100	4	0-21	60-133

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

SOM01.2

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MTZB03A Lab Sample ID: VBLKI1

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/24/2008

Level: (TRACE or LOW/MED) LOW Time Analyzed: 1927

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	C1D	768414	768414	2323
02	U1C	768415	768415	2351
03	U1CMS	768415MS	768415M	0019
04	U1CMSD	768415MD	768415S	0046
05	B1E	768413	768413	0115
06	VIBLKZ1	VIBLKZ1	MTZB05A	0144
07	T2C	768918	768918	0212
08	U3C	768919	768919	0240
09	U4C	768920	768920	0308
10	U5C	768921	768921	0337
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COMMENTS: _____

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MTZB03B Lab Sample ID: VBLKI8

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/25/2008

Level: (TRACE or LOW/MED) LOW Time Analyzed: 1121

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	U6C	768922	768922	1235
02	VHBLK01	768417	768417	1455
03				
04				
05				
06				
07				
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COMMENTS:

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBTZ

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MTZ01PV BFB Injection Date: 09/23/2008

Instrument ID: M.i BFB Injection Time: 1024

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.6
75	30.0 - 60.0% of mass 95	42.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 120.0% of mass 95	55.1
175	5.0 - 9.0% of mass 174	4.2 (7.6)1
176	95.0 - 101.0% of mass 174	53.7 (97.3)1
177	5.0 - 9.0% of mass 176	3.4 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD2.5TZ	VSTD2.5TZ	MTZ005V	09/23/2008	1146
02	VSTD005TZ	VSTD005TZ	MTZ010V	09/23/2008	1214
03	VSTD025TZ	VSTD025TZ	MTZ050V	09/23/2008	1243
04	VSTD050TZ	VSTD050TZ	MTZ100V	09/23/2008	1323
05	VSTD100TZ	VSTD100TZ	MTZ200V	09/23/2008	1351
06					
07					
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20					
21					
22					

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBZ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MTZ02PV BFB Injection Date: 09/24/2008

Instrument ID: M.i BFB Injection Time: 1752

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.1
75	30.0 - 60.0% of mass 95	42.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	57.2
175	5.0 - 9.0% of mass 174	4.3 (7.5)1
176	95.0 - 101.0% of mass 174	56.4 (98.7)1
177	5.0 - 9.0% of mass 176	3.6 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD025Z1	VSTD025Z1	MTZ050AV	09/24/2008	1832
02	VBLKI1	VBLKI1	MTZB03A	09/24/2008	1927
03	C1D	768414	768414	09/24/2008	2323
04	U1C	768415	768415	09/24/2008	2351
05	U1CMS	768415MS	768415M	09/25/2008	0019
06	U1CMSD	768415MD	768415S	09/25/2008	0046
07	B1E	768413	768413	09/25/2008	0115
08	VIBLKZ1	VIBLKZ1	MTZB05A	09/25/2008	0144
09	T2C	768918	768918	09/25/2008	0212
10	U3C	768919	768919	09/25/2008	0240
11	U4C	768920	768920	09/25/2008	0308
12	U5C	768921	768921	09/25/2008	0337
13	VSTD025Z2	VSTD025Z2	MTZ50AC1	09/25/2008	0433
14	VSTD025Z3	VSTD025Z3	MTZ50AC2	09/25/2008	0501
15					
16					
17					
18					
19					
20					
21					
22					

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MTZ03PV BFB Injection Date: 09/25/2008

Instrument ID: M.i BFB Injection Time: 0927

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.5
75	30.0 - 60.0% of mass 95	43.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 120.0% of mass 95	54.5
175	5.0 - 9.0% of mass 174	4.0 (7.3)1
176	95.0 - 101.0% of mass 174	54.0 (99.0)1
177	5.0 - 9.0% of mass 176	3.4 (6.3)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD025B1	VSTD025B1	MTZ50BV	09/25/2008	1026
02	VBLKI8	VBLKI8	MTZB03B	09/25/2008	1121
03	U6C	768922	768922	09/25/2008	1235
04	VHBLK01	768417	768417	09/25/2008	1455
05	VSTD025B2	VSTD025B2	MTZ50BC1	09/25/2008	1553
06					
07					
08					
09					
10					
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12					
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21					
22					

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/23/2008 09/23/2008

Heated Purge: (Y/N)Y Calibration Time(s): 1146 1351

Purge Volume: 10.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF2.5 = MTZ005V RRF5.0 = MTZ010V
RRF25 = MTZ050V RRF50 = MTZ100V RRF100 = MTZ200V

COMPOUND	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	%RSD	
Dichlorodifluoromethane	0.380	0.429	0.381	0.364	0.380	0.387	6.3	
Chloromethane	0.320	0.343	0.295	0.282	0.290	0.306	8.2	
Vinyl chloride	0.305	0.356	0.314	0.300	0.315	0.318	6.9	
Bromomethane	0.138	0.191	0.188	0.200	0.225	0.188	16.9	
Chloroethane	0.208	0.226	0.200	0.192	0.201	0.206	6.2	
Trichlorofluoromethane	0.603	0.693	0.623	0.610	0.632	0.632	5.7	
1,1-Dichloroethene	0.315	0.349	0.317	0.315	0.324	0.324	4.5	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.659	0.744	0.675	0.662	0.674	0.683	5.1	
Acetone	0.087	0.098	0.081	0.083	0.075	0.085	10.4	
Carbon disulfide	0.901	1.069	0.967	0.945	0.973	0.971	6.3	
Methyl acetate	0.162	0.178	0.171	0.181	0.172	0.173	4.3	
Methylene chloride	0.293	0.342	0.300	0.304	0.312	0.310	6.1	
trans-1,2-Dichloroethene	0.329	0.384	0.345	0.347	0.355	0.352	5.8	
Methyl tert-butyl ether	0.626	0.702	0.620	0.656	0.633	0.648	5.2	
1,1-Dichloroethane	0.656	0.741	0.657	0.662	0.674	0.678	5.3	
cis-1,2-Dichloroethene	0.342	0.398	0.351	0.353	0.362	0.361	6.0	
2-Butanone	0.132	0.153	0.136	0.145	0.127	0.139	7.3	
Bromochloromethane	0.181	0.207	0.186	0.195	0.199	0.194	5.3	
Chloroform	0.774	0.885	0.706	0.703	0.667	0.747	11.6	
1,1,1-Trichloroethane	0.663	0.775	0.676	0.658	0.683	0.691	6.9	
Cyclohexane	0.628	0.747	0.666	0.660	0.681	0.677	6.5	
Carbon tetrachloride	0.615	0.720	0.638	0.625	0.645	0.649	6.4	
Benzene	1.106	1.283	1.123	1.128	1.152	1.158	6.2	
1,2-Dichloroethane	0.346	0.390	0.342	0.351	0.342	0.354	5.8	
1,4-Dioxane	0.003	0.003	0.003	0.003	0.003	0.003	7.2	<-
Trichloroethene	0.491	0.575	0.499	0.492	0.508	0.513	6.8	
Methylcyclohexane	0.553	0.656	0.591	0.578	0.591	0.594	6.4	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/23/2008 09/23/2008

Heated Purge: (Y/N)Y Calibration Time(s): 1146 1351

Purge Volume: 10.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF2.5 = MTZ005V RRF5.0 = MTZ010V
RRF25 = MTZ050V RRF50 = MTZ100V RRF100 = MTZ200V

COMPOUND	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.482	0.549	0.501	0.504	0.531	0.513	5.1
Bromodichloromethane	0.779	0.899	0.785	0.812	0.829	0.821	5.9
cis-1,3-Dichloropropene	0.684	0.791	0.702	0.719	0.741	0.727	5.7
4-Methyl-2-pentanone	0.337	0.424	0.372	0.402	0.368	0.381	8.8
Toluene	1.197	1.408	1.234	1.239	1.247	1.265	6.5
trans-1,3-Dichloropropene	0.588	0.658	0.587	0.614	0.619	0.613	4.7
1,1,2-Trichloroethane	0.386	0.459	0.396	0.412	0.420	0.414	6.8
Tetrachloroethene	0.356	0.413	0.368	0.374	0.381	0.378	5.6
2-Hexanone	0.301	0.352	0.309	0.326	0.295	0.317	7.3
Dibromochloromethane	0.610	0.717	0.620	0.644	0.666	0.651	6.6
1,2-Dibromoethane	0.551	0.635	0.569	0.589	0.592	0.587	5.3
Chlorobenzene	0.964	1.085	0.988	0.996	0.999	1.006	4.6
Ethylbenzene	1.583	1.838	1.626	1.625	1.586	1.652	6.4
o-Xylene	0.581	0.670	0.598	0.600	0.606	0.611	5.6
m,p-Xylene	0.598	0.707	0.638	0.637	0.639	0.644	6.1
Styrene	0.973	1.152	1.028	1.039	1.046	1.048	6.2
Bromoform	0.809	0.971	0.829	0.870	0.852	0.866	7.3
Isopropylbenzene	1.759	2.075	1.863	1.835	1.794	1.865	6.6
1,1,2,2-Tetrachloroethane	0.701	0.813	0.723	0.756	0.737	0.746	5.7
1,3-Dichlorobenzene	1.467	1.761	1.557	1.521	1.607	1.583	7.1
1,4-Dichlorobenzene	1.756	2.134	1.793	1.850	1.713	1.849	9.0
1,2-Dichlorobenzene	1.415	1.677	1.465	1.480	1.458	1.499	6.8
1,2-Dibromo-3-chloropropane	0.255	0.354	0.288	0.314	0.291	0.301	12.2
1,2,4-Trichlorobenzene	1.038	1.197	1.114	1.153	1.130	1.126	5.2
1,2,3-Trichlorobenzene	0.932	1.153	1.014	1.073	1.059	1.046	7.7

SOM01.2

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/23/2008 09/23/2008

Heated Purge: (Y/N)Y Calibration Time(s): 1146 1351

Purge Volume: 10.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF2.5 = MTZ005V RRF5.0 = MTZ010V
RRF25 = MTZ050V RRF50 = MTZ100V RRF100 = MTZ200V

COMPOUND	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	%RSD	
Vinyl chloride-d3	0.290	0.341	0.303	0.291	0.306	0.306	6.8	
Chloroethane-d5	0.272	0.298	0.270	0.259	0.265	0.273	5.6	
1,1-Dichloroethene-d2	0.752	0.858	0.783	0.759	0.777	0.786	5.4	
2-Butanone-d5	0.152	0.172	0.152	0.162	0.141	0.156	7.7	
Chloroform-d	0.603	0.686	0.694	0.687	0.723	0.679	6.6	
1,2-Dichloroethane-d4	0.286	0.350	0.302	0.309	0.300	0.309	7.9	
Benzene-d6	1.171	1.344	1.191	1.198	1.229	1.227	5.6	
1,2-Dichloropropane-d6	0.630	0.729	0.646	0.643	0.678	0.665	6.0	
Toluene-d8	1.125	1.338	1.186	1.193	1.213	1.211	6.4	
trans-1,3-Dichloropropene-d4	0.562	0.671	0.576	0.603	0.613	0.605	7.0	
2-Hexanone-d5	0.180	0.208	0.180	0.191	0.173	0.186	7.4	
1,4-Dioxane-d8	0.003	0.003	0.003	0.003	0.003	0.003	5.1	<-
1,1,2,2-Tetrachloroethane-d2	0.726	0.828	0.740	0.778	0.755	0.765	5.2	
1,2-Dichlorobenzene-d4	0.948	1.067	0.946	0.974	0.974	0.982	5.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/24/2008 Time: 1832

Lab File ID: MTZ050AV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.356	0.010	-7.9	40.0	
Chloromethane	0.306	0.255	0.010	-16.6	40.0	
Vinyl chloride	0.318	0.297	0.100	-6.7	25.0	
Bromomethane	0.188	0.229	0.100	21.8	25.0	
Chloroethane	0.206	0.193	0.010	-6.1	40.0	
Trichlorofluoromethane	0.632	0.585	0.010	-7.4	40.0	
1,1-Dichloroethene	0.324	0.298	0.100	-8.0	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.616	0.010	-9.7	40.0	
Acetone	0.085	0.069	0.010	-18.8	40.0	
Carbon disulfide	0.971	0.911	0.010	-6.1	40.0	
Methyl acetate	0.173	0.156	0.010	-9.8	40.0	
Methylene chloride	0.310	0.307	0.010	-1.2	40.0	
trans-1,2-Dichloroethene	0.352	0.335	0.010	-4.7	40.0	
Methyl tert-butyl ether	0.648	0.608	0.010	-6.1	40.0	
1,1-Dichloroethane	0.678	0.643	0.200	-5.1	25.0	
cis-1,2-Dichloroethene	0.361	0.343	0.010	-5.1	40.0	
2-Butanone	0.139	0.118	0.010	-15.2	40.0	
Bromochloromethane	0.194	0.192	0.050	-0.7	25.0	
Chloroform	0.747	0.658	0.200	-11.9	25.0	
1,1,1-Trichloroethane	0.691	0.601	0.100	-13.1	25.0	
Cyclohexane	0.677	0.592	0.010	-12.5	40.0	
Carbon tetrachloride	0.649	0.563	0.100	-13.2	25.0	
Benzene	1.158	1.046	0.400	-9.7	25.0	
1,2-Dichloroethane	0.354	0.340	0.100	-3.9	25.0	
1,4-Dioxane	0.003	0.003	0.005	2.1	50.0	<-
Trichloroethene	0.513	0.462	0.300	-9.9	25.0	
Methylcyclohexane	0.594	0.514	0.010	-13.4	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/24/2008 Time: 1832

Lab File ID: MTZ050AV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.472	0.010	-8.0	40.0
Bromodichloromethane	0.821	0.765	0.200	-6.8	25.0
cis-1,3-Dichloropropene	0.727	0.695	0.200	-4.5	25.0
4-Methyl-2-pentanone	0.381	0.341	0.010	-10.6	40.0
Toluene	1.265	1.168	0.400	-7.7	25.0
trans-1,3-Dichloropropene	0.613	0.593	0.100	-3.3	25.0
1,1,2-Trichloroethane	0.414	0.396	0.100	-4.4	25.0
Tetrachloroethene	0.378	0.345	0.100	-8.8	25.0
2-Hexanone	0.317	0.277	0.010	-12.5	40.0
Dibromochloromethane	0.651	0.630	0.100	-3.3	25.0
1,2-Dibromoethane	0.587	0.562	0.010	-4.2	40.0
Chlorobenzene	1.006	0.974	0.500	-3.3	25.0
Ethylbenzene	1.652	1.573	0.100	-4.7	25.0
o-Xylene	0.611	0.589	0.300	-3.6	25.0
m,p-Xylene	0.644	0.617	0.300	-4.2	25.0
Styrene	1.048	1.021	0.300	-2.6	25.0
Bromoform	0.866	0.788	0.050	-9.0	25.0
Isopropylbenzene	1.865	1.779	0.010	-4.6	40.0
1,1,2,2-Tetrachloroethane	0.746	0.719	0.300	-3.7	25.0
1,3-Dichlorobenzene	1.583	1.457	0.600	-8.0	25.0
1,4-Dichlorobenzene	1.849	1.808	0.500	-2.3	25.0
1,2-Dichlorobenzene	1.499	1.423	0.400	-5.1	25.0
1,2-Dibromo-3-chloropropane	0.301	0.260	0.010	-13.5	40.0
1,2,4-Trichlorobenzene	1.126	1.127	0.200	0.1	25.0
1,2,3-Trichlorobenzene	1.046	1.023	0.200	-2.2	25.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/24/2008 Time: 1832

Lab File ID: MTZ050AV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.284	0.010	-7.4	25.0	
Chloroethane-d5	0.273	0.253	0.010	-7.4	40.0	
1,1-Dichloroethene-d2	0.786	0.727	0.010	-7.5	25.0	
2-Butanone-d5	0.156	0.134	0.010	-14.2	40.0	
Chloroform-d	0.679	0.712	0.010	4.9	25.0	
1,2-Dichloroethane-d4	0.309	0.297	0.010	-3.9	25.0	
Benzene-d6	1.227	1.101	0.010	-10.2	25.0	
1,2-Dichloropropane-d6	0.665	0.605	0.010	-9.0	40.0	
Toluene-d8	1.211	1.120	0.010	-7.5	25.0	
trans-1,3-Dichloropropene-d4	0.605	0.582	0.010	-3.8	25.0	
2-Hexanone-d5	0.186	0.162	0.010	-13.2	40.0	
1,4-Dioxane-d8	0.003	0.003	0.005	0.3	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.738	0.010	-3.5	25.0	
1,2-Dichlorobenzene-d4	0.982	0.937	0.010	-4.6	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0433

Lab File ID: MTZ50AC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.375	0.010	-3.1	50.0	
Chloromethane	0.306	0.266	0.010	-13.0	50.0	
Vinyl chloride	0.318	0.305	0.010	-4.0	50.0	
Bromomethane	0.188	0.233	0.010	23.5	50.0	
Chloroethane	0.206	0.200	0.010	-2.6	50.0	
Trichlorofluoromethane	0.632	0.613	0.010	-3.0	50.0	
1,1-Dichloroethene	0.324	0.314	0.010	-2.9	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.656	0.010	-4.0	50.0	
Acetone	0.085	0.041	0.010	-52.0	50.0	<-
Carbon disulfide	0.971	0.940	0.010	-3.1	50.0	
Methyl acetate	0.173	0.159	0.010	-8.0	50.0	
Methylene chloride	0.310	0.321	0.010	3.4	50.0	
trans-1,2-Dichloroethene	0.352	0.348	0.010	-1.1	50.0	
Methyl tert-butyl ether	0.648	0.647	0.010	-0.0	50.0	
1,1-Dichloroethane	0.678	0.666	0.010	-1.7	50.0	
cis-1,2-Dichloroethene	0.361	0.363	0.010	0.5	50.0	
2-Butanone	0.139	0.095	0.010	-31.2	50.0	
Bromochloromethane	0.194	0.203	0.010	4.8	50.0	
Chloroform	0.747	0.734	0.010	-1.7	50.0	
1,1,1-Trichloroethane	0.691	0.669	0.010	-3.1	50.0	
Cyclohexane	0.677	0.645	0.010	-4.6	50.0	
Carbon tetrachloride	0.649	0.611	0.010	-5.8	50.0	
Benzene	1.158	1.146	0.010	-1.1	50.0	
1,2-Dichloroethane	0.354	0.362	0.010	2.3	50.0	
1,4-Dioxane	0.003	0.003	0.005	-6.4	50.0	<-
Trichloroethene	0.513	0.495	0.010	-3.6	50.0	
Methylcyclohexane	0.594	0.557	0.010	-6.2	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0433

Lab File ID: MTZ50AC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.518	0.010	0.9	50.0
Bromodichloromethane	0.821	0.851	0.010	3.7	50.0
cis-1,3-Dichloropropene	0.727	0.742	0.010	2.0	50.0
4-Methyl-2-pentanone	0.381	0.362	0.010	-4.9	50.0
Toluene	1.265	1.264	0.010	-0.1	50.0
trans-1,3-Dichloropropene	0.613	0.631	0.010	2.9	50.0
1,1,2-Trichloroethane	0.414	0.431	0.010	3.9	50.0
Tetrachloroethene	0.378	0.362	0.010	-4.4	50.0
2-Hexanone	0.317	0.270	0.010	-14.8	50.0
Dibromochloromethane	0.651	0.680	0.010	4.4	50.0
1,2-Dibromoethane	0.587	0.606	0.010	3.2	50.0
Chlorobenzene	1.006	0.997	0.010	-0.9	50.0
Ethylbenzene	1.652	1.604	0.010	-2.9	50.0
o-Xylene	0.611	0.597	0.010	-2.3	50.0
m,p-Xylene	0.644	0.608	0.010	-5.6	50.0
Styrene	1.048	1.047	0.010	-0.1	50.0
Bromoform	0.866	0.935	0.010	8.0	50.0
Isopropylbenzene	1.865	1.754	0.010	-5.9	50.0
1,1,2,2-Tetrachloroethane	0.746	0.767	0.010	2.8	50.0
1,3-Dichlorobenzene	1.583	1.653	0.010	4.4	50.0
1,4-Dichlorobenzene	1.849	1.743	0.010	-5.8	50.0
1,2-Dichlorobenzene	1.499	1.544	0.010	3.0	50.0
1,2-Dibromo-3-chloropropane	0.301	0.306	0.010	2.0	50.0
1,2,4-Trichlorobenzene	1.126	1.093	0.010	-3.0	50.0
1,2,3-Trichlorobenzene	1.046	1.024	0.010	-2.1	50.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0433

Lab File ID: MTZ50AC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.298	0.010	-2.9	50.0	
Chloroethane-d5	0.273	0.271	0.010	-0.9	50.0	
1,1-Dichloroethene-d2	0.786	0.751	0.010	-4.5	50.0	
2-Butanone-d5	0.156	0.105	0.010	-32.4	50.0	
Chloroform-d	0.679	0.749	0.010	10.3	50.0	
1,2-Dichloroethane-d4	0.309	0.316	0.010	2.3	50.0	
Benzene-d6	1.227	1.219	0.010	-0.6	50.0	
1,2-Dichloropropane-d6	0.665	0.677	0.010	1.7	50.0	
Toluene-d8	1.211	1.198	0.010	-1.1	50.0	
trans-1,3-Dichloropropene-d4	0.605	0.612	0.010	1.1	50.0	
2-Hexanone-d5	0.186	0.153	0.010	-17.8	50.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-3.6	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.782	0.010	2.2	50.0	
1,2-Dichlorobenzene-d4	0.982	1.032	0.010	5.1	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0501

Lab File ID: MTZ50AC2 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z3 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.402	0.010	3.9	50.0	
Chloromethane	0.306	0.295	0.010	-3.6	50.0	
Vinyl chloride	0.318	0.328	0.010	3.2	50.0	
Bromomethane	0.188	0.247	0.010	31.1	50.0	
Chloroethane	0.206	0.214	0.010	4.0	50.0	
Trichlorofluoromethane	0.632	0.648	0.010	2.4	50.0	
1,1-Dichloroethene	0.324	0.328	0.010	1.2	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.705	0.010	3.3	50.0	
Acetone	0.085	0.048	0.010	-43.6	50.0	
Carbon disulfide	0.971	0.957	0.010	-1.4	50.0	
Methyl acetate	0.173	0.177	0.010	2.6	50.0	
Methylene chloride	0.310	0.342	0.010	10.2	50.0	
trans-1,2-Dichloroethene	0.352	0.350	0.010	-0.5	50.0	
Methyl tert-butyl ether	0.648	0.721	0.010	11.3	50.0	
1,1-Dichloroethane	0.678	0.710	0.010	4.8	50.0	
cis-1,2-Dichloroethene	0.361	0.380	0.010	5.0	50.0	
2-Butanone	0.139	0.110	0.010	-20.7	50.0	
Bromochloromethane	0.194	0.220	0.010	13.6	50.0	
Chloroform	0.747	0.749	0.010	0.3	50.0	
1,1,1-Trichloroethane	0.691	0.773	0.010	11.8	50.0	
Cyclohexane	0.677	0.735	0.010	8.7	50.0	
Carbon tetrachloride	0.649	0.711	0.010	9.6	50.0	
Benzene	1.158	1.317	0.010	13.7	50.0	
1,2-Dichloroethane	0.354	0.389	0.010	9.7	50.0	
1,4-Dioxane	0.003	0.003	0.005	8.2	50.0	<-
Trichloroethene	0.513	0.548	0.010	6.8	50.0	
Methylcyclohexane	0.594	0.613	0.010	3.2	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0501

Lab File ID: MTZ50AC2 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z3 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.611	0.010	19.0	50.0
Bromodichloromethane	0.821	0.992	0.010	20.9	50.0
cis-1,3-Dichloropropene	0.727	0.848	0.010	16.6	50.0
4-Methyl-2-pentanone	0.381	0.449	0.010	18.0	50.0
Toluene	1.265	1.341	0.010	6.0	50.0
trans-1,3-Dichloropropene	0.613	0.707	0.010	15.3	50.0
1,1,2-Trichloroethane	0.414	0.512	0.010	23.5	50.0
Tetrachloroethene	0.378	0.362	0.010	-4.4	50.0
2-Hexanone	0.317	0.339	0.010	7.1	50.0
Dibromochloromethane	0.651	0.781	0.010	20.0	50.0
1,2-Dibromoethane	0.587	0.706	0.010	20.2	50.0
Chlorobenzene	1.006	1.027	0.010	2.1	50.0
Ethylbenzene	1.652	1.551	0.010	-6.1	50.0
o-Xylene	0.611	0.581	0.010	-4.9	50.0
m,p-Xylene	0.644	0.598	0.010	-7.1	50.0
Styrene	1.048	1.043	0.010	-0.4	50.0
Bromoform	0.866	1.264	0.010	46.0	50.0
Isopropylbenzene	1.865	1.616	0.010	-13.4	50.0
1,1,2,2-Tetrachloroethane	0.746	0.907	0.010	21.6	50.0
1,3-Dichlorobenzene	1.583	1.654	0.010	4.5	50.0
1,4-Dichlorobenzene	1.849	1.811	0.010	-2.1	50.0
1,2-Dichlorobenzene	1.499	1.688	0.010	12.6	50.0
1,2-Dibromo-3-chloropropane	0.301	0.426	0.010	41.7	50.0
1,2,4-Trichlorobenzene	1.126	1.162	0.010	3.2	50.0
1,2,3-Trichlorobenzene	1.046	1.156	0.010	10.5	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0501

Lab File ID: MTZ50AC2 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z3 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.318	0.010	3.8	50.0	
Chloroethane-d5	0.273	0.289	0.010	5.8	50.0	
1,1-Dichloroethene-d2	0.786	0.796	0.010	1.2	50.0	
2-Butanone-d5	0.156	0.122	0.010	-21.6	50.0	
Chloroform-d	0.679	0.777	0.010	14.4	50.0	
1,2-Dichloroethane-d4	0.309	0.340	0.010	9.9	50.0	
Benzene-d6	1.227	1.414	0.010	15.3	50.0	
1,2-Dichloropropane-d6	0.665	0.789	0.010	18.6	50.0	
Toluene-d8	1.211	1.297	0.010	7.1	50.0	
trans-1,3-Dichloropropene-d4	0.605	0.708	0.010	17.1	50.0	
2-Hexanone-d5	0.186	0.194	0.010	4.2	50.0	
1,4-Dioxane-d8	0.003	0.003	0.005	12.8	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.925	0.010	20.8	50.0	
1,2-Dichlorobenzene-d4	0.982	1.116	0.010	13.6	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1026

Lab File ID: MTZ50BV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.345	0.010	-10.9	40.0	
Chloromethane	0.306	0.256	0.010	-16.5	40.0	
Vinyl chloride	0.318	0.286	0.100	-10.1	25.0	
Bromomethane	0.188	0.218	0.100	16.0	25.0	
Chloroethane	0.206	0.188	0.010	-8.3	40.0	
Trichlorofluoromethane	0.632	0.567	0.010	-10.3	40.0	
1,1-Dichloroethene	0.324	0.290	0.100	-10.3	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.602	0.010	-11.8	40.0	
Acetone	0.085	0.083	0.010	-2.0	40.0	
Carbon disulfide	0.971	0.889	0.010	-8.4	40.0	
Methyl acetate	0.173	0.161	0.010	-6.6	40.0	
Methylene chloride	0.310	0.306	0.010	-1.5	40.0	
trans-1,2-Dichloroethene	0.352	0.323	0.010	-8.2	40.0	
Methyl tert-butyl ether	0.648	0.619	0.010	-4.4	40.0	
1,1-Dichloroethane	0.678	0.628	0.200	-7.4	25.0	
cis-1,2-Dichloroethene	0.361	0.337	0.010	-6.6	40.0	
2-Butanone	0.139	0.136	0.010	-2.1	40.0	
Bromochloromethane	0.194	0.195	0.050	0.8	25.0	
Chloroform	0.747	0.704	0.200	-5.7	25.0	
1,1,1-Trichloroethane	0.691	0.611	0.100	-11.6	25.0	
Cyclohexane	0.677	0.585	0.010	-13.6	40.0	
Carbon tetrachloride	0.649	0.564	0.100	-13.1	25.0	
Benzene	1.158	1.065	0.400	-8.1	25.0	
1,2-Dichloroethane	0.354	0.350	0.100	-1.3	25.0	
1,4-Dioxane	0.003	0.003	0.005	9.8	50.0	<-
Trichloroethene	0.513	0.471	0.300	-8.2	25.0	
Methylcyclohexane	0.594	0.511	0.010	-13.9	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1026

Lab File ID: MTZ50BV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.488	0.010	-4.9	40.0
Bromodichloromethane	0.821	0.798	0.200	-2.7	25.0
cis-1,3-Dichloropropene	0.727	0.718	0.200	-1.3	25.0
4-Methyl-2-pentanone	0.381	0.378	0.010	-0.8	40.0
Toluene	1.265	1.201	0.400	-5.1	25.0
trans-1,3-Dichloropropene	0.613	0.625	0.100	2.0	25.0
1,1,2-Trichloroethane	0.414	0.415	0.100	0.1	25.0
Tetrachloroethene	0.378	0.349	0.100	-7.8	25.0
2-Hexanone	0.317	0.329	0.010	3.8	40.0
Dibromochloromethane	0.651	0.656	0.100	0.6	25.0
1,2-Dibromoethane	0.587	0.601	0.010	2.4	40.0
Chlorobenzene	1.006	1.011	0.500	0.5	25.0
Ethylbenzene	1.652	1.612	0.100	-2.4	25.0
o-Xylene	0.611	0.612	0.300	0.2	25.0
m,p-Xylene	0.644	0.633	0.300	-1.7	25.0
Styrene	1.048	1.076	0.300	2.7	25.0
Bromoform	0.866	0.857	0.050	-1.1	25.0
Isopropylbenzene	1.865	1.827	0.010	-2.1	40.0
1,1,2,2-Tetrachloroethane	0.746	0.778	0.300	4.3	25.0
1,3-Dichlorobenzene	1.583	1.620	0.600	2.4	25.0
1,4-Dichlorobenzene	1.849	1.796	0.500	-2.9	25.0
1,2-Dichlorobenzene	1.499	1.502	0.400	0.2	25.0
1,2-Dibromo-3-chloropropane	0.301	0.289	0.010	-3.8	40.0
1,2,4-Trichlorobenzene	1.126	1.185	0.200	5.2	25.0
1,2,3-Trichlorobenzene	1.046	1.073	0.200	2.6	25.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1026

Lab File ID: MTZ50BV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.276	0.010	-10.0	25.0	
Chloroethane-d5	0.273	0.252	0.010	-7.5	40.0	
1,1-Dichloroethene-d2	0.786	0.708	0.010	-9.9	25.0	
2-Butanone-d5	0.156	0.154	0.010	-1.3	40.0	
Chloroform-d	0.679	0.689	0.010	1.4	25.0	
1,2-Dichloroethane-d4	0.309	0.305	0.010	-1.4	25.0	
Benzene-d6	1.227	1.123	0.010	-8.4	25.0	
1,2-Dichloropropane-d6	0.665	0.625	0.010	-6.1	40.0	
Toluene-d8	1.211	1.160	0.010	-4.2	25.0	
trans-1,3-Dichloropropene-d4	0.605	0.605	0.010	-0.1	25.0	
2-Hexanone-d5	0.186	0.197	0.010	5.7	40.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-2.2	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.804	0.010	5.0	25.0	
1,2-Dichlorobenzene-d4	0.982	0.987	0.010	0.5	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1553

Lab File ID: MTZ50BC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.332	0.010	-14.3	50.0	
Chloromethane	0.306	0.240	0.010	-21.7	50.0	
Vinyl chloride	0.318	0.266	0.010	-16.3	50.0	
Bromomethane	0.188	0.208	0.010	10.5	50.0	
Chloroethane	0.206	0.173	0.010	-16.0	50.0	
Trichlorofluoromethane	0.632	0.544	0.010	-14.0	50.0	
1,1-Dichloroethene	0.324	0.275	0.010	-15.1	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.576	0.010	-15.6	50.0	
Acetone	0.085	0.061	0.010	-28.5	50.0	
Carbon disulfide	0.971	0.834	0.010	-14.1	50.0	
Methyl acetate	0.173	0.151	0.010	-12.6	50.0	
Methylene chloride	0.310	0.285	0.010	-8.2	50.0	
trans-1,2-Dichloroethene	0.352	0.303	0.010	-13.9	50.0	
Methyl tert-butyl ether	0.648	0.575	0.010	-11.2	50.0	
1,1-Dichloroethane	0.678	0.590	0.010	-13.0	50.0	
cis-1,2-Dichloroethene	0.361	0.324	0.010	-10.4	50.0	
2-Butanone	0.139	0.109	0.010	-21.4	50.0	
Bromochloromethane	0.194	0.182	0.010	-6.3	50.0	
Chloroform	0.747	0.678	0.010	-9.2	50.0	
1,1,1-Trichloroethane	0.691	0.589	0.010	-14.7	50.0	
Cyclohexane	0.677	0.560	0.010	-17.2	50.0	
Carbon tetrachloride	0.649	0.551	0.010	-15.1	50.0	
Benzene	1.158	1.021	0.010	-11.9	50.0	
1,2-Dichloroethane	0.354	0.326	0.010	-8.0	50.0	
1,4-Dioxane	0.003	0.003	0.005	-0.6	50.0	<-
Trichloroethene	0.513	0.447	0.010	-12.8	50.0	
Methylcyclohexane	0.594	0.499	0.010	-16.0	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1553

Lab File ID: MTZ50BC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.459	0.010	-10.7	50.0
Bromodichloromethane	0.821	0.762	0.010	-7.2	50.0
cis-1,3-Dichloropropene	0.727	0.677	0.010	-6.9	50.0
4-Methyl-2-pentanone	0.381	0.351	0.010	-7.8	50.0
Toluene	1.265	1.142	0.010	-9.7	50.0
trans-1,3-Dichloropropene	0.613	0.595	0.010	-2.9	50.0
1,1,2-Trichloroethane	0.414	0.391	0.010	-5.7	50.0
Tetrachloroethene	0.378	0.346	0.010	-8.5	50.0
2-Hexanone	0.317	0.273	0.010	-13.7	50.0
Dibromochloromethane	0.651	0.624	0.010	-4.1	50.0
1,2-Dibromoethane	0.587	0.557	0.010	-5.2	50.0
Chlorobenzene	1.006	0.957	0.010	-5.0	50.0
Ethylbenzene	1.652	1.531	0.010	-7.3	50.0
o-Xylene	0.611	0.579	0.010	-5.2	50.0
m,p-Xylene	0.644	0.618	0.010	-4.0	50.0
Styrene	1.048	1.021	0.010	-2.5	50.0
Bromoform	0.866	0.791	0.010	-8.6	50.0
Isopropylbenzene	1.865	1.732	0.010	-7.2	50.0
1,1,2,2-Tetrachloroethane	0.746	0.722	0.010	-3.1	50.0
1,3-Dichlorobenzene	1.583	1.482	0.010	-6.3	50.0
1,4-Dichlorobenzene	1.849	1.796	0.010	-2.9	50.0
1,2-Dichlorobenzene	1.499	1.432	0.010	-4.5	50.0
1,2-Dibromo-3-chloropropane	0.301	0.277	0.010	-8.0	50.0
1,2,4-Trichlorobenzene	1.126	1.147	0.010	1.8	50.0
1,2,3-Trichlorobenzene	1.046	1.037	0.010	-0.9	50.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1553

Lab File ID: MTZ50BC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.261	0.010	-14.9	50.0	
Chloroethane-d5	0.273	0.235	0.010	-14.1	50.0	
1,1-Dichloroethene-d2	0.786	0.669	0.010	-14.9	50.0	
2-Butanone-d5	0.156	0.123	0.010	-21.3	50.0	
Chloroform-d	0.679	0.646	0.010	-4.9	50.0	
1,2-Dichloroethane-d4	0.309	0.290	0.010	-6.2	50.0	
Benzene-d6	1.227	1.081	0.010	-11.9	50.0	
1,2-Dichloropropane-d6	0.665	0.592	0.010	-11.1	50.0	
Toluene-d8	1.211	1.097	0.010	-9.4	50.0	
trans-1,3-Dichloropropene-d4	0.605	0.578	0.010	-4.5	50.0	
2-Hexanone-d5	0.186	0.160	0.010	-14.0	50.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-2.5	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.740	0.010	-3.3	50.0	
1,2-Dichlorobenzene-d4	0.982	0.953	0.010	-3.0	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Date Analyzed: 09/25/2008

Lab File ID (Standard): MTZ50BV Time Analyzed: 1026

Instrument ID: M.i Heated Purge: (Y/N) Y

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2529735	12.93	2882778	9.37	1332551	15.66
	UPPER LIMIT	5059470	13.43	5765556	9.87	2665102	16.16
	LOWER LIMIT	1264868	12.43	1441389	8.87	666276	15.16
	EPA SAMPLE NO.						
01	VBLKI8	2580155	12.94	2981605	9.37	1331388	15.65
02	U6C	2378547	12.92	2780321	9.37	1195414	15.65
03	VHBLK01	2468634	12.94	2906970	9.37	1286435	15.65
04							
05							
06							
07							
08							
09							
10							
11							
12							
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14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Date Analyzed: 09/24/2008

Lab File ID (Standard): MTZ050AV Time Analyzed: 1832

Instrument ID: M.i Heated Purge: (Y/N) Y

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2606011	12.95	2866354	9.37	1387265	15.65
	UPPER LIMIT	5212022	13.45	5732708	9.87	2774530	16.15
	LOWER LIMIT	1303006	12.45	1433177	8.87	693632	15.15
	EPA SAMPLE NO.						
01	VBLKI1	2628938	12.92	2991563	9.37	1359337	15.65
02	C1D	2428181	12.94	2757576	9.37	1218255	15.65
03	U1C	2408223	12.94	2734040	9.37	1190984	15.65
04	U1CMS	2512623	12.94	2887640	9.37	1241067	15.65
05	U1CMSD	2545462	12.92	2913491	9.36	1239398	15.65
06	B1E	2481087	12.93	2868568	9.37	1175711	15.64
07	VIBLKZ1	2593304	12.94	2913964	9.37	1298727	15.65
08	T2C	2538340	12.94	2855837	9.37	1262583	15.65
09	U3C	2463856	12.94	2815197	9.37	1208834	15.65
10	U4C	2272711	12.93	2651702	9.37	1050396	15.64
11	U5C	2345372	12.93	2766415	9.38	1086029	15.64
12							
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18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

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Sample Data Summary – SOM01.2 Volatiles – Soils Medium Level

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B1EME

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768413ME

Sample wt/vol: 5.49 (g/mL) g Lab File ID: 768413E

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 14 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	310	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl chloride	310	U
74-83-9	Bromomethane	310	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	310	U
75-35-4	1,1-Dichloroethene	310	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon disulfide	310	U
79-20-9	Methyl acetate	310	U
75-09-2	Methylene chloride	310	U
156-60-5	trans-1,2-Dichloroethene	310	U
1634-04-4	Methyl tert-butyl ether	310	U
75-34-3	1,1-Dichloroethane	310	U
156-59-2	cis-1,2-Dichloroethene	310	U
78-93-3	2-Butanone	610	U
74-97-5	Bromochloromethane	310	U
67-66-3	Chloroform	310	U
71-55-6	1,1,1-Trichloroethane	310	U
110-82-7	Cyclohexane	310	U
56-23-5	Carbon tetrachloride	310	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	310	U
123-91-1	1,4-Dioxane	6100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B1EME

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768413ME

Sample wt/vol: 5.49 (g/mL) g Lab File ID: 768413E

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 14 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	310	U
108-87-2	Methylcyclohexane	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	310	U
79-00-5	1,1,2-Trichloroethane	310	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
124-48-1	Dibromochloromethane	310	U
106-93-4	1,2-Dibromoethane	310	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	310	U
95-47-6	o-Xylene	220	J
179601-23-1	m,p-Xylene	310	U
100-42-5	Styrene	310	U
75-25-2	Bromoform	310	U
98-82-8	Isopropylbenzene	850	
79-34-5	1,1,2,2-Tetrachloroethane	310	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U
96-12-8	1,2-Dibromo-3-chloropropane	310	U
120-82-1	1,2,4-Trichlorobenzene	310	U
87-61-6	1,2,3-Trichlorobenzene	310	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B1EME

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768413ME

Sample wt/vol: 5.49 (g/mL) g Lab File ID: 768413E

Level: (TRACE or LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 14 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	3700	JXB
02	611-14-3	Benzene, 1-ethyl-2-methyl-	15.07	320	NJ
03	526-73-8	Benzene, 1,2,3-trimethyl-	15.26	330	NJ
04	90-12-0	Naphthalene, 1-methyl-	19.32	690	NJ
05					
06					
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29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B2B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768412

Sample wt/vol: 5.79 (g/mL) g Lab File ID: 768412ED

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 4.9

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	1200	U
75-01-4	Vinyl chloride	1200	U
74-83-9	Bromomethane	1200	U
75-00-3	Chloroethane	1200	U
75-69-4	Trichlorofluoromethane	1200	U
75-35-4	1,1-Dichloroethene	1200	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1200	U
67-64-1	Acetone	2500	U
75-15-0	Carbon disulfide	1200	U
79-20-9	Methyl acetate	1200	U
75-09-2	Methylene chloride	1200	U
156-60-5	trans-1,2-Dichloroethene	1200	U
1634-04-4	Methyl tert-butyl ether	1200	U
75-34-3	1,1-Dichloroethane	1200	U
156-59-2	cis-1,2-Dichloroethene	530	J
78-93-3	2-Butanone	2500	U
74-97-5	Bromochloromethane	1200	U
67-66-3	Chloroform	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
110-82-7	Cyclohexane	1200	U
56-23-5	Carbon tetrachloride	1200	U
71-43-2	Benzene	820	J
107-06-2	1,2-Dichloroethane	1200	U
123-91-1	1,4-Dioxane	25000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B2B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768412

Sample wt/vol: 5.79 (g/mL) g Lab File ID: 768412ED

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 4.9

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	350	J
108-87-2	Methylcyclohexane	1200	U
78-87-5	1,2-Dichloropropane	1200	U
75-27-4	Bromodichloromethane	1200	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
108-10-1	4-Methyl-2-pentanone	2500	U
108-88-3	Toluene	4500	
10061-02-6	trans-1,3-Dichloropropene	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
127-18-4	Tetrachloroethene	680	J
591-78-6	2-Hexanone	2500	U
124-48-1	Dibromochloromethane	1200	U
106-93-4	1,2-Dibromoethane	1200	U
108-90-7	Chlorobenzene	1200	U
100-41-4	Ethylbenzene	6400	
95-47-6	o-Xylene	5900	
179601-23-1	m,p-Xylene	19000	
100-42-5	Styrene	930	J
75-25-2	Bromoform	1200	U
98-82-8	Isopropylbenzene	1900	
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
95-50-1	1,2-Dichlorobenzene	1700	
96-12-8	1,2-Dibromo-3-chloropropane	1200	U
120-82-1	1,2,4-Trichlorobenzene	940	JB
87-61-6	1,2,3-Trichlorobenzene	360	JB

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B2B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768412

Sample wt/vol: 5.79 (g/mL) g Lab File ID: 768412ED

Level: (TRACE or LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 4.9

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	13000	JXB
02		Unknown	12.57	1500	J
03	5911-04-6	Nonane, 3-methyl-	14.37	1300	NJ
04		Unknown C3-alkylbenzene	15.09	8200	J
05	526-73-8	Benzene, 1,2,3-trimethyl-	15.26	11000	NJ
06		Unknown C3-alkylbenzene	15.72	6500	J
07		Unknown aromatic compound	15.93	3000	J
08	934-74-7	Benzene, 1-ethyl-3,5-dimethy	15.98	1700	NJ
09	95-13-6	Indene	16.15	1600	NJ
10		Unknown C4-alkylbenzene	16.26	2100	J
11	874-41-9	Benzene, 1-ethyl-2,4-dimethy	16.35	2000	NJ
12		Unknown	16.47	2100	J
13		Unknown	16.63	2700	J
14		Unknown	17.17	3800	J
15	13632-94-5	Benzene, 1,4-diethyl-2-methy	17.50	1500	NJ
16		Unknown	17.62	2100	J
17	769-57-3	.alpha.,.beta.,.beta.-Trimet	18.16	1800	NJ
18	1075-22-5	1H-Indene, 2,3-dihydro-5,6-d	18.37	2100	NJ
19	17057-82-8	1H-Indene, 2,3-dihydro-1,2-d	18.60	1400	NJ
20	487-68-3	Benzaldehyde, 2,4,6-trimethy	19.21	1800	NJ
21	90-12-0	Naphthalene, 1-methyl-	19.32	49000	NJ
22	1127-76-0	Naphthalene, 1-ethyl-	20.33	4400	NJ
23	582-16-1	Naphthalene, 2,7-dimethyl-	20.51	6200	NJ
24	575-41-7	Naphthalene, 1,3-dimethyl-	20.77	5500	NJ
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A	39000	J

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
T1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768917

Sample wt/vol: 5.56 (g/mL) g Lab File ID: 768917E

Level: (TRACE/LOW/MED) MED Date Received: 09/24/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/27/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	270	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl chloride	270	U
74-83-9	Bromomethane	270	U
75-00-3	Chloroethane	270	U
75-69-4	Trichlorofluoromethane	270	U
75-35-4	1,1-Dichloroethene	270	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	270	U
67-64-1	Acetone	530	U
75-15-0	Carbon disulfide	49	JB
79-20-9	Methyl acetate	120	J
75-09-2	Methylene chloride	270	U
156-60-5	trans-1,2-Dichloroethene	270	U
1634-04-4	Methyl tert-butyl ether	270	U
75-34-3	1,1-Dichloroethane	270	U
156-59-2	cis-1,2-Dichloroethene	270	U
78-93-3	2-Butanone	530	U
74-97-5	Bromochloromethane	270	U
67-66-3	Chloroform	270	U
71-55-6	1,1,1-Trichloroethane	270	U
110-82-7	Cyclohexane	270	U
56-23-5	Carbon tetrachloride	270	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	270	U
123-91-1	1,4-Dioxane	5300	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
T1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768917

Sample wt/vol: 5.56 (g/mL) g Lab File ID: 768917E

Level: (TRACE/LOW/MED) MED Date Received: 09/24/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/27/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	270	U
108-87-2	Methylcyclohexane	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-pentanone	530	U
108-88-3	Toluene	49	J
10061-02-6	trans-1,3-Dichloropropene	270	U
79-00-5	1,1,2-Trichloroethane	270	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	530	U
124-48-1	Dibromochloromethane	270	U
106-93-4	1,2-Dibromoethane	270	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	530	
95-47-6	o-Xylene	810	
179601-23-1	m,p-Xylene	1500	
100-42-5	Styrene	270	U
75-25-2	Bromoform	270	U
98-82-8	Isopropylbenzene	270	U
79-34-5	1,1,2,2-Tetrachloroethane	270	U
541-73-1	1,3-Dichlorobenzene	270	U
106-46-7	1,4-Dichlorobenzene	270	U
95-50-1	1,2-Dichlorobenzene	270	U
96-12-8	1,2-Dibromo-3-chloropropane	270	U
120-82-1	1,2,4-Trichlorobenzene	53	J
87-61-6	1,2,3-Trichlorobenzene	270	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
T1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768917

Sample wt/vol: 5.56 (g/mL) g Lab File ID: 768917E

Level: (TRACE or LOW/MED) MED Date Received: 09/24/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/27/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	4200	JXB
02		Unknown	13.60	470	J
03		Unknown	13.95	630	J
04		Unknown	14.11	3300	J
05	526-73-8	Benzene, 1,2,3-trimethyl-	15.25	2600	NJ
06		Unknown	15.37	390	J
07		Unknown C4-alkylbenzene	15.91	850	J
08	95-13-6	Indene	16.16	1900	NJ
09		Unknown	16.24	3300	J
10		Unknown C4-alkylbenzene	16.35	2000	J
11		Unknown	16.52	680	J
12		Unknown	16.63	3000	J
13		Unknown	16.70	2900	J
14		Unknown	16.79	3300	J
15		Unknown	17.28	770	J
16		Unknown	17.66	1500	J
17	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.39	320	NJ
18		Unknown	18.74	1200	J
19	90-12-0	Naphthalene, 1-methyl-	19.30	1800	NJ
20	571-61-9	Naphthalene, 1,5-dimethyl-	20.51	680	NJ
21	569-41-5	Naphthalene, 1,8-dimethyl-	20.76	740	NJ
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A	42000	J

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416E

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	260	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl chloride	260	U
74-83-9	Bromomethane	260	U
75-00-3	Chloroethane	260	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	260	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	260	U
67-64-1	Acetone	520	U
75-15-0	Carbon disulfide	260	U
79-20-9	Methyl acetate	260	U
75-09-2	Methylene chloride	260	U
156-60-5	trans-1,2-Dichloroethene	260	U
1634-04-4	Methyl tert-butyl ether	260	U
75-34-3	1,1-Dichloroethane	260	U
156-59-2	cis-1,2-Dichloroethene	260	U
78-93-3	2-Butanone	520	U
74-97-5	Bromochloromethane	260	U
67-66-3	Chloroform	260	U
71-55-6	1,1,1-Trichloroethane	260	U
110-82-7	Cyclohexane	260	U
56-23-5	Carbon tetrachloride	260	U
71-43-2	Benzene	260	U
107-06-2	1,2-Dichloroethane	260	U
123-91-1	1,4-Dioxane	5200	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416E

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	260	U
108-87-2	Methylcyclohexane	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-pentanone	520	U
108-88-3	Toluene	260	U
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	520	U
124-48-1	Dibromochloromethane	260	U
106-93-4	1,2-Dibromoethane	260	U
108-90-7	Chlorobenzene	260	U
100-41-4	Ethylbenzene	260	U
95-47-6	o-Xylene	260	U
179601-23-1	m,p-Xylene	260	U
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	U
98-82-8	Isopropylbenzene	260	U
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	260	U
106-46-7	1,4-Dichlorobenzene	260	U
95-50-1	1,2-Dichlorobenzene	260	U
96-12-8	1,2-Dibromo-3-chloropropane	260	U
120-82-1	1,2,4-Trichlorobenzene	260	U
87-61-6	1,2,3-Trichlorobenzene	260	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
U2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416E

Level: (TRACE or LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	2900	JXB
02		Unknown	12.58	360	J
03		Unknown	13.60	470	J
04		Unknown	14.79	520	J
05		Unknown	15.56	500	J
06		Unknown	16.17	850	J
07		Unknown	16.26	990	J
08	2870-04-4	Benzene, 2-ethyl-1,3-dimethy	16.34	800	NJ
09		Unknown	16.52	880	J
10	2958-76-1	Naphthalene, decahydro-2-met	16.62	3100	NJ
11	2958-76-1	Naphthalene, decahydro-2-met	16.82	1800	NJ
12		Unknown	16.90	640	J
13		Unknown	17.18	3500	J
14		Unknown naphthalene derivati	17.34	1700	J
15		Unknown aromatic compound	17.50	940	J
16		Unknown aromatic compound	17.62	1200	J
17		Unknown	17.67	1500	J
18		Unknown	17.81	1100	J
19		Unknown	17.95	2000	J
20		Unknown	18.04	870	J
21		Unknown	18.23	1500	J
22	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.37	1900	NJ
23		Unknown aromatic compound	18.51	1100	J
24		Unknown naphthalene derivati	18.60	1100	J
25		Unknown	18.78	1800	J
26	7524-63-2	Naphthalene, 1,2,3,4-tetrahy	18.99	1500	NJ
27	90-12-0	Naphthalene, 1-methyl-	19.32	860	NJ
28		Unknown naphthalene derivati	19.58	530	J
29		Unknown	19.70	490	J
30		Unknown naphthalene derivati	19.96	1700	J
	E966796(1)	Total Alkanes	N/A	5500	J

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB04

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	110	J
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	57	J
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB04

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	58	J
87-61-6	1,2,3-Trichlorobenzene	71	J

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB04

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	2700	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKK1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB05

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/27/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	71	J
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKK1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB05

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/27/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	250	U
87-61-6	1,2,3-Trichlorobenzene	250	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKK1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB05

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/27/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	2900	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK9

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB03

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	63	J
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK9

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB03

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	250	U
87-61-6	1,2,3-Trichlorobenzene	250	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK9

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB03

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	3000	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLKM1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768417M1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 768417E

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	250	U
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLKM1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768417M1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 768417E

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	250	U
87-61-6	1,2,3-Trichlorobenzene	250	U

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLKM1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768417M1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 768417E

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	3600	JXB
02		Unknown	14.11	570	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2CMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416MS

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416M

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	260	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl chloride	260	U
74-83-9	Bromomethane	260	U
75-00-3	Chloroethane	260	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	2900	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	260	U
67-64-1	Acetone	520	U
75-15-0	Carbon disulfide	260	U
79-20-9	Methyl acetate	260	U
75-09-2	Methylene chloride	260	U
156-60-5	trans-1,2-Dichloroethene	260	U
1634-04-4	Methyl tert-butyl ether	260	U
75-34-3	1,1-Dichloroethane	260	U
156-59-2	cis-1,2-Dichloroethene	260	U
78-93-3	2-Butanone	520	U
74-97-5	Bromochloromethane	260	U
67-66-3	Chloroform	260	U
71-55-6	1,1,1-Trichloroethane	260	U
110-82-7	Cyclohexane	260	U
56-23-5	Carbon tetrachloride	260	U
71-43-2	Benzene	3000	
107-06-2	1,2-Dichloroethane	260	U
123-91-1	1,4-Dioxane	5200	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2CMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416MS

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416M

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	2900	
108-87-2	Methylcyclohexane	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-pentanone	520	U
108-88-3	Toluene	2700	
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	520	U
124-48-1	Dibromochloromethane	260	U
106-93-4	1,2-Dibromoethane	260	U
108-90-7	Chlorobenzene	2700	
100-41-4	Ethylbenzene	260	U
95-47-6	o-Xylene	260	U
179601-23-1	m,p-Xylene	260	U
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	U
98-82-8	Isopropylbenzene	260	U
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	260	U
106-46-7	1,4-Dichlorobenzene	260	U
95-50-1	1,2-Dichlorobenzene	260	U
96-12-8	1,2-Dibromo-3-chloropropane	260	U
120-82-1	1,2,4-Trichlorobenzene	260	U
87-61-6	1,2,3-Trichlorobenzene	260	U

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2CMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416MD

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416S

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	260	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl chloride	260	U
74-83-9	Bromomethane	260	U
75-00-3	Chloroethane	260	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	2900	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	260	U
67-64-1	Acetone	520	U
75-15-0	Carbon disulfide	260	U
79-20-9	Methyl acetate	260	U
75-09-2	Methylene chloride	260	U
156-60-5	trans-1,2-Dichloroethene	260	U
1634-04-4	Methyl tert-butyl ether	260	U
75-34-3	1,1-Dichloroethane	260	U
156-59-2	cis-1,2-Dichloroethene	260	U
78-93-3	2-Butanone	220	J
74-97-5	Bromochloromethane	260	U
67-66-3	Chloroform	260	U
71-55-6	1,1,1-Trichloroethane	260	U
110-82-7	Cyclohexane	260	U
56-23-5	Carbon tetrachloride	260	U
71-43-2	Benzene	2900	
107-06-2	1,2-Dichloroethane	260	U
123-91-1	1,4-Dioxane	5200	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2CMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416MD

Sample wt/vol: 6.14 (g/mL) g Lab File ID: 768416S

Level: (TRACE/LOW/MED) MED Date Received: 09/20/2008

% Moisture: not dec. 11 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	2800	
108-87-2	Methylcyclohexane	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-pentanone	520	U
108-88-3	Toluene	2600	
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	520	U
124-48-1	Dibromochloromethane	260	U
106-93-4	1,2-Dibromoethane	260	U
108-90-7	Chlorobenzene	2700	
100-41-4	Ethylbenzene	260	U
95-47-6	o-Xylene	260	U
179601-23-1	m,p-Xylene	260	U
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	U
98-82-8	Isopropylbenzene	260	U
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	260	U
106-46-7	1,4-Dichlorobenzene	260	U
95-50-1	1,2-Dichlorobenzene	260	U
96-12-8	1,2-Dibromo-3-chloropropane	260	U
120-82-1	1,2,4-Trichlorobenzene	260	U
87-61-6	1,2,3-Trichlorobenzene	260	U

SOM01.2

2C - FORM II VOA-3
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Level: (LOW/MED) MED

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKJ1	116	107	91	87	98	96	103
02	B2B	109	134*	77	76	89	88	102
03	B1EME	110	106	82	77	93	92	109
04	U2C	108	100	80	77	91	90	104
05	U2CMS	105	84	102	77	89	87	106
06	U2CMSD	107	92	104	79	90	89	104
07	VBLKK1	105	98	81	109	101	99	106
08	T1C	102	102	79	58	101	100	108
09	VBLKK9	98	96	78	96	99	99	100
10	VHBLKM1	102	104	80	76	101	103	101
11								
12								
13								
14								
15								
16								
17								
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27								
28								
29								
30								

		QC LIMITS
VDMC1	(VCL) = Vinyl chloride-d3	(68-122)
VDMC2	(CLA) = Chloroethane-d5	(61-130)
VDMC3	(DCE) = 1,1-Dichloroethene-d2	(45-132)
VDMC4	(BUT) = 2-Butanone-d5	(20-182)
VDMC5	(CLF) = Chloroform-d	(72-123)
VDMC6	(DCA) = 1,2-Dichloroethane-d4	(79-122)
VDMC7	(BEN) = Benzene-d6	(80-121)

Column to be used to flag recovery values
* Values outside of contract required QC limits

2D - FORM II VOA-4
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Level: (LOW/MED) MED

	EPA SAMPLE NO.	VDMC8 (DPA)#	VDMC9 (TOL)#	VDMC10 (TDP)#	VDMC11 (HEX)#	VDMC12 (DXE)#	VDMC13 (TCA)#	VDMC14 (DCZ)#	TOT OUT
01	VBLKJ1	92	97	93	85	100	86	92	0
02	B2B	93	100	92	91	55	89	95	1
03	B1EME	99	105	98	98	56	91	97	0
04	U2C	94	99	92	86	55	86	96	0
05	U2CMS	95	100	93	90	62	89	94	0
06	U2CMSD	92	98	90	87	69	85	95	0
07	VBLKK1	99	102	103	106	114	105	103	0
08	T1C	103	102	101	101	137	101	104	0
09	VBLKK9	94	98	97	99	79	98	98	0
10	VHBLKM1	95	99	100	103	82	100	100	0
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

	QC LIMITS
VDMC8 (DPA) = 1,2-Dichloropropane-d6	(74-124)
VDMC9 (TOL) = Toluene-d8	(78-121)
VDMC10 (TDP) = trans-1,3-Dichloropropene-d4	(72-130)
VDMC11 (HEX) = 2-Hexanone-d5	(17-184)
VDMC12 (DXE) = 1,4-Dioxane-d8	(50-150)
VDMC13 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(56-161)
VDMC14 (DCZ) = 1,2-Dichlorobenzene-d4	(70-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

3B - FORM III VOA-2
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix Spike - EPA Sample No.: U2C Level: (LOW/MED) MED

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	2600		2900	112	59-172
Trichloroethene	2600		2900	112	62-137
Benzene	2600		3000	115	66-142
Toluene	2600		2700	104	59-139
Chlorobenzene	2600		2700	104	60-133

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	2600	2900	112	0	0-22	59-172
Trichloroethene	2600	2800	108	4	0-24	62-137
Benzene	2600	2900	112	3	0-21	66-142
Toluene	2600	2600	100	4	0-21	59-139
Chlorobenzene	2600	2700	104	0	0-21	60-133

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

SOM01.2

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MUBB04 Lab Sample ID: VBLKJ1

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/25/2008

Level: (TRACE or LOW/MED) MED Time Analyzed: 2033

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B2B	768412	768412ED	2321
02	B1EME	768413ME	768413E	2349
03	U2C	768416	768416E	0017
04	U2CMS	768416MS	768416M	0045
05	U2CMSD	768416MD	768416S	0113
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COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKK1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MUCB05 Lab Sample ID: VBLKK1

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/27/2008

Level: (TRACE or LOW/MED) MED Time Analyzed: 0538

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	T1C	768917	768917E	0924
02				
03				
04				
05				
06				
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COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MUCB03 Lab Sample ID: VBLKK9

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 10/01/2008

Level: (TRACE or LOW/MED) MED Time Analyzed: 1218

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLKM1	768417M1	768417E	1523
02				
03				
04				
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09				
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COMMENTS:

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBUB

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MUB01PV BFB Injection Date: 09/25/2008

Instrument ID: M.i BFB Injection Time: 1634

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.1
75	30.0 - 60.0% of mass 95	44.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 120.0% of mass 95	56.4
175	5.0 - 9.0% of mass 174	4.0 (7.1)1
176	95.0 - 101.0% of mass 174	54.8 (97.2)1
177	5.0 - 9.0% of mass 176	3.5 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005UB	VSTD005UB	MUB005V	09/25/2008	1744
02	VSTD010UB	VSTD010UB	MUB010V	09/25/2008	1812
03	VSTD050UB	VSTD050UB	MUB050V	09/25/2008	1841
04	VSTD100UB	VSTD100UB	MUB100V	09/25/2008	1909
05	VSTD200UB	VSTD200UB	MUB200V	09/25/2008	1937
06	VBLKJ1	VBLKJ1	MUBB04	09/25/2008	2033
07	B2B	768412	768412ED	09/25/2008	2321
08	B1EME	768413ME	768413E	09/25/2008	2349
09	U2C	768416	768416E	09/26/2008	0017
10	U2CMS	768416MS	768416M	09/26/2008	0045
11	U2CMSD	768416MD	768416S	09/26/2008	0113
12	VSTD050M1	VSTD050M1	MUB50C1	09/26/2008	0334
13	VSTD050M2	VSTD050M2	MUB50C2	09/26/2008	0402
14					
15					
16					
17					
18					
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22					

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBUC

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MUC01PV BFB Injection Date: 09/27/2008

Instrument ID: M.i BFB Injection Time: 0110

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.0
75	30.0 - 60.0% of mass 95	42.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.6 (1.1)1
174	50.0 - 120.0% of mass 95	57.4
175	5.0 - 9.0% of mass 174	4.2 (7.4)1
176	95.0 - 101.0% of mass 174	56.6 (98.5)1
177	5.0 - 9.0% of mass 176	4.3 (7.5)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005UC	VSTD005UC	MUC005V	09/27/2008	0222
02	VSTD010UC	VSTD010UC	MUC010V	09/27/2008	0250
03	VSTD050UC	VSTD050UC	MUC050V	09/27/2008	0318
04	VSTD100UC	VSTD100UC	MUC100V	09/27/2008	0346
05	VSTD200UC	VSTD200UC	MUC200V	09/27/2008	0414
06	VBLKK1	VBLKK1	MUCB05	09/27/2008	0538
07	T1C	768917	768917E	09/27/2008	0924
08	VSTD050C1	VSTD050C1	MUC50C1	09/27/2008	1020
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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: MUC03PV BFB Injection Date: 10/01/2008

Instrument ID: M.i BFB Injection Time: 1002

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.4
75	30.0 - 60.0% of mass 95	41.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.2 (0.4)1
174	50.0 - 120.0% of mass 95	57.6
175	5.0 - 9.0% of mass 174	4.3 (7.4)1
176	95.0 - 101.0% of mass 174	55.4 (96.3)1
177	5.0 - 9.0% of mass 176	3.9 (7.0)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050B1	VSTD050B1	MUC50BV	10/01/2008	1104
02	VBLKK9	VBLKK9	MUCB03	10/01/2008	1218
03	VHBLKM1	768417M1	768417E	10/01/2008	1523
04	VSTD050B2	VSTD050B2	MUC50BC1	10/01/2008	1627
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6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/25/2008 09/25/2008

Heated Purge: (Y/N)N Calibration Time(s): 1744 1937

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUB005V RRF10 = MUB010V
RRF50 = MUB050V RRF100 = MUB100V RRF200 = MUB200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Dichlorodifluoromethane	0.362	0.403	0.318	0.287	0.332	0.340	13.0	
Chloromethane	0.276	0.294	0.241	0.223	0.263	0.259	10.8	
Vinyl chloride	0.297	0.328	0.269	0.247	0.287	0.286	10.6	
Bromomethane	0.189	0.219	0.198	0.176	0.208	0.198	8.3	
Chloroethane	0.152	0.163	0.126	0.112	0.125	0.136	15.5	
Trichlorofluoromethane	0.477	0.551	0.447	0.393	0.449	0.463	12.4	
1,1-Dichloroethene	0.352	0.368	0.307	0.277	0.322	0.325	11.1	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.603	0.721	0.597	0.554	0.642	0.623	10.1	
Acetone	0.069	0.077	0.044	0.040	0.046	0.055	29.7	
Carbon disulfide	0.889	1.007	0.853	0.774	0.902	0.885	9.6	
Methyl acetate	0.187	0.209	0.164	0.154	0.174	0.178	12.1	
Methylene chloride	0.355	0.376	0.308	0.281	0.325	0.329	11.5	
trans-1,2-Dichloroethene	0.329	0.384	0.320	0.305	0.352	0.338	9.1	
Methyl tert-butyl ether	0.573	0.675	0.585	0.564	0.639	0.607	7.8	
1,1-Dichloroethane	0.663	0.740	0.620	0.570	0.657	0.650	9.6	
cis-1,2-Dichloroethene	0.360	0.404	0.341	0.312	0.364	0.356	9.4	
2-Butanone	0.120	0.119	0.093	0.087	0.102	0.104	14.6	
Bromochloromethane	0.209	0.241	0.200	0.185	0.215	0.210	9.8	
Chloroform	0.684	0.759	0.657	0.579	0.662	0.668	9.7	
1,1,1-Trichloroethane	0.593	0.700	0.613	0.567	0.655	0.626	8.4	
Cyclohexane	0.539	0.643	0.569	0.529	0.611	0.578	8.4	
Carbon tetrachloride	0.551	0.651	0.577	0.527	0.611	0.583	8.4	
Benzene	1.039	1.220	1.071	0.992	1.128	1.090	8.1	
1,2-Dichloroethane	0.343	0.413	0.351	0.325	0.366	0.360	9.3	
1,4-Dioxane	0.003	0.004	0.002	0.003	0.003	0.003	16.5	<-
Trichloroethene	0.460	0.539	0.467	0.433	0.504	0.481	8.6	
Methylcyclohexane	0.449	0.523	0.459	0.428	0.490	0.470	7.9	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/25/2008 09/25/2008

Heated Purge: (Y/N)N Calibration Time(s): 1744 1937

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUB005V RRF10 = MUB010V
RRF50 = MUB050V RRF100 = MUB100V RRF200 = MUB200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.497	0.572	0.489	0.465	0.535	0.512	8.3
Bromodichloromethane	0.805	0.924	0.817	0.753	0.875	0.835	7.9
cis-1,3-Dichloropropene	0.722	0.844	0.742	0.679	0.779	0.753	8.3
4-Methyl-2-pentanone	0.328	0.367	0.330	0.305	0.347	0.335	6.9
Toluene	1.191	1.376	1.186	1.088	1.240	1.216	8.6
trans-1,3-Dichloropropene	0.632	0.735	0.647	0.588	0.671	0.655	8.2
1,1,2-Trichloroethane	0.440	0.485	0.431	0.398	0.459	0.443	7.3
Tetrachloroethene	0.334	0.393	0.345	0.321	0.373	0.353	8.4
2-Hexanone	0.253	0.298	0.238	0.218	0.248	0.251	11.7
Dibromochloromethane	0.685	0.793	0.689	0.631	0.735	0.707	8.6
1,2-Dibromoethane	0.623	0.719	0.632	0.573	0.672	0.644	8.5
Chlorobenzene	1.007	1.153	0.982	0.902	1.035	1.016	9.0
Ethylbenzene	1.586	1.833	1.580	1.421	1.613	1.607	9.2
o-Xylene	0.611	0.696	0.605	0.551	0.634	0.619	8.5
m,p-Xylene	0.627	0.729	0.627	0.576	0.658	0.643	8.7
Styrene	1.064	1.216	1.079	0.975	1.119	1.091	8.0
Bromoform	0.797	0.946	0.830	0.773	0.885	0.846	8.3
Isopropylbenzene	1.790	2.054	1.774	1.611	1.834	1.813	8.8
1,1,2,2-Tetrachloroethane	0.771	0.888	0.761	0.686	0.776	0.776	9.3
1,3-Dichlorobenzene	1.567	1.806	1.591	1.443	1.639	1.609	8.2
1,4-Dichlorobenzene	1.809	2.019	1.725	1.583	1.848	1.797	8.9
1,2-Dichlorobenzene	1.500	1.715	1.483	1.357	1.544	1.520	8.5
1,2-Dibromo-3-chloropropane	0.284	0.302	0.264	0.244	0.281	0.275	8.1
1,2,4-Trichlorobenzene	1.052	1.260	1.128	1.048	1.232	1.144	8.6
1,2,3-Trichlorobenzene	0.997	1.174	1.024	0.958	1.123	1.055	8.5

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/25/2008 09/25/2008

Heated Purge: (Y/N)N Calibration Time(s): 1744 1937

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUB005V RRF10 = MUB010V
RRF50 = MUB050V RRF100 = MUB100V RRF200 = MUB200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Vinyl chloride-d3	0.297	0.303	0.265	0.242	0.281	0.278	9.0	
Chloroethane-d5	0.251	0.226	0.180	0.154	0.173	0.197	20.4	
1,1-Dichloroethene-d2	0.793	0.856	0.728	0.663	0.752	0.758	9.5	
2-Butanone-d5	0.113	0.133	0.100	0.092	0.109	0.109	14.2	
Chloroform-d	0.752	0.843	0.719	0.644	0.724	0.736	9.7	
1,2-Dichloroethane-d4	0.304	0.374	0.311	0.288	0.321	0.320	10.3	
Benzene-d6	1.130	1.300	1.141	1.055	1.201	1.165	7.8	
1,2-Dichloropropane-d6	0.624	0.724	0.637	0.589	0.683	0.651	8.1	
Toluene-d8	1.130	1.299	1.123	1.036	1.202	1.158	8.5	
trans-1,3-Dichloropropene-d4	0.620	0.708	0.623	0.576	0.657	0.637	7.7	
2-Hexanone-d5	0.146	0.176	0.137	0.130	0.149	0.148	11.8	
1,4-Dioxane-d8	0.003	0.004	0.003	0.003	0.003	0.003	18.2	<-
1,1,2,2-Tetrachloroethane-d2	0.793	0.891	0.772	0.699	0.800	0.791	8.7	
1,2-Dichlorobenzene-d4	1.029	1.139	0.961	0.893	1.038	1.012	9.1	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/27/2008 09/27/2008

Heated Purge: (Y/N)N Calibration Time(s): 0222 0414

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUC005V RRF10 = MUC010V
RRF50 = MUC050V RRF100 = MUC100V RRF200 = MUC200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Dichlorodifluoromethane	0.325	0.330	0.314	0.321	0.318	0.321	1.9	
Chloromethane	0.232	0.229	0.223	0.234	0.238	0.231	2.3	
Vinyl chloride	0.287	0.281	0.274	0.281	0.277	0.280	1.8	
Bromomethane	0.227	0.206	0.200	0.194	0.199	0.205	6.2	
Chloroethane	0.127	0.134	0.116	0.118	0.115	0.122	7.0	
Trichlorofluoromethane	0.545	0.563	0.509	0.465	0.430	0.502	10.9	
1,1-Dichloroethene	0.357	0.370	0.363	0.371	0.363	0.365	1.5	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.732	0.745	0.745	0.744	0.729	0.739	1.1	
Acetone	0.047	0.037	0.034	0.040	0.038	0.039	12.1	
Carbon disulfide	1.038	1.068	1.050	1.084	1.067	1.061	1.7	
Methyl acetate	0.167	0.173	0.175	0.173	0.174	0.172	1.7	
Methylene chloride	0.343	0.350	0.347	0.354	0.353	0.350	1.3	
trans-1,2-Dichloroethene	0.390	0.392	0.384	0.393	0.389	0.390	0.9	
Methyl tert-butyl ether	0.662	0.685	0.685	0.672	0.678	0.676	1.4	
1,1-Dichloroethane	0.692	0.688	0.683	0.692	0.682	0.687	0.7	
cis-1,2-Dichloroethene	0.387	0.384	0.384	0.394	0.387	0.387	1.1	
2-Butanone	0.086	0.091	0.079	0.086	0.085	0.085	5.1	
Bromochloromethane	0.226	0.233	0.234	0.238	0.237	0.233	2.0	
Chloroform	0.664	0.682	0.682	0.673	0.660	0.672	1.5	
1,1,1-Trichloroethane	0.663	0.683	0.701	0.690	0.683	0.684	2.1	
Cyclohexane	0.635	0.661	0.685	0.679	0.664	0.665	2.9	
Carbon tetrachloride	0.627	0.654	0.662	0.660	0.650	0.651	2.1	
Benzene	1.176	1.209	1.248	1.227	1.193	1.211	2.3	
1,2-Dichloroethane	0.353	0.364	0.366	0.364	0.354	0.360	1.7	
1,4-Dioxane	0.002	0.002	0.003	0.003	0.003	0.003	18.8	<-
Trichloroethene	0.512	0.526	0.536	0.531	0.524	0.526	1.7	
Methylcyclohexane	0.483	0.527	0.536	0.519	0.511	0.515	4.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/27/2008 09/27/2008

Heated Purge: (Y/N)N Calibration Time(s): 0222 0414

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUC005V RRF10 = MUC010V
RRF50 = MUC050V RRF100 = MUC100V RRF200 = MUC200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.494	0.525	0.534	0.534	0.529	0.523	3.2
Bromodichloromethane	0.791	0.837	0.840	0.846	0.832	0.829	2.6
cis-1,3-Dichloropropene	0.736	0.759	0.778	0.780	0.759	0.762	2.3
4-Methyl-2-pentanone	0.282	0.291	0.301	0.294	0.298	0.293	2.5
Toluene	1.240	1.298	1.311	1.273	1.262	1.277	2.2
trans-1,3-Dichloropropene	0.625	0.633	0.649	0.647	0.632	0.637	1.6
1,1,2-Trichloroethane	0.422	0.435	0.451	0.448	0.445	0.440	2.7
Tetrachloroethene	0.372	0.388	0.400	0.396	0.394	0.390	2.8
2-Hexanone	0.208	0.221	0.211	0.208	0.208	0.211	2.6
Dibromochloromethane	0.683	0.711	0.721	0.726	0.721	0.712	2.4
1,2-Dibromoethane	0.615	0.647	0.669	0.671	0.670	0.654	3.7
Chlorobenzene	1.023	1.056	1.053	1.051	1.025	1.041	1.5
Ethylbenzene	1.544	1.627	1.626	1.591	1.530	1.584	2.9
o-Xylene	0.610	0.620	0.632	0.630	0.614	0.621	1.6
m,p-Xylene	0.653	0.661	0.661	0.673	0.658	0.661	1.1
Styrene	1.051	1.093	1.112	1.109	1.070	1.087	2.4
Bromoform	0.819	0.857	0.850	0.862	0.872	0.852	2.3
Isopropylbenzene	1.766	1.813	1.819	1.822	1.756	1.795	1.7
1,1,2,2-Tetrachloroethane	0.699	0.718	0.720	0.715	0.710	0.712	1.2
1,3-Dichlorobenzene	1.491	1.551	1.585	1.680	1.645	1.590	4.7
1,4-Dichlorobenzene	1.789	1.871	1.890	1.793	1.778	1.824	2.9
1,2-Dichlorobenzene	1.514	1.542	1.553	1.512	1.497	1.524	1.5
1,2-Dibromo-3-chloropropane	0.260	0.237	0.241	0.234	0.243	0.243	4.2
1,2,4-Trichlorobenzene	1.053	1.114	1.135	1.149	1.152	1.120	3.6
1,2,3-Trichlorobenzene	0.966	0.986	0.963	0.994	0.998	0.981	1.7

SOM01.2

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date(s): 09/27/2008 09/27/2008

Heated Purge: (Y/N)N Calibration Time(s): 0222 0414

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUC005V RRF10 = MUC010V
RRF50 = MUC050V RRF100 = MUC100V RRF200 = MUC200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Vinyl chloride-d3	0.297	0.294	0.278	0.285	0.283	0.287	2.7	
Chloroethane-d5	0.206	0.194	0.171	0.169	0.167	0.181	9.7	
1,1-Dichloroethene-d2	0.757	0.767	0.755	0.763	0.743	0.757	1.2	
2-Butanone-d5	0.081	0.089	0.084	0.094	0.089	0.088	5.8	
Chloroform-d	0.694	0.711	0.708	0.696	0.687	0.699	1.4	
1,2-Dichloroethane-d4	0.310	0.284	0.308	0.304	0.297	0.301	3.5	
Benzene-d6	1.167	1.220	1.255	1.225	1.195	1.212	2.7	
1,2-Dichloropropane-d6	0.625	0.641	0.663	0.664	0.653	0.649	2.5	
Toluene-d8	1.129	1.188	1.206	1.183	1.156	1.172	2.6	
trans-1,3-Dichloropropene-d4	0.581	0.601	0.613	0.604	0.599	0.600	2.0	
2-Hexanone-d5	0.133	0.135	0.136	0.133	0.135	0.134	0.9	
1,4-Dioxane-d8	0.002	0.003	0.003	0.003	0.003	0.003	17.9	<-
1,1,2,2-Tetrachloroethane-d2	0.686	0.699	0.697	0.694	0.691	0.693	0.7	
1,2-Dichlorobenzene-d4	0.939	0.959	0.959	0.946	0.946	0.950	0.9	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0334

Lab File ID: MUB50C1 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.340	0.288	0.010	-15.5	50.0	
Chloromethane	0.259	0.214	0.010	-17.6	50.0	
Vinyl chloride	0.286	0.255	0.010	-10.7	50.0	
Bromomethane	0.198	0.186	0.010	-6.3	50.0	
Chloroethane	0.136	0.119	0.010	-12.1	50.0	
Trichlorofluoromethane	0.463	0.517	0.010	11.6	50.0	
1,1-Dichloroethene	0.325	0.284	0.010	-12.6	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.623	0.572	0.010	-8.2	50.0	
Acetone	0.055	0.034	0.010	-39.0	50.0	
Carbon disulfide	0.885	0.796	0.010	-10.1	50.0	
Methyl acetate	0.178	0.142	0.010	-19.9	50.0	
Methylene chloride	0.329	0.282	0.010	-14.3	50.0	
trans-1,2-Dichloroethene	0.338	0.314	0.010	-7.1	50.0	
Methyl tert-butyl ether	0.607	0.594	0.010	-2.1	50.0	
1,1-Dichloroethane	0.650	0.569	0.010	-12.4	50.0	
cis-1,2-Dichloroethene	0.356	0.333	0.010	-6.4	50.0	
2-Butanone	0.104	0.080	0.010	-23.6	50.0	
Bromochloromethane	0.210	0.201	0.010	-4.4	50.0	
Chloroform	0.668	0.607	0.010	-9.1	50.0	
1,1,1-Trichloroethane	0.626	0.593	0.010	-5.2	50.0	
Cyclohexane	0.578	0.551	0.010	-4.6	50.0	
Carbon tetrachloride	0.583	0.571	0.010	-2.1	50.0	
Benzene	1.090	1.065	0.010	-2.3	50.0	
1,2-Dichloroethane	0.360	0.317	0.010	-11.7	50.0	
1,4-Dioxane	0.003	0.002	0.005	-44.1	50.0	<-
Trichloroethene	0.481	0.468	0.010	-2.7	50.0	
Methylcyclohexane	0.470	0.439	0.010	-6.5	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0334

Lab File ID: MUB50C1 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.512	0.485	0.010	-5.3	50.0
Bromodichloromethane	0.835	0.783	0.010	-6.1	50.0
cis-1,3-Dichloropropene	0.753	0.719	0.010	-4.6	50.0
4-Methyl-2-pentanone	0.335	0.295	0.010	-11.9	50.0
Toluene	1.216	1.185	0.010	-2.6	50.0
trans-1,3-Dichloropropene	0.655	0.612	0.010	-6.5	50.0
1,1,2-Trichloroethane	0.443	0.438	0.010	-1.0	50.0
Tetrachloroethene	0.353	0.359	0.010	1.6	50.0
2-Hexanone	0.251	0.215	0.010	-14.3	50.0
Dibromochloromethane	0.707	0.710	0.010	0.4	50.0
1,2-Dibromoethane	0.644	0.645	0.010	0.3	50.0
Chlorobenzene	1.016	1.009	0.010	-0.7	50.0
Ethylbenzene	1.607	1.524	0.010	-5.2	50.0
o-Xylene	0.619	0.601	0.010	-2.9	50.0
m,p-Xylene	0.643	0.636	0.010	-1.1	50.0
Styrene	1.091	1.095	0.010	0.4	50.0
Bromoform	0.846	0.885	0.010	4.6	50.0
Isopropylbenzene	1.813	1.779	0.010	-1.9	50.0
1,1,2,2-Tetrachloroethane	0.776	0.736	0.010	-5.2	50.0
1,3-Dichlorobenzene	1.609	1.595	0.010	-0.9	50.0
1,4-Dichlorobenzene	1.797	1.921	0.010	6.9	50.0
1,2-Dichlorobenzene	1.520	1.584	0.010	4.2	50.0
1,2-Dibromo-3-chloropropane	0.275	0.250	0.010	-9.2	50.0
1,2,4-Trichlorobenzene	1.144	1.194	0.010	4.4	50.0
1,2,3-Trichlorobenzene	1.055	1.073	0.010	1.7	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0334

Lab File ID: MUB50C1 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.278	0.251	0.010	-9.7	50.0	
Chloroethane-d5	0.197	0.167	0.010	-15.1	50.0	
1,1-Dichloroethene-d2	0.758	0.655	0.010	-13.7	50.0	
2-Butanone-d5	0.109	0.086	0.010	-21.2	50.0	
Chloroform-d	0.736	0.666	0.010	-9.6	50.0	
1,2-Dichloroethane-d4	0.320	0.286	0.010	-10.4	50.0	
Benzene-d6	1.165	1.150	0.010	-1.3	50.0	
1,2-Dichloropropane-d6	0.651	0.636	0.010	-2.4	50.0	
Toluene-d8	1.158	1.142	0.010	-1.4	50.0	
trans-1,3-Dichloropropene-d4	0.637	0.598	0.010	-6.1	50.0	
2-Hexanone-d5	0.148	0.138	0.010	-6.4	50.0	
1,4-Dioxane-d8	0.003	0.002	0.005	-50.7	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.791	0.748	0.010	-5.5	50.0	
1,2-Dichlorobenzene-d4	1.012	1.016	0.010	0.4	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0402

Lab File ID: MUB50C2 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M2 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.340	0.281	0.010	-17.5	50.0	
Chloromethane	0.259	0.213	0.010	-17.8	50.0	
Vinyl chloride	0.286	0.260	0.010	-9.1	50.0	
Bromomethane	0.198	0.186	0.010	-6.4	50.0	
Chloroethane	0.136	0.116	0.010	-14.4	50.0	
Trichlorofluoromethane	0.463	0.484	0.010	4.5	50.0	
1,1-Dichloroethene	0.325	0.287	0.010	-11.7	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.623	0.571	0.010	-8.4	50.0	
Acetone	0.055	0.037	0.010	-32.7	50.0	
Carbon disulfide	0.885	0.814	0.010	-8.0	50.0	
Methyl acetate	0.178	0.145	0.010	-18.6	50.0	
Methylene chloride	0.329	0.290	0.010	-11.7	50.0	
trans-1,2-Dichloroethene	0.338	0.324	0.010	-4.0	50.0	
Methyl tert-butyl ether	0.607	0.596	0.010	-1.9	50.0	
1,1-Dichloroethane	0.650	0.571	0.010	-12.1	50.0	
cis-1,2-Dichloroethene	0.356	0.330	0.010	-7.3	50.0	
2-Butanone	0.104	0.083	0.010	-20.1	50.0	
Bromochloromethane	0.210	0.206	0.010	-1.9	50.0	
Chloroform	0.668	0.605	0.010	-9.5	50.0	
1,1,1-Trichloroethane	0.626	0.598	0.010	-4.5	50.0	
Cyclohexane	0.578	0.552	0.010	-4.5	50.0	
Carbon tetrachloride	0.583	0.569	0.010	-2.5	50.0	
Benzene	1.090	1.075	0.010	-1.4	50.0	
1,2-Dichloroethane	0.360	0.319	0.010	-11.2	50.0	
1,4-Dioxane	0.003	0.002	0.005	-29.6	50.0	<-
Trichloroethene	0.481	0.474	0.010	-1.4	50.0	
Methylcyclohexane	0.470	0.428	0.010	-8.8	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0402

Lab File ID: MUB50C2 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M2 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.512	0.493	0.010	-3.6	50.0
Bromodichloromethane	0.835	0.786	0.010	-5.9	50.0
cis-1,3-Dichloropropene	0.753	0.727	0.010	-3.5	50.0
4-Methyl-2-pentanone	0.335	0.307	0.010	-8.4	50.0
Toluene	1.216	1.199	0.010	-1.4	50.0
trans-1,3-Dichloropropene	0.655	0.612	0.010	-6.5	50.0
1,1,2-Trichloroethane	0.443	0.444	0.010	0.4	50.0
Tetrachloroethene	0.353	0.361	0.010	2.3	50.0
2-Hexanone	0.251	0.218	0.010	-13.0	50.0
Dibromochloromethane	0.707	0.713	0.010	0.9	50.0
1,2-Dibromoethane	0.644	0.649	0.010	0.8	50.0
Chlorobenzene	1.016	1.016	0.010	0.0	50.0
Ethylbenzene	1.607	1.554	0.010	-3.3	50.0
o-Xylene	0.619	0.611	0.010	-1.4	50.0
m,p-Xylene	0.643	0.649	0.010	0.9	50.0
Styrene	1.091	1.093	0.010	0.2	50.0
Bromoform	0.846	0.879	0.010	3.9	50.0
Isopropylbenzene	1.813	1.788	0.010	-1.4	50.0
1,1,2,2-Tetrachloroethane	0.776	0.741	0.010	-4.5	50.0
1,3-Dichlorobenzene	1.609	1.692	0.010	5.1	50.0
1,4-Dichlorobenzene	1.797	1.831	0.010	1.9	50.0
1,2-Dichlorobenzene	1.520	1.571	0.010	3.4	50.0
1,2-Dibromo-3-chloropropane	0.275	0.261	0.010	-5.2	50.0
1,2,4-Trichlorobenzene	1.144	1.212	0.010	6.0	50.0
1,2,3-Trichlorobenzene	1.055	1.119	0.010	6.0	50.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0402

Lab File ID: MUB50C2 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M2 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.278	0.254	0.010	-8.4	50.0	
Chloroethane-d5	0.197	0.162	0.010	-17.9	50.0	
1,1-Dichloroethene-d2	0.758	0.663	0.010	-12.6	50.0	
2-Butanone-d5	0.109	0.087	0.010	-20.4	50.0	
Chloroform-d	0.736	0.671	0.010	-8.9	50.0	
1,2-Dichloroethane-d4	0.320	0.287	0.010	-10.4	50.0	
Benzene-d6	1.165	1.155	0.010	-0.9	50.0	
1,2-Dichloropropane-d6	0.651	0.646	0.010	-0.8	50.0	
Toluene-d8	1.158	1.161	0.010	0.2	50.0	
trans-1,3-Dichloropropene-d4	0.637	0.604	0.010	-5.1	50.0	
2-Hexanone-d5	0.148	0.142	0.010	-3.5	50.0	
1,4-Dioxane-d8	0.003	0.002	0.005	-30.8	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.791	0.759	0.010	-4.0	50.0	
1,2-Dichlorobenzene-d4	1.012	1.022	0.010	1.0	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/27/2008 Time: 1020

Lab File ID: MUC50C1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050C1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.321	0.309	0.010	-4.0	50.0	
Chloromethane	0.231	0.224	0.010	-3.2	50.0	
Vinyl chloride	0.280	0.272	0.010	-3.0	50.0	
Bromomethane	0.205	0.209	0.010	2.1	50.0	
Chloroethane	0.122	0.139	0.010	13.9	50.0	
Trichlorofluoromethane	0.502	0.567	0.010	12.9	50.0	
1,1-Dichloroethene	0.365	0.344	0.010	-5.7	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.739	0.690	0.010	-6.7	50.0	
Acetone	0.039	0.033	0.010	-16.2	50.0	
Carbon disulfide	1.061	1.001	0.010	-5.7	50.0	
Methyl acetate	0.172	0.158	0.010	-8.6	50.0	
Methylene chloride	0.350	0.337	0.010	-3.6	50.0	
trans-1,2-Dichloroethene	0.390	0.369	0.010	-5.2	50.0	
Methyl tert-butyl ether	0.676	0.675	0.010	-0.2	50.0	
1,1-Dichloroethane	0.687	0.663	0.010	-3.5	50.0	
cis-1,2-Dichloroethene	0.387	0.374	0.010	-3.4	50.0	
2-Butanone	0.085	0.076	0.010	-10.2	50.0	
Bromochloromethane	0.233	0.231	0.010	-1.1	50.0	
Chloroform	0.672	0.646	0.010	-3.9	50.0	
1,1,1-Trichloroethane	0.684	0.663	0.010	-3.0	50.0	
Cyclohexane	0.665	0.637	0.010	-4.2	50.0	
Carbon tetrachloride	0.651	0.634	0.010	-2.6	50.0	
Benzene	1.211	1.178	0.010	-2.7	50.0	
1,2-Dichloroethane	0.360	0.354	0.010	-1.7	50.0	
1,4-Dioxane	0.003	0.001	0.005	-61.3	50.0	<-
Trichloroethene	0.526	0.505	0.010	-4.0	50.0	
Methylcyclohexane	0.515	0.488	0.010	-5.4	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/27/2008 Time: 1020

Lab File ID: MUC50C1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050C1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.523	0.511	0.010	-2.4	50.0
Bromodichloromethane	0.829	0.797	0.010	-3.9	50.0
cis-1,3-Dichloropropene	0.762	0.724	0.010	-5.0	50.0
4-Methyl-2-pentanone	0.293	0.280	0.010	-4.5	50.0
Toluene	1.277	1.247	0.010	-2.4	50.0
trans-1,3-Dichloropropene	0.637	0.597	0.010	-6.3	50.0
1,1,2-Trichloroethane	0.440	0.429	0.010	-2.6	50.0
Tetrachloroethene	0.390	0.379	0.010	-2.7	50.0
2-Hexanone	0.211	0.194	0.010	-8.4	50.0
Dibromochloromethane	0.712	0.700	0.010	-1.7	50.0
1,2-Dibromoethane	0.654	0.651	0.010	-0.5	50.0
Chlorobenzene	1.041	1.040	0.010	-0.1	50.0
Ethylbenzene	1.584	1.532	0.010	-3.3	50.0
o-Xylene	0.621	0.599	0.010	-3.5	50.0
m,p-Xylene	0.661	0.632	0.010	-4.4	50.0
Styrene	1.087	1.055	0.010	-3.0	50.0
Bromoform	0.852	0.881	0.010	3.4	50.0
Isopropylbenzene	1.795	1.734	0.010	-3.4	50.0
1,1,2,2-Tetrachloroethane	0.712	0.691	0.010	-3.1	50.0
1,3-Dichlorobenzene	1.590	1.658	0.010	4.2	50.0
1,4-Dichlorobenzene	1.824	1.794	0.010	-1.7	50.0
1,2-Dichlorobenzene	1.524	1.527	0.010	0.2	50.0
1,2-Dibromo-3-chloropropane	0.243	0.232	0.010	-4.5	50.0
1,2,4-Trichlorobenzene	1.120	1.108	0.010	-1.2	50.0
1,2,3-Trichlorobenzene	0.981	0.936	0.010	-4.6	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 09/27/2008 Time: 1020

Lab File ID: MUC50C1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050C1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.287	0.280	0.010	-2.4	50.0	
Chloroethane-d5	0.181	0.202	0.010	11.3	50.0	
1,1-Dichloroethene-d2	0.757	0.720	0.010	-4.9	50.0	
2-Butanone-d5	0.088	0.083	0.010	-5.1	50.0	
Chloroform-d	0.699	0.675	0.010	-3.5	50.0	
1,2-Dichloroethane-d4	0.301	0.298	0.010	-0.9	50.0	
Benzene-d6	1.212	1.183	0.010	-2.4	50.0	
1,2-Dichloropropane-d6	0.649	0.631	0.010	-2.7	50.0	
Toluene-d8	1.172	1.143	0.010	-2.5	50.0	
trans-1,3-Dichloropropene-d4	0.600	0.571	0.010	-4.8	50.0	
2-Hexanone-d5	0.134	0.129	0.010	-4.0	50.0	
1,4-Dioxane-d8	0.003	0.001	0.005	-48.4	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.693	0.683	0.010	-1.5	50.0	
1,2-Dichlorobenzene-d4	0.950	0.962	0.010	1.3	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1104

Lab File ID: MUC50BV Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.321	0.313	0.010	-2.6	40.0	
Chloromethane	0.231	0.223	0.010	-3.5	40.0	
Vinyl chloride	0.280	0.273	0.100	-2.5	25.0	
Bromomethane	0.205	0.175	0.100	-14.4	25.0	
Chloroethane	0.122	0.123	0.010	1.3	40.0	
Trichlorofluoromethane	0.502	0.483	0.010	-3.8	40.0	
1,1-Dichloroethene	0.365	0.364	0.100	-0.1	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.739	0.753	0.010	1.8	40.0	
Acetone	0.039	0.033	0.010	-16.1	40.0	
Carbon disulfide	1.061	1.077	0.010	1.5	40.0	
Methyl acetate	0.172	0.180	0.010	4.3	40.0	
Methylene chloride	0.350	0.352	0.010	0.8	40.0	
trans-1,2-Dichloroethene	0.390	0.394	0.010	1.2	40.0	
Methyl tert-butyl ether	0.676	0.710	0.010	4.9	40.0	
1,1-Dichloroethane	0.687	0.691	0.200	0.6	25.0	
cis-1,2-Dichloroethene	0.387	0.396	0.010	2.5	40.0	
2-Butanone	0.085	0.081	0.010	-4.9	40.0	
Bromochloromethane	0.233	0.238	0.050	1.8	25.0	
Chloroform	0.672	0.689	0.200	2.6	25.0	
1,1,1-Trichloroethane	0.684	0.667	0.100	-2.5	25.0	
Cyclohexane	0.665	0.664	0.010	-0.1	40.0	
Carbon tetrachloride	0.651	0.648	0.100	-0.4	25.0	
Benzene	1.211	1.195	0.400	-1.3	25.0	
1,2-Dichloroethane	0.360	0.369	0.100	2.5	25.0	
1,4-Dioxane	0.003	0.003	0.005	3.3	50.0	<-
Trichloroethene	0.526	0.508	0.300	-3.3	25.0	
Methylcyclohexane	0.515	0.515	0.010	-0.1	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1104

Lab File ID: MUC50BV Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.523	0.511	0.010	-2.4	40.0
Bromodichloromethane	0.829	0.808	0.200	-2.6	25.0
cis-1,3-Dichloropropene	0.762	0.759	0.200	-0.4	25.0
4-Methyl-2-pentanone	0.293	0.300	0.010	2.3	40.0
Toluene	1.277	1.256	0.400	-1.6	25.0
trans-1,3-Dichloropropene	0.637	0.637	0.100	-0.1	25.0
1,1,2-Trichloroethane	0.440	0.431	0.100	-2.2	25.0
Tetrachloroethene	0.390	0.383	0.100	-1.7	25.0
2-Hexanone	0.211	0.210	0.010	-0.8	40.0
Dibromochloromethane	0.712	0.698	0.100	-2.1	25.0
1,2-Dibromoethane	0.654	0.657	0.010	0.4	40.0
Chlorobenzene	1.041	1.044	0.500	0.3	25.0
Ethylbenzene	1.584	1.568	0.100	-1.0	25.0
o-Xylene	0.621	0.610	0.300	-1.7	25.0
m,p-Xylene	0.661	0.645	0.300	-2.4	25.0
Styrene	1.087	1.074	0.300	-1.2	25.0
Bromoform	0.852	0.875	0.050	2.7	25.0
Isopropylbenzene	1.795	1.767	0.010	-1.6	40.0
1,1,2,2-Tetrachloroethane	0.712	0.729	0.300	2.3	25.0
1,3-Dichlorobenzene	1.590	1.539	0.600	-3.2	25.0
1,4-Dichlorobenzene	1.824	1.861	0.500	2.0	25.0
1,2-Dichlorobenzene	1.524	1.501	0.400	-1.5	25.0
1,2-Dibromo-3-chloropropane	0.243	0.261	0.010	7.2	40.0
1,2,4-Trichlorobenzene	1.120	1.142	0.200	1.9	25.0
1,2,3-Trichlorobenzene	0.981	1.047	0.200	6.7	25.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1104

Lab File ID: MUC50BV Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.287	0.276	0.010	-4.0	25.0	
Chloroethane-d5	0.181	0.172	0.010	-5.2	40.0	
1,1-Dichloroethene-d2	0.757	0.752	0.010	-0.7	25.0	
2-Butanone-d5	0.088	0.085	0.010	-2.6	40.0	
Chloroform-d	0.699	0.720	0.010	2.9	25.0	
1,2-Dichloroethane-d4	0.301	0.309	0.010	2.9	25.0	
Benzene-d6	1.212	1.187	0.010	-2.1	25.0	
1,2-Dichloropropane-d6	0.649	0.642	0.010	-1.1	40.0	
Toluene-d8	1.172	1.155	0.010	-1.5	25.0	
trans-1,3-Dichloropropene-d4	0.600	0.597	0.010	-0.4	25.0	
2-Hexanone-d5	0.134	0.133	0.010	-0.9	40.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-2.6	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.693	0.709	0.010	2.2	25.0	
1,2-Dichlorobenzene-d4	0.950	0.941	0.010	-1.0	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1627

Lab File ID: MUC50BC1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B2 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.321	0.310	0.010	-3.6	50.0	
Chloromethane	0.231	0.227	0.010	-1.8	50.0	
Vinyl chloride	0.280	0.268	0.010	-4.2	50.0	
Bromomethane	0.205	0.201	0.010	-1.8	50.0	
Chloroethane	0.122	0.129	0.010	5.5	50.0	
Trichlorofluoromethane	0.502	0.556	0.010	10.7	50.0	
1,1-Dichloroethene	0.365	0.359	0.010	-1.6	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.739	0.739	0.010	-0.1	50.0	
Acetone	0.039	0.028	0.010	-27.9	50.0	
Carbon disulfide	1.061	1.048	0.010	-1.2	50.0	
Methyl acetate	0.172	0.175	0.010	1.3	50.0	
Methylene chloride	0.350	0.349	0.010	-0.0	50.0	
trans-1,2-Dichloroethene	0.390	0.385	0.010	-1.2	50.0	
Methyl tert-butyl ether	0.676	0.700	0.010	3.5	50.0	
1,1-Dichloroethane	0.687	0.681	0.010	-0.8	50.0	
cis-1,2-Dichloroethene	0.387	0.383	0.010	-0.9	50.0	
2-Butanone	0.085	0.072	0.010	-15.1	50.0	
Bromochloromethane	0.233	0.235	0.010	0.7	50.0	
Chloroform	0.672	0.687	0.010	2.2	50.0	
1,1,1-Trichloroethane	0.684	0.680	0.010	-0.6	50.0	
Cyclohexane	0.665	0.663	0.010	-0.3	50.0	
Carbon tetrachloride	0.651	0.654	0.010	0.5	50.0	
Benzene	1.211	1.218	0.010	0.6	50.0	
1,2-Dichloroethane	0.360	0.371	0.010	3.0	50.0	
1,4-Dioxane	0.003	0.002	0.005	-16.9	50.0	<-
Trichloroethene	0.526	0.520	0.010	-1.1	50.0	
Methylcyclohexane	0.515	0.521	0.010	1.1	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1627

Lab File ID: MUC50BC1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B2 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.523	0.522	0.010	-0.2	50.0
Bromodichloromethane	0.829	0.825	0.010	-0.6	50.0
cis-1,3-Dichloropropene	0.762	0.775	0.010	1.6	50.0
4-Methyl-2-pentanone	0.293	0.286	0.010	-2.6	50.0
Toluene	1.277	1.288	0.010	0.9	50.0
trans-1,3-Dichloropropene	0.637	0.649	0.010	1.7	50.0
1,1,2-Trichloroethane	0.440	0.435	0.010	-1.2	50.0
Tetrachloroethene	0.390	0.390	0.010	0.1	50.0
2-Hexanone	0.211	0.200	0.010	-5.3	50.0
Dibromochloromethane	0.712	0.703	0.010	-1.3	50.0
1,2-Dibromoethane	0.654	0.650	0.010	-0.7	50.0
Chlorobenzene	1.041	1.044	0.010	0.2	50.0
Ethylbenzene	1.584	1.570	0.010	-0.9	50.0
o-Xylene	0.621	0.613	0.010	-1.4	50.0
m,p-Xylene	0.661	0.654	0.010	-1.1	50.0
Styrene	1.087	1.081	0.010	-0.5	50.0
Bromoform	0.852	0.830	0.010	-2.5	50.0
Isopropylbenzene	1.795	1.792	0.010	-0.1	50.0
1,1,2,2-Tetrachloroethane	0.712	0.699	0.010	-1.8	50.0
1,3-Dichlorobenzene	1.590	1.593	0.010	0.2	50.0
1,4-Dichlorobenzene	1.824	1.788	0.010	-2.0	50.0
1,2-Dichlorobenzene	1.524	1.492	0.010	-2.1	50.0
1,2-Dibromo-3-chloropropane	0.243	0.236	0.010	-2.9	50.0
1,2,4-Trichlorobenzene	1.120	1.117	0.010	-0.3	50.0
1,2,3-Trichlorobenzene	0.981	1.029	0.010	4.9	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1627

Lab File ID: MUC50BC1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B2 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.287	0.279	0.010	-3.0	50.0	
Chloroethane-d5	0.181	0.184	0.010	1.5	50.0	
1,1-Dichloroethene-d2	0.757	0.761	0.010	0.5	50.0	
2-Butanone-d5	0.088	0.073	0.010	-17.2	50.0	
Chloroform-d	0.699	0.715	0.010	2.2	50.0	
1,2-Dichloroethane-d4	0.301	0.315	0.010	4.6	50.0	
Benzene-d6	1.212	1.212	0.010	-0.0	50.0	
1,2-Dichloropropane-d6	0.649	0.647	0.010	-0.3	50.0	
Toluene-d8	1.172	1.179	0.010	0.6	50.0	
trans-1,3-Dichloropropene-d4	0.600	0.602	0.010	0.5	50.0	
2-Hexanone-d5	0.134	0.126	0.010	-6.0	50.0	
1,4-Dioxane-d8	0.003	0.002	0.005	-21.4	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.693	0.685	0.010	-1.2	50.0	
1,2-Dichlorobenzene-d4	0.950	0.949	0.010	-0.0	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050UB Date Analyzed: 09/25/2008

Lab File ID (Standard): MUB050V Time Analyzed: 1841

Instrument ID: M.i Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2568499	12.92	3059360	9.37	1394860	15.66
	UPPER LIMIT	5136998	13.42	6118720	9.87	2789720	16.16
	LOWER LIMIT	1284250	12.42	1529680	8.87	697430	15.16
	EPA SAMPLE NO.						
01	VBLKJ1	2424542	12.94	2768083	9.37	1280124	15.65
02	B2B	2705882	12.92	3188213	9.37	1405409	15.66
03	B1EME	2855343	12.92	3413675	9.37	1506322	15.66
04	U2C	2746791	12.92	3194735	9.37	1433813	15.66
05	U2CMS	2938481	12.92	3551494	9.37	1548871	15.65
06	U2CMSD	2759482	12.94	3239618	9.37	1427442	15.67
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050UC Date Analyzed: 09/27/2008

Lab File ID (Standard): MUC050V Time Analyzed: 0318

Instrument ID: M.i Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2702104	12.92	3303149	9.37	1422596	15.66
	UPPER LIMIT	5404208	13.42	6606298	9.87	2845192	16.16
	LOWER LIMIT	1351052	12.42	1651574	8.87	711298	15.16
	EPA SAMPLE NO.						
01	VBLKK1	2730152	12.92	3290397	9.35	1453364	15.65
02	T1C	2699573	12.92	3284391	9.35	1440769	15.65
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Date Analyzed: 10/01/2008

Lab File ID (Standard): MUC50BV Time Analyzed: 1104

Instrument ID: M.i Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2873513	12.93	3357517	9.37	1510554	15.64
	UPPER LIMIT	5747026	13.43	6715034	9.87	3021108	16.14
	LOWER LIMIT	1436756	12.43	1678758	8.87	755277	15.14
	EPA SAMPLE NO.						
01	VBLKK9	2983511	12.93	3533055	9.35	1551873	15.64
02	VHBLKM1	2848779	12.94	3292070	9.37	1490542	15.65
03							
04							
05							
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15							
16							
17							
18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Data Summary – SOM01.2 Aroclors

(Hydrogen Carrier Gas)

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B2B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768412

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 08OCT082158-R161

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/09/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 4.0

GPC Cleanup: (Y/N) N pH: 6.1 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	140	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	140	U
53469-21-9	Aroclor-1242	7800	E
12672-29-6	Aroclor-1248	140	U
11097-69-1	Aroclor-1254	140	U
11096-82-5	Aroclor-1260	260	
37324-23-5	Aroclor-1262	140	U
11100-14-4	Aroclor-1268	140	U

SOM01.2

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B2BDL

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768412D1

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 08OCT082158-R151

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/09/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 40.0

GPC Cleanup: (Y/N) N pH: 6.1 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	1400	U
11104-28-2	Aroclor-1221	1400	U
11141-16-5	Aroclor-1232	1400	U
53469-21-9	Aroclor-1242	9200	D
12672-29-6	Aroclor-1248	1400	U
11097-69-1	Aroclor-1254	1400	U
11096-82-5	Aroclor-1260	1400	U
37324-23-5	Aroclor-1262	1400	U
11100-14-4	Aroclor-1268	1400	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R101

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 4.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768416

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R131

% Moisture: 10 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U
37324-23-5	Aroclor-1262	37	U
11100-14-4	Aroclor-1268	37	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U3C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768919

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R031

% Moisture: 5.0 Decanted: (Y/N) N Date Received: 09/24/2008

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	35	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	76	P
11096-82-5	Aroclor-1260	31	JP
37324-23-5	Aroclor-1262	35	U
11100-14-4	Aroclor-1268	35	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768920

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R041

% Moisture: 7.0 Decanted: (Y/N) N Date Received: 09/24/2008

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.2 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	65	P
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	80	
11096-82-5	Aroclor-1260	38	
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U5C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768921

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R051

% Moisture: 9.0 Decanted: (Y/N) N Date Received: 09/24/2008

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.1 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U6C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768922

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R061

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/24/2008

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
ABLKF2

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: ABLKF2

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R071

% Moisture: 0.0 Decanted: (Y/N) N Date Received:

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

SOM01.2

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
ABLKF4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: ABLKF4

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R011

% Moisture: 0.0 Decanted: (Y/N) N Date Received:

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
ALCSF2(1)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: ALCSF2

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R081

% Moisture: 0.0 Decanted: (Y/N) N Date Received:

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	38	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	40	
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

SOM01.2

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
ALCSF2(2)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: ALCSF2

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R081

% Moisture: 0.0 Decanted: (Y/N) N Date Received:

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	32	J
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	35	
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

SOM01.2

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
ALCSF4(1)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: ALCSF4

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R021

% Moisture: 0.0 Decanted: (Y/N) N Date Received:

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	34	
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	34	
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

SOM01.2

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
ALCSF4(2)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: ALCSF4

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R021

% Moisture: 0.0 Decanted: (Y/N) N Date Received:

Extraction: (Type) SONC Date Extracted: 09/25/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	31	J
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

SOM01.2

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMS(1)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MS

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R111

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 4.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	140	
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	150	
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMS(2)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MS

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R111

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 4.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	140	
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMSD(1)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MD

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R121

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 4.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	140	
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	150	
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
U1CMSD(2)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768415MD

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 07OCT082201-R121

% Moisture: 8.0 Decanted: (Y/N) N Date Received: 09/20/2008

Extraction: (Type) SONC Date Extracted: 09/22/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/08/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 4.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	130	
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	140	
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

2R - FORM II ARO-2
SOIL AROCLOR SURROGATE RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column(1):RTX-5 ID:0.25 (mm) GC Column(2):RTX-35 ID:0.25 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	ABLKF4	80	85	94	96			0
02	ALCSF4	80	85	94	95			0
03	U3C	71	66	68	62			0
04	U4C	70	65	66	62			0
05	U5C	77	73	50	51			0
06	U6C	74	69	51	51			0
07	ABLKF2	95	95	98	87			0
08	ALCSF2	100	100	103	94			0
09	U1C	97	97	100	94			0
10	U1CMS	92	92	95	89			0
11	U1CMSD	97	97	100	94			0
12	U2C	72	67	94	87			0
13	B2BDL	83	74	108	104			0
14	B2B	60	51	71	78			0
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

	QC LIMITS
TCX = Tetrachloro-m-xylene	(30-150)
DCB = Decachlorobiphenyl	(30-150)

\# Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix Spike - EPA Sample No.: U1C

Instrument ID: 5253_1.i GC Column: RTX-5 ID: 0.25(mm)

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC. LIMITS REC.
Aroclor-1016	140		140	100	29-135
Aroclor-1260	140		150	107	29-135

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1016	140	140	100	0	0-15	29-135
Aroclor-1260	140	150	107	0	0-20	29-135

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 2 outside limits
Spike Recovery: 0 out of 4 outside limits

COMMENTS: _____

SOM01.2

3K - FORM III ARO-2
SOIL AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Matrix Spike - EPA Sample No.: U1C

Instrument ID: 5253_2.i GC Column: RTX-35 ID: 0.25(mm)

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC. LIMITS REC.
Aroclor-1016	140		130	93	29-135
Aroclor-1260	140		140	100	29-135

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1016	140	130	93	0	0-15	29-135
Aroclor-1260	140	140	100	0	0-20	29-135

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 2 outside limits
Spike Recovery: 0 out of 4 outside limits

COMMENTS: _____

_____

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
ALCSF2

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: ALCSF2 LCS Lot No.:

Date Extracted: 09/22/2008 Date Analyzed (1): 10/08/2008

Instrument ID (1): 5253_1.i GC Column (1): RTX-5 ID: 0.25(mm)

COMPOUND	AMOUNT ADDED (ug/kg)	AMOUNT RECOVERED (ug/kg)	%REC #	QC LIMITS
AR1016	33	38	115	50-150
AR1260	33	40	121	50-150

Instrument ID (2): 5253_2.i GC Column (2): RTX-35 ID: 0.25(mm)

Date analyzed (2): 10/08/2008

COMPOUND	AMOUNT ADDED (ug/kg)	AMOUNT RECOVERED (ug/kg)	%REC #	QC LIMITS
AR1016	33	32	97	50-150
AR1260	33	35	106	50-150

Column to be used to flag recovery values with an asterisk
* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS: _____

SOM01.2

3P - FORM III ARO-4
SOIL AROCLOR LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
ALCSF4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: ALCSF4 LCS Lot No.:

Date Extracted: 09/25/2008 Date Analyzed (1): 10/08/2008

Instrument ID (1): 5253_1.i GC Column (1): RTX-5 ID: 0.25(mm)

COMPOUND	AMOUNT ADDED (ug/kg)	AMOUNT RECOVERED (ug/kg)	%REC #	QC LIMITS
AR1016	33	34	103	50-150
AR1260	33	34	103	50-150

Instrument ID (2): 5253_2.i GC Column (2): RTX-35 ID: 0.25(mm)

Date analyzed (2): 10/08/2008

COMPOUND	AMOUNT ADDED (ug/kg)	AMOUNT RECOVERED (ug/kg)	%REC #	QC LIMITS
AR1016	33	31	94	50-150
AR1260	33	33	100	50-150

Column to be used to flag recovery values with an asterisk
* Values outside of QC limits

LCS Recovery: 0 out of 4 outside limits.

COMMENTS: _____

4F - FORM IV ARO
AROCLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.
ABLKF2

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: 07OCT082201-R071 Lab Sample ID: ABLKF2

Matrix: (SOIL/SED/WATER) Soil Extraction: (Type) SONC Date Extracted: 09/22/2008

Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

Date Analyzed (1): 10/08/2008 Date Analyzed (2): 10/08/2008

Time Analyzed (1): 1203 Time Analyzed (2): 1203

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column(1): RTX-5 ID: 0.25 (mm) GC Column(2): RTX-35 ID: 0.25 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	ALCSF2	ALCSF2	10/08/2008	10/08/2008
02	U1C	768415	10/08/2008	10/08/2008
03	U1CMS	768415MS	10/08/2008	10/08/2008
04	U1CMSD	768415MD	10/08/2008	10/08/2008
05	U2C	768416	10/08/2008	10/08/2008
06	B2BDL	768412D1	10/09/2008	10/09/2008
07	B2B	768412	10/09/2008	10/09/2008
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

4F - FORM IV ARO
AROCLOR METHOD BLANK SUMMARY

EPA SAMPLE NO.
ABLKF4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab File ID: 07OCT082201-R011 Lab Sample ID: ABLKF4

Matrix:(SOIL/SED/WATER) Soil Extraction:(Type) SONC Date Extracted: 09/25/2008

Sulfur Cleanup: (Y/N) Y GPC Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

Date Analyzed (1): 10/08/2008 Date Analyzed (2): 10/08/2008

Time Analyzed (1): 0940 Time Analyzed (2): 0940

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column(1): RTX-5 ID: 0.25 (mm) GC Column(2): RTX-35 ID: 0.25 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED (1)	DATE ANALYZED (2)
01	ALCSF4	ALCSF4	10/08/2008	10/08/2008
02	U3C	768919	10/08/2008	10/08/2008
03	U4C	768920	10/08/2008	10/08/2008
04	U5C	768921	10/08/2008	10/08/2008
05	U6C	768922	10/08/2008	10/08/2008
06				
07				
08				
09				
10				
11				
12				
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COMMENTS: _____

6N - FORM VI ARO-1
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_1.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-5 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

		RT OF STANDARDS						RT WINDOW**	
COMPOUND	PEAK*	CS1	CS2	CS3	CS4	CS5	$\overline{RT}$	FROM	TO
AR1016	1	7.50	7.51	7.51	7.50	7.51	7.51	7.44	7.58
	2	7.92	7.92	7.92	7.91	7.92	7.92	7.85	7.99
	3	8.73	8.74	8.74	8.73	8.74	8.74	8.67	8.81
	4	9.83	9.83	9.83	9.83	9.83	9.83	9.76	9.90
	5	10.15	10.16	10.16	10.15	10.16	10.16	10.09	10.23
TCX		6.02	6.03	6.03	6.02	6.03	6.03	5.98	6.08
DCB		16.68	16.68	16.68	16.68	16.68	16.68	16.58	16.78
AR1260	1	13.80	13.80	13.80	13.79	13.80	13.80	13.73	13.87
	2	14.12	14.13	14.13	14.12	14.13	14.13	14.06	14.20
	3	14.47	14.47	14.47	14.47	14.47	14.47	14.40	14.54
	4	14.84	14.84	14.84	14.84	14.85	14.84	14.77	14.91
	5	15.00	15.01	15.01	15.00	15.01	15.01	14.94	15.08
TCX									
DCB									
AR1242	1	7.52	7.52	7.50	7.51	7.51	7.51	7.44	7.58
	2	7.93	7.93	7.91	7.92	7.92	7.92	7.85	7.99
	3	8.52	8.52	8.50	8.51	8.51	8.51	8.44	8.58
	4	8.75	8.75	8.73	8.74	8.74	8.74	8.67	8.81
	5	8.93	8.93	8.92	8.92	8.92	8.92	8.85	8.99
TCX		6.04	6.04	6.02	6.02	6.03	6.03	5.98	6.08
DCB		16.69	16.69	16.68	16.68	16.68	16.69	16.59	16.79

*At least three peaks for each column are required for identification of Aroclors.

**Retention Time windows are ± 0.07 minutes for each Aroclor peak; ± 0.05 minutes for TCX; and ± 0.10 minutes for DCB.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6N - FORM VI ARO-1
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_1.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-5 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

		RT OF STANDARDS						RT WINDOW**	
COMPOUND	PEAK*	CS1	CS2	CS3	CS4	CS5	$\overline{RT}$	FROM	TO
AR1248	1	7.51	7.51	7.50	7.51	7.51	7.51	7.44	7.58
	2	7.92	7.92	7.91	7.92	7.92	7.92	7.85	7.99
	3	8.51	8.51	8.50	8.51	8.51	8.51	8.44	8.58
	4	8.74	8.74	8.74	8.74	8.75	8.74	8.67	8.81
	5	9.93	9.93	9.92	9.93	9.93	9.93	9.86	10.00
TCX		6.03	6.03	6.02	6.02	6.03	6.03	5.98	6.08
DCB		16.68	16.68	16.68	16.68	16.69	16.68	16.58	16.78
AR1254	1	11.65	11.65	11.64	11.65	11.65	11.65	11.58	11.72
	2	12.00	12.01	12.00	12.01	12.01	12.01	11.94	12.08
	3	12.11	12.11	12.11	12.11	12.11	12.11	12.04	12.18
	4	12.20	12.20	12.20	12.20	12.20	12.20	12.13	12.27
	5	12.77	12.77	12.76	12.77	12.77	12.77	12.70	12.84
TCX		6.03	6.03	6.03	6.04	6.04	6.03	5.98	6.08
DCB		16.69	16.69	16.68	16.69	16.69	16.69	16.59	16.79

*At least three peaks for each column are required for identification of Aroclors.

**Retention Time windows are $\pm$ 0.07 minutes for each Aroclor peak; $\pm$ 0.05 minutes for TCX; and $\pm$ 0.10 minutes for DCB.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6N - FORM VI ARO-1
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_2.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-35 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

		RT OF STANDARDS						RT WINDOW**	
COMPOUND	PEAK*	CS1	CS2	CS3	CS4	CS5	$\overline{RT}$	FROM	TO
AR1016	1	7.53	7.53	7.53	7.53	7.53	7.53	7.46	7.60
	2	8.54	8.55	8.55	8.55	8.55	8.55	8.48	8.62
	3	9.60	9.61	9.61	9.61	9.61	9.61	9.54	9.68
	4	9.99	9.99	9.99	9.99	9.99	9.99	9.92	10.06
	5	10.33	10.33	10.33	10.33	10.33	10.33	10.26	10.40
TCX		6.28	6.28	6.28	6.28	6.28	6.28	6.23	6.33
DCB		17.76	17.76	17.76	17.76	17.76	17.76	17.66	17.86
AR1260	1	14.41	14.41	14.41	14.41	14.41	14.41	14.34	14.48
	2	15.05	15.05	15.05	15.05	15.05	15.05	14.98	15.12
	3	15.57	15.57	15.57	15.57	15.57	15.57	15.50	15.64
	4	16.33	16.34	16.34	16.34	16.34	16.34	16.27	16.41
	5	16.44	16.44	16.44	16.45	16.44	16.44	16.37	16.51
TCX									
DCB									
AR1242	1	8.55	8.55	8.55	8.54	8.55	8.55	8.48	8.62
	2	9.25	9.25	9.25	9.24	9.24	9.25	9.18	9.32
	3	9.61	9.61	9.61	9.60	9.61	9.61	9.54	9.68
	4	10.00	10.00	9.99	9.99	9.99	9.99	9.92	10.06
	5	10.34	10.34	10.34	10.33	10.33	10.34	10.27	10.41
TCX		6.28	6.29	6.28	6.28	6.28	6.28	6.23	6.33
DCB		17.77	17.77	17.77	17.76	17.76	17.76	17.66	17.86

*At least three peaks for each column are required for identification of Aroclors.

**Retention Time windows are ± 0.07 minutes for each Aroclor peak; ± 0.05 minutes for TCX; and ± 0.10 minutes for DCB.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6N - FORM VI ARO-1
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_2.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-35 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

		RT OF STANDARDS						RT WINDOW**	
COMPOUND	PEAK*	CS1	CS2	CS3	CS4	CS5	$\overline{RT}$	FROM	TO
AR1248	1	8.55	8.55	8.54	8.55	8.55	8.55	8.48	8.62
	2	9.61	9.61	9.60	9.61	9.61	9.61	9.54	9.68
	3	9.99	10.00	9.99	10.00	10.00	10.00	9.93	10.07
	4	10.71	10.72	10.71	10.72	10.72	10.72	10.65	10.79
	5	11.43	11.43	11.42	11.43	11.43	11.43	11.36	11.50
TCX		6.28	6.28	6.27	6.29	6.28	6.28	6.23	6.33
DCB		17.76	17.77	17.76	17.77	17.77	17.76	17.66	17.86
AR1254	1	12.60	12.60	12.60	12.60	12.60	12.60	12.53	12.67
	2	12.83	12.83	12.83	12.83	12.83	12.83	12.76	12.90
	3	13.03	13.03	13.04	13.03	13.03	13.03	12.96	13.10
	4	13.24	13.24	13.25	13.24	13.24	13.24	13.17	13.31
	5	13.56	13.56	13.56	13.56	13.56	13.56	13.49	13.63
TCX		6.28	6.28	6.29	6.28	6.28	6.28	6.23	6.33
DCB		17.77	17.77	17.77	17.77	17.77	17.77	17.67	17.87

*At least three peaks for each column are required for identification of Aroclors.

**Retention Time windows are $\pm$ 0.07 minutes for each Aroclor peak; $\pm$ 0.05 minutes for TCX; and $\pm$ 0.10 minutes for DCB.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6P - FORM VI ARO-2
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_1.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-5 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

COMPOUND	PEAK [1]	CALIBRATION FACTORS (CFs) CS1	CS2	CS3	CS4	CS5	%RSD
AR1016	1	25810.000	23225.000	21805.000	20740.000	19861.875	10.5
	2	23060.000	21355.000	20277.500	19443.750	18846.875	8.1
	3	25260.000	22555.000	22405.000	22463.750	22513.125	5.4
	4	20580.000	18425.000	17972.500	17181.250	16846.250	8.1
	5	17980.000	16660.000	15930.000	15527.500	15011.875	7.1
TCX		923400.00	842800.00	828250.00	847075.00	851662.50	4.3
DCB		811900.00	753500.00	757525.00	763712.50	777612.50	3.1
AR1260	1	51190.000	45895.000	46462.500	45360.000	46453.750	5.0
	2	52090.000	47435.000	47580.000	47277.500	48387.500	4.2
	3	111640.00	105625.00	109642.50	111753.75	112873.75	2.6
	4	50250.000	46890.000	45757.500	45588.750	46325.625	4.1
	5	33520.000	29205.000	29280.000	28222.500	28256.250	7.4
TCX							
DCB							
AR1242	1	21200.000	19430.000	17432.500	16485.000	15679.375	12.5
	2	18750.000	17510.000	15785.000	14933.750	14528.750	10.9
	3	28470.000	26620.000	25925.000	25518.750	26671.250	4.2
	4	19170.000	18090.000	17065.000	16688.750	16618.125	6.2
	5	12840.000	12305.000	11692.500	11486.250	11426.250	5.1
TCX		913400.00	833400.00	797500.00	789700.00	811050.00	6.0
DCB		767700.00	765850.00	719250.00	738162.50	747843.75	2.7

[1] At least three peaks for each column are required for identification of Aroclors.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6P - FORM VI ARO-2
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_1.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-5 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

COMPOUND	PEAK [1]	CALIBRATION FACTORS (CFs) CS1	CS2	CS3	CS4	CS5	%RSD
AR1248	1	12030.000	11100.000	10047.500	9288.7500	8571.2500	13.6
	2	8470.0000	7845.0000	7455.0000	6810.0000	6340.0000	11.4
	3	17220.000	15960.000	15237.500	14972.500	14810.625	6.3
	4	10380.000	9870.0000	9387.5000	8806.2500	8449.3750	8.3
	5	11620.000	11005.000	10282.500	9488.7500	9005.0000	10.4
TCX		892200.00	837400.00	806950.00	803325.00	811062.50	4.5
DCB		807700.00	764250.00	733725.00	721500.00	740268.75	4.5
AR1254	1	18680.000	17465.000	16220.000	15238.750	14405.000	10.4
	2	17540.000	17165.000	15220.000	14440.000	13866.875	10.5
	3	34710.000	33085.000	31402.500	31418.750	31584.375	4.5
	4	12470.000	12095.000	11165.000	10627.500	10162.500	8.6
	5	44380.000	42580.000	40720.000	40382.500	41405.625	3.9
TCX		921400.00	851400.00	829400.00	811300.00	831575.00	5.1
DCB		790400.00	772350.00	737275.00	737400.00	752075.00	3.1

[1] At least three peaks for each column are required for identification of Aroclors.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6P - FORM VI ARO-2
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_2.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-35 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

COMPOUND	PEAK [1]	CALIBRATION FACTORS (CFs) CS1	CS2	CS3	CS4	CS5	%RSD
AR1016	1	36930.000	34120.000	33775.000	34228.750	33773.750	3.9
	2	52840.000	49440.000	48812.500	49761.250	49379.375	3.2
	3	88990.000	84670.000	87615.000	91561.250	94736.250	4.3
	4	49140.000	46525.000	46495.000	47456.250	47529.375	2.3
	5	39980.000	37530.000	38505.000	38887.500	38927.500	2.3
TCX		1976800.0	1895200.0	1998600.0	2069700.0	2117300.0	4.3
DCB		1691100.0	1637350.0	1677025.0	1711537.5	1786943.8	3.2
AR1260	1	143710.00	131105.00	137935.00	137771.25	138481.88	3.3
	2	309980.00	309725.00	330202.50	341931.25	350393.75	5.6
	3	74680.000	68210.000	66800.000	66582.500	66913.750	5.0
	4	31880.000	28310.000	27445.000	26348.750	25890.625	8.5
	5	70650.000	66710.000	66397.500	64935.000	66730.625	3.2
TCX							
DCB							
AR1242	1	42140.000	39785.000	38237.500	38275.000	38180.625	4.4
	2	22890.000	21300.000	20377.500	19420.000	19431.875	7.0
	3	68990.000	65085.000	66525.000	67176.250	69920.000	2.9
	4	37700.000	36940.000	35797.500	35067.500	35077.500	3.2
	5	31390.000	30095.000	28555.000	28837.500	28962.500	4.0
TCX		1932400.0	1849500.0	1868450.0	1933150.0	1994275.0	3.0
DCB		1600000.0	1551600.0	1540375.0	1623175.0	1644831.2	2.8

[1] At least three peaks for each column are required for identification of Aroclors.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6P - FORM VI ARO-2
AROCLORS INITIAL CALIBRATION (MULTIPOINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_2.i

Level (x CS1): CS1 1.0 CS2 2.0 CS3 4.0 CS4 8.0 CS5 16.0

GC Column: RTX-35 ID: 0.25 (mm) Dates(s) Analyzed: 10/07/2008 10/08/2008

COMPOUND	PEAK [1]	CALIBRATION FACTORS (CFs) CS1	CS2	CS3	CS4	CS5	%RSD
AR1248	1	23310.000	21690.000	20007.500	19572.500	19170.625	8.3
	2	41000.000	39035.000	37880.000	37798.750	39068.750	3.3
	3	20390.000	18410.000	17407.500	16940.000	16479.375	8.7
	4	18050.000	16550.000	15290.000	14687.500	14071.875	10.1
	5	26150.000	23470.000	22220.000	21397.500	20829.375	9.3
TCX		1937000.0	1919700.0	1915450.0	1941300.0	2011950.0	2.0
DCB		1594000.0	1594550.0	1578825.0	1620225.0	1641718.8	1.6
AR1254	1	52910.000	48655.000	47527.500	46472.500	46453.750	5.5
	2	41870.000	37945.000	36262.500	34946.250	35010.000	7.7
	3	51110.000	46785.000	45600.000	44190.000	44137.500	6.2
	4	36980.000	34380.000	32490.000	32242.500	31413.750	6.6
	5	144060.00	143300.00	142177.50	144202.50	151046.88	2.4
TCX		1998600.0	1919500.0	1967100.0	1968550.0	2049537.5	2.4
DCB		1692900.0	1644300.0	1623200.0	1684350.0	1697837.5	2.0

[1] At least three peaks for each column are required for identification of Aroclors.

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

6Q - FORM VI ARO-3
AROCLOR INITIAL CALIBRATION (SINGLE POINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_1.i Dates(s) Analyzed: 10/07/2008 10/08/2008

GC Column: RTX-5 ID: 0.25 (mm)

COMPOUND	AMOUNT (ng)	1 PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor 1221	0.400	1	6.40	6.33	6.47	8820.0000
		2	6.58	6.51	6.65	7277.5000
		3	6.70	6.63	6.77	20682.500
		4	7.57	7.50	7.64	3775.0000
		5	8.51	8.44	8.58	2225.0000
Aroclor 1232	0.400	1	6.70	6.63	6.77	17275.000
		2	7.52	7.45	7.59	9982.5000
		3	7.93	7.86	8.00	9185.0000
		4	8.52	8.45	8.59	14290.000
		5	8.75	8.68	8.82	9620.0000
Aroclor 1262	0.400	1	13.88	13.81	13.95	28625.000
		2	14.14	14.07	14.21	55032.500
		3	14.21	14.14	14.28	24727.500
		4	14.48	14.41	14.55	120460.00
		5	14.85	14.78	14.92	33875.000
Aroclor 1268	0.400	1	14.95	14.88	15.02	148900.00
		2	15.02	14.95	15.09	135130.00
		3	15.39	15.32	15.46	113397.50
		4	15.50	15.43	15.57	27687.500
		5	16.20	16.13	16.27	327147.50

1
At least three peaks for each column are required for identification of multicomponent analytes.

SOM01.2

6Q - FORM VI ARO-3
AROCLOR INITIAL CALIBRATION (SINGLE POINT)

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Instrument ID: 5253_2.i Dates(s) Analyzed: 10/07/2008 10/08/2008

GC Column: RTX-35 ID: 0.25 (mm)

COMPOUND	AMOUNT (ng)	1 PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor 1221	0.400	1	7.07	7.00	7.14	19732.500
		2	7.39	7.32	7.46	13330.000
		3	7.54	7.47	7.61	43720.000
		4	7.65	7.58	7.72	6642.5000
		5	8.57	8.50	8.64	8525.0000
Aroclor 1232	0.400	1	7.54	7.47	7.61	36765.000
		2	8.56	8.49	8.63	21367.500
		3	9.62	9.55	9.69	35082.500
		4	10.00	9.93	10.07	19550.000
		5	11.34	11.27	11.41	18625.000
Aroclor 1262	0.400	1	13.79	13.72	13.86	137350.00
		2	14.20	14.13	14.27	62940.000
		3	14.29	14.22	14.36	53265.000
		4	14.50	14.43	14.57	81437.500
		5	15.06	14.99	15.13	369430.00
Aroclor 1268	0.400	1	15.58	15.51	15.65	379277.50
		2	15.65	15.58	15.72	319200.00
		3	16.10	16.03	16.17	276505.00
		4	16.28	16.21	16.35	62840.000
		5	17.12	17.05	17.19	819392.50

1 At least three peaks for each column are required for identification of multicomponent analytes.

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR16603G2 Time Analyzed: 0917

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.51	7.44	7.58	22288.375	22260.000	-0.1
	2	7.92	7.85	7.99	20596.625	20210.000	-1.9
	3	8.74	8.67	8.81	23039.375	22912.500	-0.6
	4	9.84	9.76	9.90	18201.000	18137.500	-0.3
	5	10.16	10.09	10.23	16221.875	15967.500	-1.6
TCX		6.03	5.98	6.08	858637.50	842000.00	-1.9
DCB		16.69	16.58	16.78	772850.00	748775.00	-3.1
AR1260	1	13.80	13.73	13.87	47072.250	45520.000	-3.3
	2	14.13	14.06	14.20	48554.000	47087.500	-3.0
	3	14.47	14.40	14.54	110307.00	107677.50	-2.4
	4	14.85	14.77	14.91	46962.375	44840.000	-4.5
	5	15.01	14.94	15.08	29696.750	29247.500	-1.5
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

SOM01.2

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR16603G3 Time Analyzed: 1624

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D	
AR1016	1	7.51	7.44	7.58	22288.375	23382.500	4.9	
	2	7.93	7.85	7.99	20596.625	21442.500	4.1	
	3	8.74	8.67	8.81	23039.375	26955.000	17.0	<-
	4	9.84	9.76	9.90	18201.000	19847.500	9.0	
	5	10.17	10.09	10.23	16221.875	17820.000	9.9	
TCX		6.04	5.98	6.08	858637.50	918100.00	6.9	
DCB		16.69	16.58	16.78	772850.00	801475.00	3.7	
AR1260	1	13.81	13.73	13.87	47072.250	52705.000	12.0	
	2	14.13	14.06	14.20	48554.000	57287.500	18.0	<-
	3	14.48	14.40	14.54	110307.00	138975.00	26.0	<-
	4	14.85	14.77	14.91	46962.375	57977.500	23.5	<-
	5	15.01	14.94	15.08	29696.750	34802.500	17.2	<-
TCX								
DCB								

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

SOM01.2

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12423G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR12423G2 Time Analyzed: 1648

EPA Sample No.(AR####3##): AR12483G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR12483G2 Time Analyzed: 1712

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D	
AR1242	1	7.52	7.44	7.58	18045.375	18767.500	4.0	
	2	7.93	7.85	7.99	16301.500	17667.500	8.4	
	3	8.52	8.44	8.58	26641.000	32397.500	21.6	<-
	4	8.75	8.67	8.81	17526.375	21525.000	22.8	<-
	5	8.93	8.85	8.99	11950.000	14792.500	23.8	<-
TCX		6.04	5.98	6.08	858637.50	900800.00	4.9	
DCB		16.69	16.58	16.78	772850.00	792725.00	2.6	
AR1248	1	7.52	7.44	7.58	10207.500	10972.500	7.5	
	2	7.93	7.85	7.99	7384.000	8115.000	9.9	
	3	8.52	8.44	8.58	15640.125	18767.500	20.0	<-
	4	8.75	8.67	8.81	9378.625	11227.500	19.7	<-
	5	9.94	9.86	10.00	10280.250	11942.500	16.2	<-
TCX		6.04	5.98	6.08	858637.50	886750.00	3.3	
DCB		16.69	16.58	16.78	772850.00	786375.00	1.8	

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12543G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR12543G2 Time Analyzed: 1736

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D	
AR1254	1	11.65	11.58	11.72	16401.750	18840.000	14.9	
	2	12.01	11.94	12.08	15646.375	18077.500	15.5	<-
	3	12.11	12.04	12.18	32440.125	37482.500	15.5	<-
	4	12.20	12.13	12.27	11304.000	13315.000	17.8	<-
	5	12.77	12.70	12.84	41893.625	51945.000	24.0	<-
TCX		6.04	5.98	6.08	858637.50	896800.00	4.4	
DCB		16.69	16.58	16.78	772850.00	802700.00	3.9	

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

SOM01.2

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G4 Date Analyzed: 10/08/2008

Lab Sample ID: AR16603G4 Time Analyzed: 2031

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.51	7.44	7.58	22288.375	22337.500	0.2
	2	7.92	7.85	7.99	20596.625	20392.500	-1.0
	3	8.74	8.67	8.81	23039.375	24520.000	6.4
	4	9.83	9.76	9.90	18201.000	18537.500	1.8
	5	10.16	10.09	10.23	16221.875	16570.000	2.1
TCX		6.02	5.98	6.08	858637.50	844400.00	-1.7
DCB		16.68	16.58	16.78	772850.00	786225.00	1.7
AR1260	1	13.80	13.73	13.87	47072.250	46767.500	-0.6
	2	14.13	14.06	14.20	48554.000	47805.000	-1.5
	3	14.47	14.40	14.54	110307.00	117447.50	6.5
	4	14.84	14.77	14.91	46962.375	50407.500	7.3
	5	15.01	14.94	15.08	29696.750	29692.500	-0.0
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

SOM01.2

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12423G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR12423G3 Time Analyzed: 2055

EPA Sample No.(AR####3##): AR12483G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR12483G3 Time Analyzed: 2119

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1242	1	7.51	7.44	7.58	18045.375	18382.500	1.9
	2	7.92	7.85	7.99	16301.500	16810.000	3.1
	3	8.51	8.44	8.58	26641.000	30455.000	14.3
	4	8.74	8.67	8.81	17526.375	19715.000	12.5
	5	8.92	8.85	8.99	11950.000	13497.500	12.9
TCX		6.02	5.98	6.08	858637.50	875350.00	1.9
DCB		16.68	16.58	16.78	772850.00	775975.00	0.4
AR1248	1	7.51	7.44	7.58	10207.500	10367.500	1.6
	2	7.92	7.85	7.99	7384.000	7630.000	3.3
	3	8.51	8.44	8.58	15640.125	16920.000	8.2
	4	8.74	8.67	8.81	9378.625	10255.000	9.3
	5	9.93	9.86	10.00	10280.250	10725.000	4.3
TCX		6.03	5.98	6.08	858637.50	821400.00	-4.3
DCB		16.69	16.58	16.78	772850.00	752925.00	-2.6

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12543G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR12543G3 Time Analyzed: 2143

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1254	1	11.64	11.58	11.72	16401.750	16700.000	1.8
	2	12.00	11.94	12.08	15646.375	15760.000	0.7
	3	12.11	12.04	12.18	32440.125	33000.000	1.7
	4	12.20	12.13	12.27	11304.000	11615.000	2.8
	5	12.76	12.70	12.84	41893.625	43400.000	3.6
TCX		6.03	5.98	6.08	858637.50	838300.00	-2.4
DCB		16.69	16.58	16.78	772850.00	769550.00	-0.4

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G5 Date Analyzed: 10/09/2008

Lab Sample ID: AR16603G5 Time Analyzed: 0538

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.52	7.44	7.58	22288.375	21190.000	-4.9
	2	7.93	7.85	7.99	20596.625	19912.500	-3.3
	3	8.75	8.67	8.81	23039.375	23720.000	3.0
	4	9.84	9.76	9.90	18201.000	18007.500	-1.1
	5	10.17	10.09	10.23	16221.875	16222.500	0.0
TCX		6.04	5.98	6.08	858637.50	801500.00	-6.7
DCB		16.70	16.58	16.78	772850.00	837225.00	8.3
AR1260	1	13.81	13.73	13.87	47072.250	47790.000	1.5
	2	14.14	14.06	14.20	48554.000	50285.000	3.6
	3	14.48	14.40	14.54	110307.00	120777.50	9.5
	4	14.85	14.77	14.91	46962.375	52397.500	11.6
	5	15.02	14.94	15.08	29696.750	32202.500	8.4
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12423G4 Date Analyzed: 10/09/2008

Lab Sample ID: AR12423G4 Time Analyzed: 0602

EPA Sample No.(AR####3##): AR12483G4 Date Analyzed: 10/09/2008

Lab Sample ID: AR12483G4 Time Analyzed: 0626

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1242	1	7.52	7.44	7.58	18045.375	17650.000	-2.2
	2	7.93	7.85	7.99	16301.500	16125.000	-1.1
	3	8.52	8.44	8.58	26641.000	29422.500	10.4
	4	8.75	8.67	8.81	17526.375	19095.000	9.0
	5	8.93	8.85	8.99	11950.000	13175.000	10.3
TCX		6.04	5.98	6.08	858637.50	842350.00	-1.9
DCB		16.70	16.58	16.78	772850.00	819775.00	6.1
AR1248	1	7.52	7.44	7.58	10207.500	10127.500	-0.8
	2	7.93	7.85	7.99	7384.000	7570.000	2.5
	3	8.52	8.44	8.58	15640.125	16775.000	7.3
	4	8.75	8.67	8.81	9378.625	10112.500	7.8
	5	9.94	9.86	10.00	10280.250	10737.500	4.4
TCX		6.04	5.98	6.08	858637.50	803150.00	-6.5
DCB		16.70	16.58	16.78	772850.00	804975.00	4.2

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12543G4 Date Analyzed: 10/09/2008

Lab Sample ID: AR12543G4 Time Analyzed: 0650

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1254	1	11.66	11.58	11.72	16401.750	16667.500	1.6
	2	12.01	11.94	12.08	15646.375	15955.000	2.0
	3	12.12	12.04	12.18	32440.125	33392.500	2.9
	4	12.21	12.13	12.27	11304.000	11617.500	2.8
	5	12.77	12.70	12.84	41893.625	45385.000	8.3
TCX		6.04	5.98	6.08	858637.50	827500.00	-3.6
DCB		16.70	16.58	16.78	772850.00	807575.00	4.5

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR16603G2 Time Analyzed: 0917

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.53	7.46	7.60	34565.500	33750.000	-2.4
	2	8.55	8.48	8.62	50046.625	49007.500	-2.1
	3	9.60	9.54	9.68	89514.500	87840.000	-1.9
	4	9.99	9.92	10.06	47429.125	45692.500	-3.7
	5	10.33	10.26	10.40	38766.000	37770.000	-2.6
TCX		6.28	6.23	6.33	2011520.0	1992600.0	-0.9
DCB		17.76	17.66	17.86	1700791.2	1685925.0	-0.9
AR1260	1	14.41	14.34	14.48	137800.62	135920.00	-1.4
	2	15.05	14.98	15.12	328446.50	327815.00	-0.2
	3	15.57	15.50	15.64	68637.250	67475.000	-1.7
	4	16.34	16.27	16.41	27974.875	26935.000	-3.7
	5	16.44	16.37	16.51	67084.625	66152.500	-1.4
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR16603G3 Time Analyzed: 1624

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.53	7.46	7.60	34565.500	34720.000	0.4
	2	8.55	8.48	8.62	50046.625	49825.000	-0.4
	3	9.61	9.54	9.68	89514.500	91960.000	2.7
	4	10.00	9.92	10.06	47429.125	48335.000	1.9
	5	10.34	10.26	10.40	38766.000	39455.000	1.8
TCX		6.28	6.23	6.33	2011520.0	2131800.0	6.0
DCB		17.76	17.66	17.86	1700791.2	1572125.0	-7.6
AR1260	1	14.41	14.34	14.48	137800.62	156822.50	13.8
	2	15.05	14.98	15.12	328446.50	363262.50	10.6
	3	15.57	15.50	15.64	68637.250	75167.500	9.5
	4	16.34	16.27	16.41	27974.875	29220.000	4.5
	5	16.45	16.37	16.51	67084.625	67867.500	1.2
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12423G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR12423G2 Time Analyzed: 1648

EPA Sample No.(AR####3##): AR12483G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR12483G2 Time Analyzed: 1712

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1242	1	8.55	8.48	8.62	39323.625	41527.500	5.6
	2	9.25	9.18	9.32	20683.875	21660.000	4.7
	3	9.61	9.54	9.68	67539.250	74200.000	9.9
	4	10.00	9.92	10.06	36116.500	38240.000	5.9
	5	10.34	10.27	10.41	29568.000	31315.000	5.9
TCX		6.28	6.23	6.33	2011520.0	2099500.0	4.4
DCB		17.77	17.66	17.86	1700791.2	1606950.0	-5.5
AR1248	1	8.55	8.48	8.62	20750.125	21735.000	4.7
	2	9.62	9.54	9.68	38956.500	40770.000	4.7
	3	10.00	9.93	10.07	17925.375	18610.000	3.8
	4	10.72	10.65	10.79	15729.875	16515.000	5.0
	5	11.44	11.36	11.50	22813.375	24320.000	6.6
TCX		6.29	6.23	6.33	2011520.0	2074050.0	3.1
DCB		17.77	17.66	17.86	1700791.2	1639800.0	-3.6

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

SOM01.2

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12543G2 Date Analyzed: 10/08/2008

Lab Sample ID: AR12543G2 Time Analyzed: 1736

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1254	1	12.59	12.53	12.67	48403.750	53000.000	9.5
	2	12.83	12.76	12.90	37206.750	39980.000	7.5
	3	13.03	12.96	13.10	46364.500	52955.000	14.2
	4	13.24	13.17	13.31	33501.250	37202.500	11.0
	5	13.56	13.49	13.63	144957.38	163637.50	12.9
TCX		6.28	6.23	6.33	2011520.0	2113800.0	5.1
DCB		17.77	17.66	17.86	1700791.2	1622100.0	-4.6

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

SOM01.2

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G4 Date Analyzed: 10/08/2008

Lab Sample ID: AR16603G4 Time Analyzed: 2031

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.54	7.46	7.60	34565.500	34435.000	-0.4
	2	8.55	8.48	8.62	50046.625	48027.500	-4.0
	3	9.61	9.54	9.68	89514.500	88832.500	-0.8
	4	10.00	9.92	10.06	47429.125	45920.000	-3.2
	5	10.34	10.26	10.40	38766.000	38000.000	-2.0
TCX		6.28	6.23	6.33	2011520.0	2017950.0	0.3
DCB		17.77	17.66	17.86	1700791.2	1535625.0	-9.7
AR1260	1	14.42	14.34	14.48	137800.62	119242.50	-13.5
	2	15.06	14.98	15.12	328446.50	291230.00	-11.3
	3	15.58	15.50	15.64	68637.250	60235.000	-12.2
	4	16.34	16.27	16.41	27974.875	24845.000	-11.2
	5	16.45	16.37	16.51	67084.625	60780.000	-9.4
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12423G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR12423G3 Time Analyzed: 2055

EPA Sample No.(AR####3##): AR12483G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR12483G3 Time Analyzed: 2119

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1242	1	8.54	8.48	8.62	39323.625	39700.000	1.0
	2	9.24	9.18	9.32	20683.875	21075.000	1.9
	3	9.60	9.54	9.68	67539.250	71017.500	5.1
	4	9.99	9.92	10.06	36116.500	36905.000	2.2
	5	10.33	10.27	10.41	29568.000	30220.000	2.2
TCX		6.27	6.23	6.33	2011520.0	2062950.0	2.6
DCB		17.76	17.66	17.86	1700791.2	1554875.0	-8.6
AR1248	1	8.55	8.48	8.62	20750.125	20705.000	-0.2
	2	9.61	9.54	9.68	38956.500	39180.000	0.6
	3	9.99	9.93	10.07	17925.375	17925.000	-0.0
	4	10.71	10.65	10.79	15729.875	15412.500	-2.0
	5	11.43	11.36	11.50	22813.375	22252.500	-2.5
TCX		6.28	6.23	6.33	2011520.0	2004150.0	-0.4
DCB		17.76	17.66	17.86	1700791.2	1516000.0	-10.9

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12543G3 Date Analyzed: 10/08/2008

Lab Sample ID: AR12543G3 Time Analyzed: 2143

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1254	1	12.60	12.53	12.67	48403.750	46220.000	-4.5
	2	12.83	12.76	12.90	37206.750	36667.500	-1.4
	3	13.04	12.96	13.10	46364.500	43545.000	-6.1
	4	13.25	13.17	13.31	33501.250	31237.500	-6.8
	5	13.56	13.49	13.63	144957.38	135462.50	-6.6
TCX		6.28	6.23	6.33	2011520.0	1964750.0	-2.3
DCB		17.77	17.66	17.86	1700791.2	1535625.0	-9.7

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR16603G5 Date Analyzed: 10/09/2008

Lab Sample ID: AR16603G5 Time Analyzed: 0538

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1016	1	7.54	7.46	7.60	34565.500	32755.000	-5.2
	2	8.55	8.48	8.62	50046.625	46922.500	-6.2
	3	9.62	9.54	9.68	89514.500	84915.000	-5.1
	4	10.00	9.92	10.06	47429.125	44697.500	-5.8
	5	10.34	10.26	10.40	38766.000	37127.500	-4.2
TCX		6.29	6.23	6.33	2011520.0	1902650.0	-5.4
DCB		17.77	17.66	17.86	1700791.2	1701025.0	0.0
AR1260	1	14.42	14.34	14.48	137800.62	134880.00	-2.1
	2	15.06	14.98	15.12	328446.50	331725.00	1.0
	3	15.58	15.50	15.64	68637.250	67205.000	-2.1
	4	16.35	16.27	16.41	27974.875	27907.500	-0.2
	5	16.45	16.37	16.51	67084.625	66327.500	-1.1
TCX							
DCB							

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12423G4 Date Analyzed: 10/09/2008

Lab Sample ID: AR12423G4 Time Analyzed: 0602

EPA Sample No.(AR####3##): AR12483G4 Date Analyzed: 10/09/2008

Lab Sample ID: AR12483G4 Time Analyzed: 0626

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1242	1	8.56	8.48	8.62	39323.625	37685.000	-4.2
	2	9.25	9.18	9.32	20683.875	20600.000	-0.4
	3	9.62	9.54	9.68	67539.250	68430.000	1.3
	4	10.01	9.92	10.06	36116.500	35635.000	-1.3
	5	10.35	10.27	10.41	29568.000	29337.500	-0.8
TCX		6.29	6.23	6.33	2011520.0	1908600.0	-5.1
DCB		17.78	17.66	17.86	1700791.2	1655625.0	-2.7
AR1248	1	8.55	8.48	8.62	20750.125	20280.000	-2.3
	2	9.61	9.54	9.68	38956.500	37867.500	-2.8
	3	10.00	9.93	10.07	17925.375	17575.000	-2.0
	4	10.72	10.65	10.79	15729.875	15285.000	-2.8
	5	11.43	11.36	11.50	22813.375	22002.500	-3.6
TCX		6.29	6.23	6.33	2011520.0	1889250.0	-6.1
DCB		17.77	17.66	17.86	1700791.2	1690650.0	-0.6

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

7N - FORM VII ARO
AROCLOR CALIBRATION VERIFICATION SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

EPA Sample No.(AR####3##): AR12543G4 Date Analyzed: 10/09/2008

Lab Sample ID: AR12543G4 Time Analyzed: 0650

EPA Sample No.(AR####3##): Date Analyzed:

Lab Sample ID: Time Analyzed:

AROCLOR COMPOUND	PEAK	RETENTION RT	RT WINDOW FROM	RT WINDOW TO	$\overline{CF}$	CF	%D
AR1254	1	12.60	12.53	12.67	48403.750	47597.500	-1.7
	2	12.83	12.76	12.90	37206.750	35880.000	-3.6
	3	13.03	12.96	13.10	46364.500	45300.000	-2.3
	4	13.24	13.17	13.31	33501.250	32697.500	-2.4
	5	13.56	13.49	13.63	144957.38	142550.00	-1.7
TCX		6.28	6.23	6.33	2011520.0	1929100.0	-4.1
DCB		17.77	17.66	17.86	1700791.2	1710525.0	0.6

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

8H - FORM VIII ARO
AROCLOR ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

Instrument ID: 5253_1.i

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs, and LCSs IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.03 DCB: 16.68

	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR12213G1	07OCT082144-R041	10/07/2008	2259	6.03	16.69
02	AR12323G1	07OCT082144-R051	10/07/2008	2323	6.04	16.69
03	AR12421G1	07OCT082144-R061	10/07/2008	2347	6.04	16.69
04	AR12422G1	07OCT082144-R071	10/08/2008	0010	6.04	16.69
05	AR12423G1	07OCT082144-R081	10/08/2008	0034	6.02	16.68
06	AR12424G1	07OCT082144-R091	10/08/2008	0058	6.02	16.68
07	AR12425G1	07OCT082144-R101	10/08/2008	0122	6.03	16.68
08	AR12481G1	07OCT082144-R111	10/08/2008	0146	6.03	16.68
09	AR12482G1	07OCT082144-R121	10/08/2008	0210	6.03	16.68
10	AR12483G1	07OCT082144-R131	10/08/2008	0233	6.02	16.68
11	AR12484G1	07OCT082144-R141	10/08/2008	0257	6.02	16.68
12	AR12485G1	07OCT082144-R151	10/08/2008	0321	6.03	16.69
13	AR12541G1	07OCT082144-R161	10/08/2008	0344	6.03	16.69
14	AR12542G1	07OCT082144-R171	10/08/2008	0408	6.03	16.69
15	AR12543G1	07OCT082144-R181	10/08/2008	0432	6.03	16.68
16	AR12544G1	07OCT082144-R191	10/08/2008	0456	6.04	16.69
17	AR12545G1	07OCT082144-R201	10/08/2008	0519	6.04	16.69
18	AR12623G1	07OCT082144-R211	10/08/2008	0543	6.04	16.69
19	AR12683G1	07OCT082144-R221	10/08/2008	0607	6.04	16.69
20	AIBLKG4	07OCT082144-R231	10/08/2008	0630	6.02	16.68
21	AR16601G1	07OCT082144-R241	10/08/2008	0654	6.02	16.68
22	AR16602G1	07OCT082144-R251	10/08/2008	0718	6.03	16.68
23	AR16603G1	07OCT082144-R261	10/08/2008	0742	6.03	16.68
24	AR16604G1	07OCT082144-R271	10/08/2008	0805	6.02	16.68
25	AR16605G1	07OCT082144-R281	10/08/2008	0829	6.03	16.68
26	AIBLKG5	07OCT082144-R291	10/08/2008	0853	6.03	16.68
27	AR16603G2	07OCT082144-R301	10/08/2008	0917	6.03	16.69
28	ABLKF4	07OCT082201-R011	10/08/2008	0940	6.03	16.69
29	ALCSF4	07OCT082201-R021	10/08/2008	1004	6.03	16.69
30	U3C	07OCT082201-R031	10/08/2008	1028	6.05	16.70
31	U4C	07OCT082201-R041	10/08/2008	1052	6.05	16.70
32	U5C	07OCT082201-R051	10/08/2008	1116	6.05	16.70

QC LIMITS

TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag RT values outside contract required QC limits with an asterisk.

8H - FORM VIII ARO
AROCLOR ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

Instrument ID: 5253_1.i

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs, and LCSs IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.03 DCB: 16.68

	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
33	U6C	07OCT082201-R061	10/08/2008	1139	6.04	16.70
34	ABLKF2	07OCT082201-R071	10/08/2008	1203	6.04	16.69
35	ALCSF2	07OCT082201-R081	10/08/2008	1227	6.04	16.69
36	ZZZZZ	07OCT082201-R091	10/08/2008	1250	6.04	16.69
37	U1C	07OCT082201-R101	10/08/2008	1314	6.03	16.68
38	U1CMS	07OCT082201-R111	10/08/2008	1338	6.03	16.68
39	U1CMSD	07OCT082201-R121	10/08/2008	1402	6.03	16.68
40	U2C	07OCT082201-R131	10/08/2008	1426	6.04	16.68
41	ZZZZZ	07OCT082201-R141	10/08/2008	1449	6.04	16.70
42	AIBLKG6	07OCT082201-R151	10/08/2008	1513	6.03	16.69
43	AIBLKG7	07OCT082201-R161	10/08/2008	1537	6.03	16.69
44	AIBLKG8	07OCT082201-R171	10/08/2008	1601	6.04	16.69
45	AR16603G3	07OCT082201-R181	10/08/2008	1624	6.04	16.69
46	AR12423G2	07OCT082201-R191	10/08/2008	1648	6.04	16.69
47	AR12483G2	07OCT082201-R201	10/08/2008	1712	6.04	16.69
48	AR12543G2	07OCT082201-R211	10/08/2008	1736	6.04	16.69
49	AIBLKG9	08OCT082003-R011	10/08/2008	2008	6.02	16.68
50	AR16603G4	08OCT082003-R021	10/08/2008	2031	6.02	16.68
51	AR12423G3	08OCT082003-R031	10/08/2008	2055	6.02	16.68
52	AR12483G3	08OCT082003-R041	10/08/2008	2119	6.03	16.69
53	AR12543G3	08OCT082003-R051	10/08/2008	2143	6.03	16.69
54	ZZZZZ	08OCT082158-R011	10/08/2008	2207	6.03	16.69
55	ZZZZZ	08OCT082158-R021	10/08/2008	2230	6.03	16.68
56	ZZZZZ	08OCT082158-R031	10/08/2008	2254	6.03	16.69
57	ZZZZZ	08OCT082158-R041	10/08/2008	2318	6.03	16.69
58	ZZZZZ	08OCT082158-R051	10/08/2008	2342	6.03	16.69
59	ZZZZZ	08OCT082158-R061	10/09/2008	0005	6.04	16.69
60	ZZZZZ	08OCT082158-R071	10/09/2008	0029	6.04	16.69
61	ZZZZZ	08OCT082158-R081	10/09/2008	0053	6.04	16.69
62	ZZZZZ	08OCT082158-R091	10/09/2008	0117	6.04	16.70
63	ZZZZZ	08OCT082158-R101	10/09/2008	0141	6.02	16.68
64	ZZZZZ	08OCT082158-R111	10/09/2008	0204	6.03	16.68

QC LIMITS

TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag RT values outside contract required QC limits with an asterisk.

8H - FORM VIII ARO
AROCLOR ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-5 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

Instrument ID: 5253_1.i

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs, and LCSs IS GIVEN BELOW:

	MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 6.03 DCB: 16.68					
	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
65	ZZZZZ	08OCT082158-R121	10/09/2008	0228	6.02	16.68
66	ZZZZZ	08OCT082158-R131	10/09/2008	0252	6.03	16.68
67	ZZZZZ	08OCT082158-R141	10/09/2008	0316	6.03	16.69
68	B2BDL	08OCT082158-R151	10/09/2008	0340	6.03	16.68
69	B2B	08OCT082158-R161	10/09/2008	0403	6.04	16.70
70	AIBLKH1	08OCT082158-R171	10/09/2008	0427	6.04	16.69
71	AIBLKH2	08OCT082158-R181	10/09/2008	0451	6.03	16.69
72	AIBLKH3	08OCT082158-R191	10/09/2008	0515	6.04	16.69
73	AR16603G5	08OCT082158-R201	10/09/2008	0538	6.04	16.70
74	AR12423G4	08OCT082158-R211	10/09/2008	0602	6.04	16.70
75	AR12483G4	08OCT082158-R221	10/09/2008	0626	6.04	16.70
76	AR12543G4	08OCT082158-R231	10/09/2008	0650	6.04	16.70
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QC LIMITS

TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag RT values outside contract required QC limits with an asterisk.

8H - FORM VIII ARO
AROCLOR ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

Instrument ID: 5253_2.i

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs, and LCSs IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.28 DCB: 17.76

	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR12213G1	07OCT082144-R041	10/07/2008	2259	6.29	17.77
02	AR12323G1	07OCT082144-R051	10/07/2008	2323	6.29	17.78
03	AR12421G1	07OCT082144-R061	10/07/2008	2347	6.28	17.77
04	AR12422G1	07OCT082144-R071	10/08/2008	0010	6.29	17.77
05	AR12423G1	07OCT082144-R081	10/08/2008	0034	6.28	17.77
06	AR12424G1	07OCT082144-R091	10/08/2008	0058	6.28	17.76
07	AR12425G1	07OCT082144-R101	10/08/2008	0122	6.28	17.76
08	AR12481G1	07OCT082144-R111	10/08/2008	0146	6.28	17.76
09	AR12482G1	07OCT082144-R121	10/08/2008	0210	6.28	17.77
10	AR12483G1	07OCT082144-R131	10/08/2008	0233	6.27	17.76
11	AR12484G1	07OCT082144-R141	10/08/2008	0257	6.29	17.77
12	AR12485G1	07OCT082144-R151	10/08/2008	0321	6.28	17.77
13	AR12541G1	07OCT082144-R161	10/08/2008	0344	6.28	17.77
14	AR12542G1	07OCT082144-R171	10/08/2008	0408	6.28	17.77
15	AR12543G1	07OCT082144-R181	10/08/2008	0432	6.29	17.77
16	AR12544G1	07OCT082144-R191	10/08/2008	0456	6.28	17.77
17	AR12545G1	07OCT082144-R201	10/08/2008	0519	6.28	17.77
18	AR12623G1	07OCT082144-R211	10/08/2008	0543	6.29	17.77
19	AR12683G1	07OCT082144-R221	10/08/2008	0607	6.29	17.77
20	AIBLKG4	07OCT082144-R231	10/08/2008	0630	6.27	17.76
21	AR16601G1	07OCT082144-R241	10/08/2008	0654	6.28	17.76
22	AR16602G1	07OCT082144-R251	10/08/2008	0718	6.28	17.76
23	AR16603G1	07OCT082144-R261	10/08/2008	0742	6.28	17.76
24	AR16604G1	07OCT082144-R271	10/08/2008	0805	6.28	17.76
25	AR16605G1	07OCT082144-R281	10/08/2008	0829	6.28	17.76
26	AIBLKG5	07OCT082144-R291	10/08/2008	0853	6.28	17.77
27	AR16603G2	07OCT082144-R301	10/08/2008	0917	6.28	17.76
28	ABLKF4	07OCT082201-R011	10/08/2008	0940	6.28	17.76
29	ALCSF4	07OCT082201-R021	10/08/2008	1004	6.29	17.77
30	U3C	07OCT082201-R031	10/08/2008	1028	6.30	17.78
31	U4C	07OCT082201-R041	10/08/2008	1052	6.30	17.78
32	U5C	07OCT082201-R051	10/08/2008	1116	6.30	17.78

QC LIMITS

TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag RT values outside contract required QC limits with an asterisk.

8H - FORM VIII ARO
AROCLOR ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

Instrument ID: 5253_2.i

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs, and LCSs IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.28 DCB: 17.76

	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
33	U6C	07OCT082201-R061	10/08/2008	1139	6.30	17.78
34	ABLKF2	07OCT082201-R071	10/08/2008	1203	6.30	17.78
35	ALCSF2	07OCT082201-R081	10/08/2008	1227	6.29	17.77
36	ZZZZZ	07OCT082201-R091	10/08/2008	1250	6.29	17.77
37	U1C	07OCT082201-R101	10/08/2008	1314	6.28	17.76
38	U1CMS	07OCT082201-R111	10/08/2008	1338	6.28	17.76
39	U1CMSD	07OCT082201-R121	10/08/2008	1402	6.28	17.76
40	U2C	07OCT082201-R131	10/08/2008	1426	6.30	17.76
41	ZZZZZ	07OCT082201-R141	10/08/2008	1449	6.30	17.77
42	AIBLKG6	07OCT082201-R151	10/08/2008	1513	6.28	17.76
43	AIBLKG7	07OCT082201-R161	10/08/2008	1537	6.29	17.77
44	AIBLKG8	07OCT082201-R171	10/08/2008	1601	6.29	17.77
45	AR16603G3	07OCT082201-R181	10/08/2008	1624	6.28	17.76
46	AR12423G2	07OCT082201-R191	10/08/2008	1648	6.28	17.77
47	AR12483G2	07OCT082201-R201	10/08/2008	1712	6.29	17.77
48	AR12543G2	07OCT082201-R211	10/08/2008	1736	6.28	17.77
49	AIBLKG9	08OCT082003-R011	10/08/2008	2008	6.28	17.76
50	AR16603G4	08OCT082003-R021	10/08/2008	2031	6.28	17.77
51	AR12423G3	08OCT082003-R031	10/08/2008	2055	6.27	17.76
52	AR12483G3	08OCT082003-R041	10/08/2008	2119	6.28	17.76
53	AR12543G3	08OCT082003-R051	10/08/2008	2143	6.28	17.77
54	ZZZZZ	08OCT082158-R011	10/08/2008	2207	6.28	17.77
55	ZZZZZ	08OCT082158-R021	10/08/2008	2230	6.29	17.77
56	ZZZZZ	08OCT082158-R031	10/08/2008	2254	6.29	17.78
57	ZZZZZ	08OCT082158-R041	10/08/2008	2318	6.28	17.77
58	ZZZZZ	08OCT082158-R051	10/08/2008	2342	6.29	17.77
59	ZZZZZ	08OCT082158-R061	10/09/2008	0005	6.28	17.76
60	ZZZZZ	08OCT082158-R071	10/09/2008	0029	6.29	17.78
61	ZZZZZ	08OCT082158-R081	10/09/2008	0053	6.28	17.76
62	ZZZZZ	08OCT082158-R091	10/09/2008	0117	6.29	17.78
63	ZZZZZ	08OCT082158-R101	10/09/2008	0141	6.27	17.75
64	ZZZZZ	08OCT082158-R111	10/09/2008	0204	6.28	17.76

	QC LIMITS
TCX = Tetrachloro-m-xylene	(± 0.05 MINUTES)
DCB = Decachlorobiphenyl	(± 0.10 MINUTES)

Column used to flag RT values outside contract required QC limits with an asterisk.

8H - FORM VIII ARO
AROCLOR ANALYTICAL SEQUENCE

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

GC Column: RTX-35 ID: 0.25 (mm) Init. Calib. Date(s): 10/07/2008 10/08/2008

Instrument ID: 5253_2.i

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs, and LCSs IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.28 DCB: 17.76

	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
65	ZZZZZ	08OCT082158-R121	10/09/2008	0228	6.28	17.76
66	ZZZZZ	08OCT082158-R131	10/09/2008	0252	6.27	17.76
67	ZZZZZ	08OCT082158-R141	10/09/2008	0316	6.28	17.77
68	B2BDL	08OCT082158-R151	10/09/2008	0340	6.28	17.76
69	B2B	08OCT082158-R161	10/09/2008	0403	6.29	17.76
70	AIBLKH1	08OCT082158-R171	10/09/2008	0427	6.28	17.77
71	AIBLKH2	08OCT082158-R181	10/09/2008	0451	6.28	17.77
72	AIBLKH3	08OCT082158-R191	10/09/2008	0515	6.28	17.76
73	AR16603G5	08OCT082158-R201	10/09/2008	0538	6.29	17.77
74	AR12423G4	08OCT082158-R211	10/09/2008	0602	6.29	17.78
75	AR12483G4	08OCT082158-R221	10/09/2008	0626	6.29	17.77
76	AR12543G4	08OCT082158-R231	10/09/2008	0650	6.28	17.77
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QC LIMITS

TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag RT values outside contract required QC limits with an asterisk.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
B2B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: 768412 Date(s) Analyzed: 10/09/2008 10/09/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.52	7.44	7.58	6900		
Aroclor-1242	2	7.93	7.85	7.99	7400		
	3	8.53	8.44	8.58	11000		
COLUMN 1	4	8.75	8.67	8.81	9700		
	5	8.94	8.85	8.99	9600	8900	
	1	8.55	8.48	8.62	7300		
	2	9.25	9.18	9.32	6700		
	3	9.61	9.54	9.68	8800		
COLUMN 2	4	10.00	9.92	10.06	7800		
	5	10.34	10.27	10.41	8500	7800	14.1
	1	13.81	13.73	13.87	230		
Aroclor-1260	2	14.14	14.06	14.20	250		
	3	14.48	14.40	14.54	260		
COLUMN 1	4	14.85	14.77	14.91	300		
	5	15.02	14.94	15.08	260	260	
	1	14.41	14.34	14.48	250		
	2	15.06	14.98	15.12	240		
	3	15.57	15.50	15.64	310		
COLUMN 2	4	16.34	16.27	16.41	260		
	5	16.45	16.37	16.51	270	270	3.8
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
B2BDL

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: 768412D1 Date(s) Analyzed: 10/09/2008 10/09/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.51	7.44	7.58	9000		
Aroclor-1242	2	7.92	7.85	7.99	9300		
	3	8.51	8.44	8.58	12000		
COLUMN 1	4	8.74	8.67	8.81	11000		
	5	8.92	8.85	8.99	11000	11000	
	1	8.55	8.48	8.62	8800		
	2	9.25	9.18	9.32	8400		
	3	9.61	9.54	9.68	10000		
COLUMN 2	4	10.00	9.92	10.06	9200		
	5	10.34	10.27	10.41	9700	9200	19.6
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
U3C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: 768919 Date(s) Analyzed: 10/08/2008 10/08/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	11.67	11.58	11.72	73		
Aroclor-1254	2	12.05	11.94	12.08	75		
	3	12.14	12.04	12.18	63		
COLUMN 1	4	12.24	12.13	12.27	120		
	5	12.78	12.70	12.84	46	76	
	1	12.62	12.53	12.67	280		
	2	12.83	12.76	12.90	240		
	3	13.05	12.96	13.10	85		
COLUMN 2	4	13.26	13.17	13.31	67		
	5	13.57	13.49	13.63	24	140	84.2
	1	13.81	13.73	13.87	29		
Aroclor-1260	2	14.14	14.06	14.20	46		
	3	14.49	14.40	14.54	23		
COLUMN 1	4	14.86	14.77	14.91	28		
	5					31	
	1	14.43	14.34	14.48	23		
	2	15.07	14.98	15.12	30		
	3	15.59	15.50	15.64	38		
COLUMN 2	4	16.33	16.27	16.41	57		
	5	16.47	16.37	16.51	45	39	25.8
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
U4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: 768920 Date(s) Analyzed: 10/08/2008 10/08/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.52	7.44	7.58	95		
Aroclor-1242	2						
	3	8.53	8.44	8.58	110		
COLUMN 1	4	8.76	8.67	8.81	88		
	5	8.94	8.85	8.99	110	100	
	1	8.56	8.48	8.62	46		
	2	9.26	9.18	9.32	110		
	3	9.63	9.54	9.68	54		
COLUMN 2	4	10.01	9.92	10.06	68		
	5	10.35	10.27	10.41	44	65	53.8
	1	11.67	11.58	11.72	99		
Aroclor-1254	2	12.03	11.94	12.08	55		
	3	12.14	12.04	12.18	89		
COLUMN 1	4	12.22	12.13	12.27	98		
	5	12.78	12.70	12.84	56	80	
	1	12.61	12.53	12.67	140		
	2	12.84	12.76	12.90	83		
	3	13.05	12.96	13.10	72		
COLUMN 2	4	13.26	13.17	13.31	87		
	5	13.57	13.49	13.63	42	86	7.5
	1	13.82	13.73	13.87	33		
Aroclor-1260	2	14.14	14.06	14.20	56		
	3	14.49	14.40	14.54	29		
COLUMN 1	4	14.86	14.77	14.91	33		
	5	15.03	14.94	15.08	66	43	
	1	14.43	14.34	14.48	29		
	2	15.07	14.98	15.12	38		
	3	15.59	15.50	15.64	42		
COLUMN 2	4	16.35	16.27	16.41	30		
	5	16.47	16.37	16.51	50	38	13.2

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
ALCSF2

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: ALCSF2 Date(s) Analyzed: 10/08/2008 10/08/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.52	7.44	7.58	37		
Aroclor-1016	2	7.93	7.85	7.99	37		
	3	8.75	8.67	8.81	38		
COLUMN 1	4	9.84	9.76	9.90	38		
	5	10.17	10.09	10.23	38	38	
	1	7.54	7.46	7.60	34		
	2	8.55	8.48	8.62	31		
	3	9.62	9.54	9.68	30		
COLUMN 2	4	10.00	9.92	10.06	32		
	5	10.34	10.26	10.40	32	32	18.8
	1	13.81	13.73	13.87	38		
Aroclor-1260	2	14.14	14.06	14.20	39		
	3	14.48	14.40	14.54	39		
COLUMN 1	4	14.85	14.77	14.91	42		
	5	15.02	14.94	15.08	41	40	
	1	14.42	14.34	14.48	39		
	2	15.06	14.98	15.12	31		
	3	15.58	15.50	15.64	35		
COLUMN 2	4	16.34	16.27	16.41	37		
	5	16.45	16.37	16.51	33	35	14.3
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
ALCSF4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: ALCSF4 Date(s) Analyzed: 10/08/2008 10/08/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.51	7.44	7.58	35		
Aroclor-1016	2	7.92	7.85	7.99	34		
	3	8.74	8.67	8.81	33		
COLUMN 1	4	9.84	9.76	9.90	34		
	5	10.16	10.09	10.23	34	34	
	1	7.54	7.46	7.60	33		
	2	8.55	8.48	8.62	31		
	3	9.61	9.54	9.68	30		
COLUMN 2	4	10.00	9.92	10.06	32		
	5	10.34	10.26	10.40	32	31	9.7
	1	13.81	13.73	13.87	35		
Aroclor-1260	2	14.13	14.06	14.20	34		
	3	14.48	14.40	14.54	31		
COLUMN 1	4	14.85	14.77	14.91	34		
	5	15.01	14.94	15.08	35	34	
	1	14.42	14.34	14.48	33		
	2	15.06	14.98	15.12	30		
	3	15.58	15.50	15.64	34		
COLUMN 2	4	16.35	16.27	16.41	35		
	5	16.45	16.37	16.51	33	33	3.0
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
U1CMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: 768415MS Date(s) Analyzed: 10/08/2008 10/08/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.51	7.44	7.58	130		
Aroclor-1016	2	7.92	7.85	7.99	130		
	3	8.74	8.67	8.81	140		
COLUMN 1	4	9.83	9.76	9.90	140		
	5	10.16	10.09	10.23	140	140	
	1	7.53	7.46	7.60	130		
	2	8.54	8.48	8.62	120		
	3	9.60	9.54	9.68	130		
COLUMN 2	4	9.99	9.92	10.06	130		
	5	10.33	10.26	10.40	130	130	7.7
	1	13.80	13.73	13.87	150		
Aroclor-1260	2	14.13	14.06	14.20	150		
	3	14.47	14.40	14.54	160		
COLUMN 1	4	14.84	14.77	14.91	160		
	5	15.01	14.94	15.08	150	150	
	1	14.41	14.34	14.48	140		
	2	15.05	14.98	15.12	140		
	3	15.57	15.50	15.64	140		
COLUMN 2	4	16.33	16.27	16.41	140		
	5	16.44	16.37	16.51	130	140	7.1
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

10C - FORM X ARO
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.
U1CMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127732

Lab Sample ID: 768415MD Date(s) Analyzed: 10/08/2008 10/08/2008

Instrument ID (1): 5253_1.i Instrument ID (2): 5253_2.i

GC Column (1): RTX-5 ID: 0.25(mm) GC Column (2): RTX-35 ID: 0.25(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION PEAK	CONCENTRATION MEAN	%D
	1	7.51	7.44	7.58	130		
Aroclor-1016	2	7.92	7.85	7.99	130		
	3	8.74	8.67	8.81	150		
COLUMN 1	4	9.83	9.76	9.90	140		
	5	10.15	10.09	10.23	140	140	
	1	7.53	7.46	7.60	130		
	2	8.55	8.48	8.62	130		
	3	9.61	9.54	9.68	130		
COLUMN 2	4	9.99	9.92	10.06	130		
	5	10.33	10.26	10.40	130	130	7.7
	1	13.80	13.73	13.87	150		
Aroclor-1260	2	14.12	14.06	14.20	150		
	3	14.47	14.40	14.54	160		
COLUMN 1	4	14.84	14.77	14.91	160		
	5	15.00	14.94	15.08	150	150	
	1	14.41	14.34	14.48	140		
	2	15.05	14.98	15.12	140		
	3	15.57	15.50	15.64	140		
COLUMN 2	4	16.34	16.27	16.41	140		
	5	16.44	16.37	16.51	140	140	7.1
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least three peaks for each column are required for identification of multicomponent analytes.

TestAmerica
South Burlington, VT

Sample Data Summary Package

SDG: 127655

ANALYTICAL DATA PACKAGE FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON, NEW JERSEY 08625

Agency/Division:	SRP	**Bureau/Office:**	BEMSA
Project No.:	H2400200	**Contract No.:**	A71586
Laboratory Name:	TestAmerica Laboratories	**Laboratory Location:**	South Burlington, Vermont
SDG or Batch No.:	127655	**NJDEP Certification No.:**	VT972
Date of First Sample Receipt:	09/17/08	**Date of Last Sample Receipt:**	09/19/08

Agency Sample Number	Laboratory Sample Number	Sample Location	Date and Time of Collection
A2D	767832	A2D	09/16/2008-1136
A3B	767833	A3B	09/16/2008-1447
A1B	768003	A1B	09/17/2008-0959
A4B	768004	A4B	09/17/2008-1112
A5B	768005	A5B	09/17/2008-1156
C5B	768006	C5B	09/17/2008-1353
C4C	768007	C4C	09/17/2008-1428
C3D	768008	C3D	09/17/2008-1508
D1C	768254	D1C	09/18/2008-0945
C2C	768255	C2C	09/18/2008-1105
B3B	768256	B3B	09/18/2008-1216
B3BMSD	768256MD	B3B	09/18/2008-1216
B3BMS	768256MS	B3B	09/18/2008-1216
B5B	768257	B5B	09/18/2008-1418
B4C	768258	B4C	09/18/2008-1455
DUP1	768259	DUP1	09/18/2008

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

Laboratory Manager (Typed):	William S. Cicero	**Date:**	10/16/08
Laboratory Manager (Signature):			
Quality Assurance Officer (Typed):	Kirstin McCracken	**Date:**	10/16/08
Quality Assurance Officer (Signature):			

ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625

Agency/Division: SRP	**Bureau/Office:** BEMSA
Project No: H24002000 (127655)	**Contract No:** A71586
Laboratory Name: TestAmerica Burlington	**Laboratory Location:** South Burlington, Vermont
SDG or Batch No: H24002000 (127655)	**NJDEP Certification #:** VT972
Date of First Sample Receipt: 09/18/2008	**Date of Last Sample Receipt:** 09/19/2008

The condition of the samples and the issues identified at the time of sample log-in are detailed in the Sample Handling section of this submittal. The sample volumes were logged into the laboratory for analysis and maintained in refrigerated storage at 4 degrees centigrade.

The sample volumes for the volatile organics analysis were received in "Encore" samplers. For each sample, the contents of one sampler were transferred into methanol, and the contents of the remaining two samplers were each transferred into analyte free water. The transfer occurred within 48 hours from sample collection, and all sample volumes were maintained in frozen storage. Based on the results of preliminary screening, samples A2D, A3B, A1B, C3D, B3B, and C2C were analyzed by the medium level method, using the sample volumes extracted into methanol. Additional sample volumes were received for sample B3B to provide for matrix spike and matrix spike duplicate analyses. Due to the fact that the constituent concentrations were high in sample B3B and the sample was analyzed by the medium level method, there was no recourse in providing for matrix spike and matrix spike duplicate analyses by the low level method.

SOM01.2 (Volatile Organics - Low Level - Non-Aqueous)

A storage blank was prepared for volatile organics analysis, in a manner that was consistent with the preparation of the samples. That storage blank, identified as VHBLK01, was carried through the holding period with the samples, and analyzed.

Each analysis associated with the sample set exhibited good internal standard performance. Each deuterated monitoring compound (DMC) exhibited good recovery performance in the analysis of the method blank associated with the analytical work, the analysis of the storage blank, and in the analysis of each sample. Matrix spike and matrix spike duplicate analyses were performed on samples in this sample set. A trace concentration of chloroform was identified in the analysis of one of the method blanks associated with the analytical work (VBLKI8), as it was in the analysis of the storage blank. The concentration of chloroform in each analysis was below the established reporting limit, and each analysis did meet the technical acceptance criteria for a compliant method blank or storage blank analysis. Present in each of method blank analysis and in the analysis of the storage blank was a non-target constituent that was related to the DMC formulation. The derived results for that compound have been qualified with a "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the percent difference criterion in each opening/continuing calibration check acquisition. With the exception of that for acetone in the calibration check acquisition identified as VSTD025Z2, the response for each target analyte met the 50.0 percent difference criterion in each closing calibration check acquisition. In the referenced acquisition, the change in the response for acetone, relative to the average response in the initial calibration, represented a 52.0 percent difference. The acquisition

did not meet the technical acceptance criteria for a compliant closing calibration check acquisition. The laboratory did acquire a second calibration check standard immediately after the referenced closing calibration check in order to assess instrument performance. That acquisition exhibited a similar performance issue relative to acetone, however the percent difference value for acetone in that analysis did meet the 50.0 percent difference criterion (43.6 percent). Based on the relative reproducibility of the performance issue, the laboratory did not pursue a further analysis of the samples. This was coordinated with the NJDEP Contract Manager. The documentation of the follow-up acquisition is included in the Sample Preparation section of this submittal. In each of the acquisitions associated with the initial calibration and the calibration checks, the responses for 1,4-dioxane and 1,4-dioxane-d8 did not meet the minimum response factor criterion of 0.005. The issue of low response is one that is specific to these compounds, and relates to an over-estimation of their performance as written into the SOM01.2 Statement of Work. The laboratory has brought the issue to the attention of the Contract Manager, and the NJDEP is awaiting resolution of the technical specifications by the USEPA.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following details the column type and trap design that were used in the performance of the analytical work:

Chromatographic Column - J&W DB-624
Length - 75 meters
Inner Diameter - 0.53 millimeters
Film Thickness - 3.0 micrometers

Trap Design - Supelco (K Type) VOCARB 3000
Length - 29.5 centimeters

A summary of the method detection limit study that was performed by the laboratory for the method of analysis follows this summary.

SOM01.2 (Volatile Organics - Medium Level - Non-Aqueous)

A storage blank was prepared for volatile organics analysis, in a manner that was consistent with the preparation of the samples. That storage blank, identified as VHBLKM1, was carried through the holding period with the samples, and analyzed.

The extracts of samples A1B, A2D, and C2C were analyzed at a dilution based on the results of preliminary screening. Due to the high concentration of higher boiling constituents in these samples, the laboratory did not pursue a more concentrated analysis of the sample extracts. This was coordinated with the NJDEP Contract Manager. An additional, dilution analysis was performed on the extract of sample B3B in order to provide for quantification within the range of calibrated instrument response. Both sets of results for the analysis of sample B3B are included in this submittal.

ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625

Each analysis associated with the sample set exhibited good internal standard performance. There was an acceptable recovery of each deuterated monitoring compound (DMC) in the analysis of each method blank associated with the analytical work, and in the analysis of the storage blank associated with the sample set. The analysis of the samples in this sample set did meet the technical acceptance criteria specific to DMC recoveries, although not all DMC recoveries were within the control range in each analysis. The method allowance criteria provides for the recovery of up to three DMCs to be outside the control range in the analysis of field samples. Matrix spike and matrix spike duplicate analyses were performed on sample B3B. Those analyses were performed without a dilution, consistent with the more concentrated analysis of the parent sample. With the exception of toluene, there was an acceptable recovery of each spiked analyte in each analysis. Both the matrix spike and the matrix spike duplicate analysis did yield an anomalously low recovery of the toluene. Toluene was identified as a constituent of sample B3B, and the constituent concentration was high relative to the spike amount that was used in preparing the test volumes for the matrix spike and matrix spike duplicate analyses. The results for toluene did yield a high relative percent difference value in the interanalysis comparison. Trace concentrations of acetone, carbon disulfide, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene were identified in the analysis of one of the method blanks associated with the analytical work (VBLKJ1). The concentration of each compound in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant method blank analysis. A trace concentration of carbon disulfide was identified in the analysis of each of the other method blanks associated with the analytical work (VBLKJ4 and VBLKK9), as it was in the analysis of the storage blank associated with the sample set. The concentration of carbon disulfide in each analysis was below the established reporting limit, and each analysis did meet the technical acceptance criteria for a compliant method blank or storage blank analysis. Present in each of method blank analysis and in the analysis of the storage blank was a non-target constituent that was related to the DMC formulation. The derived results for that compound have been qualified with a "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in each initial calibration. With the exception of that for 1,4-dioxane-d8 in the calibration check acquisition identified as VSTD050M1, the response for each target analyte met the percent difference criterion in each opening continuing calibration check acquisition. In the referenced acquisition, the change in the response for 1,4-dioxane-d8, relative to the average response in the initial calibration, represented a 50.7 percent difference. The acquisition did not meet the technical acceptance criteria for a compliant opening/continuing calibration check acquisition. The laboratory did acquire a second calibration check standard (VSTD050M2) immediately after the referenced opening/continuing calibration check in order to assess instrument performance. That acquisition did exhibit an acceptable performance for each target analyte, including 1,4-dioxane-d8, and the laboratory continued the analytical sequence. With the exception of those for acetone, 1,4-dioxane, and 1,4-dioxane-d8 in the calibration check acquisition identified as VSTD050M3, the response for each target analyte met the 50.0 percent difference criterion in the closing calibration check acquisition. In the referenced acquisition, the change in the response for acetone, relative to the average response in the initial calibration, represented a 53.4 percent difference, that for 1,4-dioxane represented a 71.2 percent difference, and that for 1,4-dioxane-d8 represented a 53.9 percent difference. The laboratory did acquire a second calibration check standard immediately after the referenced closing calibration check in order to assess instrument performance. That acquisition exhibited a similar performance issue relative to acetone, 1,4-dioxane, and 1,4-dioxane-d8. Based on the relative reproducibility of the performance issue, the laboratory did not pursue a further analysis of the samples. This was coordinated with the NJDEP Contract Manager. The documentation of the follow-up acquisition is included in the Sample Preparation section of this submittal. In each of the acquisitions associated with the initial calibration and the calibration checks, the responses for 1,4-dioxane and 1,4-dioxane-d8 did not meet the minimum response factor criterion of 0.005. The issue of low response is one that is specific to these

ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625

compounds, and relates to an over-estimation of their performance as written into the SOM01.2 Statement of Work. The laboratory has brought the issue to the attention of the Contract Manager, and the NJDEP is awaiting resolution of the technical specifications by the USEPA.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package. A listing of the manual integrations that were performed, referencing the specific acquisition file names in which manual integration was applied, and the reason for the manual integration, immediately follows this non-compliance summary.

The following details the column type and trap design that were used in the performance of the analytical work:

Chromatographic Column - J&W DB-624
Length - 75 meters
Inner Diameter - 0.53 millimeters
Film Thickness - 3.0 micrometers

Trap Design - Supelco (K Type) VOCARB 3000
Length - 29.5 centimeters

A summary of the method detection limit study that was performed by the laboratory for the method of analysis follows this summary.

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on CD/diskette and by electronic e-mail has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

C Sl

10/16/08

William S. Cicero
Laboratory Director, TestAmerica Burlington

Date

NJDEP FORM A1C (02/26/04)

TestAmerica Burlington - Manual Integration Summary
SDG: mubsomm Fraction: Volatile

===== Instrument M - No Manual Integrations =====

CMP
10/13/08

TestAmerica Burlington - Manual Integration Summary
SDG: mtzsoms Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
VSTD2.5TZ	VSTD2.5TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 11:46	MTZ005V
	2.621	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 13:23	MRV 9/24/08
VSTD005TZ	VSTD005TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 12:14	MTZ010V
	2.617	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 13:24	MRV 9/24/08
VSTD050TZ	VSTD050TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 13:23	MTZ100V
	2.605	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 14:15	MRV 9/24/08

Summary Generated: jd1 09/24/2008 09:55 Secondary Review(1): JFO | 09/24/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: mtzsoms Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
VSTD2.5TZ	VSTD2.5TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 11:46	MTZ005V	
	2.621	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 13:23	MRV 9/24/08
VSTD005TZ	VSTD005TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 12:14	MTZ010V	
	2.617	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 13:24	MRV 9/24/08
VSTD050TZ	VSTD050TZ	INIT. CALIB.	M	DB-624	23-SEP-2008 13:23	MTZ100V	
	2.605	Dichlorodifluoromethane			MI1 - Poor automated baseline	mrv 09/23/08 14:15	MRV 9/24/08

Summary Generated: jd1 09/24/2008 09:55 Secondary Review(1): JD 09/24/08 Secondary Review(2): _____ / _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127655 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename	
	Peak RT	Compound		Manual Integration Flag		Analyst Date-Time	Sign-Off
VSTD2.5TZ	VSTD2.5TZ	INIT. CALIB.	M DB-624	23-SEP-2008 11:46	MTZ005V		
	2.621	Dichlorodifluoromethane		MI1 - Poor automated baseline		mrv 09/23/08 13:23	
VSTD005TZ	VSTD005TZ	INIT. CALIB.	M DB-624	23-SEP-2008 12:14	MTZ010V		
	2.617	Dichlorodifluoromethane		MI1 - Poor automated baseline		mrv 09/23/08 13:24	
VSTD050TZ	VSTD050TZ	INIT. CALIB.	M DB-624	23-SEP-2008 13:23	MTZ100V		JPD 10/14/08
	2.605	Dichlorodifluoromethane		MI1 - Poor automated baseline		mrv 09/23/08 14:15	
VSTD025B1	VSTD025B1	CONT. CALIB.	M DB-624	25-SEP-2008 10:26	MTZ50BV		
	2.617	Dichlorodifluoromethane		MI1 - Poor automated baseline		jd1 10/14/08 10:58	JPD 10/14/08

Summary Generated: jd1 10/14/2008 11:58 Secondary Review(1): KLP 10/15/08 Secondary Review(2): _____ / _____

TestAmerica Burlington - Manual Integration Summary
SDG: mucsomm Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
VSTD200UC	VSTD200UC	INIT. CALIB.	M	DB-624	27-SEP-2008 04:14	MUC200V	
	2.582	Dichlorodifluoromethane			MI2 - Peak missed	jd1 10/06/08 09:22	JPD 10/06/08
	3.754	Chloroethane			MI3 - Mis-identification of peak	jd1 10/06/08 09:22	JPD 10/06/08

Summary Generated: jd1 10/06/2008 09:54 Secondary Review(1): CMP | 10/07/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127655 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
VBLKJ1	VBLKJ1	BLANK	M	DB-624	25-SEP-2008 20:33	MUBB04	
	$ 3.702	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/15/08 09:19	JD 10/16/08
767832	A2D	SAMPLE	M	DB-624	25-SEP-2008 21:30	767832ED	
	$ 3.614	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/14/08 12:32	
768008	C3D	SAMPLE	M	DB-624	25-SEP-2008 22:53	768008E	
	$ 3.018	Vinyl chloride-d3			MI1 - Poor automated baseline	jd1 10/14/08 13:10	
768256	B3B	SAMPLE	M	DB-624	26-SEP-2008 02:09	768256E	
	3.042	Vinyl chloride			MI1 - Poor automated baseline	jd1 10/14/08 13:56	
	11.034	4-Methyl-2-pentanone			MI3 - Mis-identification of peak	jd1 10/14/08 13:57	
VSTD050M1	VSTD050M1	CONT. CALIB.	M	DB-624	26-SEP-2008 03:34	MUB50C1	
	3.634	Chloroethane			MI1 - Poor automated baseline	jd1 10/15/08 09:04	
	4.002	Trichlorofluoromethane			MI1 - Poor automated baseline	jd1 10/15/08 09:05	
VSTD050M2	VSTD050M2	CONT. CALIB.	M	DB-624	26-SEP-2008 04:02	MUB50C2	
	3.631	Chloroethane			MI1 - Poor automated baseline	jd1 10/15/08 09:06	
	3.998	Trichlorofluoromethane			MI1 - Poor automated baseline	jd1 10/15/08 09:06	
768256D1	B3BDL	SAMPLE	M	DB-624	26-SEP-2008 11:21	768256E2	
	$ 3.600	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/14/08 14:12	
	11.049	4-Methyl-2-pentanone			MI3 - Mis-identification of peak	jd1 10/14/08 14:14	

Summary Generated: jd1 10/16/2008 10:18 Secondary Review(1): CMP | 10/16/08 Secondary Review(2): _____ | _____ Page 1

TestAmerica Burlington - Manual Integration Summary
SDG: 127655 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
768256MS	B3BMS	MS	M	DB-624	26-SEP-2008 12:08	768256EM	
	3.038	Vinyl chloride			MI1 - Poor automated baseline	jd1 10/14/08 14:28	JPD 10/16/08
	11.030	4-Methyl-2-pentanone			MI3 - Mis-identification of peak	jd1 10/14/08 14:29	
768256MD	B3BMSD	MSD	M	DB-624	26-SEP-2008 12:36	768256ES	
	11.051	4-Methyl-2-pentanone			MI3 - Mis-identification of peak	jd1 10/14/08 14:31	
VSTD050M3	VSTD050M3	CONT. CALIB.	M	DB-624	26-SEP-2008 14:26	MUB50C3	
	$ 3.595	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/15/08 09:16	
	3.630	Chloroethane			MI1 - Poor automated baseline	jd1 10/15/08 09:16	
~~VSTD200UC~~	~~VSTD200UC~~	~~INIT. CALIB.~~	~~M~~	~~DB-624~~	~~27-SEP-2008 04:14~~	MUC200V	JPD 10/16/08
	2.582	Dichlorodifluoromethane			~~MI2 - Peak missed~~	jd1 10/06/08 09:22	
	3.754	Chloroethane			~~MI3 - Mis-identification of peak~~	jd1 10/06/08 09:22	
VSTD050B1	VSTD050B1	CONT. CALIB.	M	DB-624	01-OCT-2008 11:04	MUC50BV	
	3.036	Vinyl chloride			MI1 - Poor automated baseline	jd1 10/15/08 09:40	JPD 10/16/08
	$ 3.124	Vinyl chloride-d3			MI1 - Poor automated baseline	jd1 10/15/08 09:40	
	3.980	Trichlorofluoromethane			MI1 - Poor automated baseline	jd1 10/15/08 09:40	
VBLKK9	VBLKK9	BLANK	M	DB-624	01-OCT-2008 12:18	MUCB03	
	$ 3.735	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/15/08 09:41	
767834M1	VHBLKM1	SAMPLE	M	DB-624	01-OCT-2008 14:55	767834E	
	$ 3.600	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/15/08 09:35	

Summary Generated: jd1 10/16/2008 10:18 Secondary Review(1): CMP | 10/16/08 Secondary Review(2): _____ | _____

TestAmerica Burlington - Manual Integration Summary
SDG: 127655 Fraction: Volatile

Lab Sample ID	Client Sample ID	Sample Type	Inst.	Column	Analysis Date	Filename
	Peak RT	Compound			Manual Integration Flag	Analyst Date-Time	Sign-Off
VSTD050B2	VSTD050B2	CONT. CALIB.	M	DB-624	01-OCT-2008 16:27	MUC50BC1	
	$ 3.596	Chloroethane-d5			MI1 - Poor automated baseline	jd1 10/15/08 09:38	JAD 10/16/08
	3.999	Trichlorofluoromethane			MI1 - Poor automated baseline	jd1 10/15/08 09:39	

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Summary Generated: jd1 10/16/2008 10:18 Secondary Review(1): CMP | 10/16/08 Secondary Review(2): _____ | _____ Page 3

Verified MDL Summary

DATE:	1/21/2008				MATRIX:	SOIL			
ANALYSIS METHOD:	SOM01.2	PREP METHOD: SOM01.2			ANALYSIS LEVEL:	Low Level			
CLEANUP METHOD(s):	NA				REVIEW:	Mark T. Phillips			
STUDY ID:	A50T36XC_ApprovedMdlvs				APPROVAL:	Kirstin L. McCracken DATE: 01/21/2008			
ANALYTE		MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	MDLV ug/kg	QL ug/kg	QL/MDLV Ratio	RL ug/kg
Dichlorodifluoromethane	75-71-8	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.093	5.0	54	5.0
Chloromethane	74-87-3	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.14	5.0	36	5.0
Vinyl chloride	75-01-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
Bromomethane	74-83-9	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.29	5.0	17	5.0
Chloroethane	75-00-3	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.28	5.0	18	5.0
Trichlorofluoromethane	75-69-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.16	5.0	31	5.0
1,1-Dichloroethene	75-35-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.099	5.0	51	5.0
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.080	5.0	63	5.0
Acetone	67-64-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	1.0	10	10	10
Carbon disulfide	75-15-0	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.10	5.0	50	5.0
Methyl acetate	79-20-9	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.48	5.0	10	5.0
Methylene chloride	75-09-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.18	5.0	28	5.0
trans-1,2-Dichloroethene	156-60-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.083	5.0	60	5.0
Methyl tert-butyl ether	1634-04-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
1,1-Dichloroethane	75-34-3	MDLV Standard	9T0S9H2T_MDLV	M.i	1/8/2008	0.50	5.0	10	5.0
cis-1,2-Dichloroethene	156-59-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.084	5.0	60	5.0
2-Butanone	78-93-3	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.61	10	16	10
Bromochloromethane	74-97-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.087	5.0	57	5.0
Chloroform	67-66-3	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.17	5.0	29	5.0
1,1,1-Trichloroethane	71-55-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.084	5.0	60	5.0
Cyclohexane	110-82-7	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
Carbon tetrachloride	56-23-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.067	5.0	75	5.0
Benzene	71-43-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
1,2-Dichloroethane	107-06-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.12	5.0	42	5.0
1,4-Dioxane	123-91-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	5.9	100	17	100
Trichloroethene	79-01-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.084	5.0	60	5.0
Methylcyclohexane	108-87-2	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.16	5.0	31	5.0
1,2-Dichloropropane	78-87-5	MDLV Standard	9T0S9Y4J_MDLV	M.i	1/8/2008	1.0	5.0	5	5.0
Bromodichloromethane	75-27-4	MDLV Standard	9T0S9Y4J_MDLV	M.i	1/8/2008	1.0	5.0	5	5.0
cis-1,3-Dichloropropene	10061-01-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.063	5.0	79	5.0
4-Methyl-2-pentanone	108-10-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.18	10	56	10
Toluene	108-88-3	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
trans-1,3-Dichloropropene	10061-02-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.058	5.0	86	5.0
1,1,2-Trichloroethane	79-00-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.11	5.0	45	5.0
Tetrachloroethene	127-18-4	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.082	5.0	61	5.0

Verified MDL Summary

DATE:	1/21/2008				MATRIX:	SOIL			
ANALYSIS METHOD:	SOM01.2	PREP METHOD: SOM01.2			ANALYSIS LEVEL:	Low Level			
CLEANUP METHOD(s):	NA				REVIEW:	Mark T. Phillips			
STUDY ID:	A50T36XC_ApprovedMdlvs				APPROVAL:	Kirstin L. McCracken	DATE: 01/21/2008		
ANALYTE		MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	MDLV ug/kg	QL ug/kg	QL/MDLV Ratio	RL ug/kg
2-Hexanone	591-78-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.82	10	12	10
Dibromochloromethane	124-48-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.066	5.0	76	5.0
1,2-Dibromoethane	106-93-4	MDLV Standard	9T0SAGHZ_MDLV	M.i	1/8/2008	2.0	5.0	3	5.0
Chlorobenzene	108-90-7	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
Ethylbenzene	100-41-4	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
o-Xylene	95-47-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.059	5.0	85	5.0
m,p-Xylene	179601-23-1	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
Styrene	100-42-5	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.072	5.0	69	5.0
Bromoform	75-25-2	MDLV Standard	9T0S9Y4J_MDLV	M.i	1/8/2008	1.0	5.0	5	5.0
Isopropylbenzene	98-82-8	MDLV Standard	9T0S8XY0_MDLV	M.i	1/8/2008	0.25	5.0	20	5.0
1,1,2,2-Tetrachloroethane	79-34-5	MDLV Standard	9T0S9H2T_MDLV	M.i	1/8/2008	0.50	5.0	10	5.0
1,3-Dichlorobenzene	541-73-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.13	5.0	38	5.0
1,4-Dichlorobenzene	106-46-7	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.14	5.0	36	5.0
1,2-Dichlorobenzene	95-50-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.067	5.0	75	5.0
1,2-Dibromo-3-chloropropane	96-12-8	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.77	5.0	6	5.0
1,2,4-Trichlorobenzene	120-82-1	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.28	5.0	18	5.0
1,2,3-Trichlorobenzene	87-61-6	Statistical MDL	9T0S8I4K_MDL	M.i	1/7/2008	0.26	5.0	19	5.0

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008	MATRIX:	SOIL
METHOD NUMBER:	SOM01.2	INSTRUMENT ID(s):	M.i
METHOD DESCRIPTION:	Low Level	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s):	Edward L. Coffey
CLEANUP METHOD(s):	NA	REVIEW:	Mark T. Phillips

				MDLVA analyzed on 01/08/2008			MDLVB analyzed on 01/08/2008			MDLVC analyzed on 01/08/2008		
		STATISTICAL MDL	INSTRUMENT MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	0.093	0.093	0.25	0.25	3	0.39	0.50	5	0.97	1.0	11
Chloromethane	74-87-3	0.14	0.14	0.36	0.25	2	0.55	0.50	4	1.1	1.0	7
Vinyl chloride	75-01-4	0.11	0.11	0.21	0.25	2	0.39	0.50	5	0.90	1.0	9
Bromomethane	74-83-9	0.29	0.29	0.54	0.25	1	0.71	0.50	2	1.2	1.0	3
Chloroethane	75-00-3	0.28	0.28	0.29	0.25	1	0.53	0.50	2	0.84	1.0	4
Trichlorofluoromethane	75-69-4	0.16	0.16	0.24	0.25	2	0.46	0.50	3	0.88	1.0	6
1,1-Dichloroethene	75-35-4	0.099	0.099	0.28	0.25	3	0.49	0.50	5	0.98	1.0	10
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.080	0.080	0.23	0.25	3	0.44	0.50	6	0.97	1.0	13
Acetone	67-64-1	1.0	1.0	2.6	0.50	1	3.1	1.0	1	4.8	2.0	2
Carbon disulfide	75-15-0	0.10	0.10	0.40	0.25	3	0.59	0.50	5	1.0	1.0	10
Methyl acetate	79-20-9	0.48	0.48	NA	0.25	1	0.69	0.50	1	1.2	1.0	2
Methylene chloride	75-09-2	0.18	0.18	0.33	0.25	1	0.52	0.50	3	0.94	1.0	6
trans-1,2-Dichloroethene	156-60-5	0.083	0.083	0.27	0.25	3	0.50	0.50	6	0.90	1.0	12
Methyl tert-butyl ether	1634-04-4	0.11	0.11	0.25	0.25	2	0.47	0.50	5	0.94	1.0	9
1,1-Dichloroethane	75-34-3	0.061	0.50	NA	0.25	4	0.49	0.50	8	0.95	1.0	16
cis-1,2-Dichloroethene	156-59-2	0.084	0.084	0.23	0.25	3	0.44	0.50	6	0.90	1.0	12
2-Butanone	78-93-3	0.61	0.61	0.73	0.50	1	1.1	1.0	2	2.1	2.0	3
Bromochloromethane	74-97-5	0.087	0.087	0.18	0.25	3	0.43	0.50	6	0.88	1.0	11
Chloroform	67-66-3	0.17	0.17	0.30	0.25	2	0.48	0.50	3	1.1	1.0	6
1,1,1-Trichloroethane	71-55-6	0.084	0.084	0.26	0.25	3	0.46	0.50	6	0.95	1.0	12
Cyclohexane	110-82-7	0.039	0.25	0.31	0.25	6	0.51	0.50	13	1.0	1.0	26
Carbon tetrachloride	56-23-5	0.067	0.067	0.23	0.25	4	0.43	0.50	8	0.89	1.0	15
Benzene	71-43-2	0.11	0.11	0.38	0.25	2	0.61	0.50	5	1.1	1.0	9
1,2-Dichloroethane	107-06-2	0.12	0.12	NA	0.25	2	0.43	0.50	4	0.96	1.0	8
1,4-Dioxane	123-91-1	5.9	5.9	NA	4.5	1	NA	9.0	2	25	18	3
Trichloroethene	79-01-6	0.084	0.084	0.31	0.25	3	0.49	0.50	6	1.0	1.0	12
Methylcyclohexane	108-87-2	0.16	0.16	0.29	0.25	2	0.46	0.50	3	0.98	1.0	6
1,2-Dichloropropane	78-87-5	0.21	1.0	NA	0.25	1	NA	0.50	2	0.56	1.0	5
Bromodichloromethane	75-27-4	0.050	1.0	NA	0.25	5	NA	0.50	10	0.88	1.0	20
cis-1,3-Dichloropropene	10061-01-5	0.063	0.063	0.23	0.25	4	0.40	0.50	8	0.86	1.0	16
4-Methyl-2-pentanone	108-10-1	0.18	0.18	0.64	0.50	3	1.1	1.0	6	2.1	2.0	11
Toluene	108-88-3	0.035	0.25	0.33	0.25	7	0.52	0.50	14	0.97	1.0	29
trans-1,3-Dichloropropene	10061-02-6	0.058	0.058	0.23	0.25	4	0.40	0.50	9	0.84	1.0	17

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008						MATRIX:	SOIL				
METHOD NUMBER:	SOM01.2						INSTRUMENT ID(s):	M.i				
METHOD DESCRIPTION:	Low Level						COLUMN ID(s):	DB-624				
PREP METHOD:	SOM01.2						ANALYST(s):	Edward L. Coffey				
CLEANUP METHOD(s):	NA						REVIEW:	Mark T. Phillips				
		STATISTICAL	INSTRUMENT	MDLVA analyzed on 01/08/2008			MDLVB analyzed on 01/08/2008			MDLVC analyzed on 01/08/2008		
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	0.11	0.11	0.43	0.25	2	0.70	0.50	5	1.2	1.0	9
Tetrachloroethene	127-18-4	0.082	0.082	0.21	0.25	3	0.39	0.50	6	0.89	1.0	12
2-Hexanone	591-78-6	0.82	0.82	0.59	0.50	1	1.0	1.0	1	2.1	2.0	2
Dibromochloromethane	124-48-1	0.066	0.066	0.19	0.25	4	0.40	0.50	8	0.81	1.0	15
1,2-Dibromoethane	106-93-4	0.050	2.0	NA	0.25	5	NA	0.50	10	0.87	1.0	20
Chlorobenzene	108-90-7	0.036	0.25	0.27	0.25	7	0.47	0.50	14	0.91	1.0	28
Ethylbenzene	100-41-4	0.053	0.25	0.28	0.25	5	0.45	0.50	9	0.92	1.0	19
o-Xylene	95-47-6	0.059	0.059	0.24	0.25	4	0.45	0.50	9	0.96	1.0	17
m,p-Xylene	179601-23-1	0.025	0.25	0.31	0.25	10	0.45	0.50	20	0.94	1.0	40
Styrene	100-42-5	0.072	0.072	0.22	0.25	4	0.43	0.50	7	0.86	1.0	14
Bromoform	75-25-2	0.086	1.0	NA	0.25	3	NA	0.50	6	0.79	1.0	12
Isopropylbenzene	98-82-8	0.032	0.25	0.25	0.25	8	0.43	0.50	16	0.88	1.0	31
1,1,2,2-Tetrachloroethane	79-34-5	0.078	0.50	NA	0.25	3	0.51	0.50	6	0.91	1.0	13
1,3-Dichlorobenzene	541-73-1	0.13	0.13	0.30	0.25	2	0.47	0.50	4	0.92	1.0	8
1,4-Dichlorobenzene	106-46-7	0.14	0.14	0.32	0.25	2	0.52	0.50	4	1.0	1.0	7
1,2-Dichlorobenzene	95-50-1	0.067	0.067	0.30	0.25	4	0.48	0.50	8	0.96	1.0	15
1,2-Dibromo-3-chloropropane	96-12-8	0.77	0.77	0.63	0.25	0	0.94	0.50	1	1.3	1.0	1
1,2,4-Trichlorobenzene	120-82-1	0.28	0.28	0.28	0.25	1	0.44	0.50	2	0.92	1.0	4
1,2,3-Trichlorobenzene	87-61-6	0.26	0.26	0.33	0.25	1	0.47	0.50	2	0.99	1.0	4

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008	MATRIX:	SOIL
METHOD NUMBER:	SOM01.2	INSTRUMENT ID(s):	M.i
METHOD DESCRIPTION:	Low Level	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s)	Edward L. Coffey
CLEANUP METHOD(s):	NA	REVIEW:	Mark T. Phillips

		STATISTICAL	INSTRUMENT	MDLVD analyzed on 01/08/2008								
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	0.093	0.093	2.0	2.0	22						
Chloromethane	74-87-3	0.14	0.14	2.0	2.0	14						
Vinyl chloride	75-01-4	0.11	0.11	1.9	2.0	18						
Bromomethane	74-83-9	0.29	0.29	2.3	2.0	7						
Chloroethane	75-00-3	0.28	0.28	2.2	2.0	7						
Trichlorofluoromethane	75-69-4	0.16	0.16	1.8	2.0	13						
1,1-Dichloroethene	75-35-4	0.099	0.099	1.9	2.0	20						
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.080	0.080	1.8	2.0	25						
Acetone	67-64-1	1.0	1.0	3.9	4.0	4						
Carbon disulfide	75-15-0	0.10	0.10	1.9	2.0	20						
Methyl acetate	79-20-9	0.48	0.48	2.2	2.0	4						
Methylene chloride	75-09-2	0.18	0.18	2.0	2.0	11						
trans-1,2-Dichloroethene	156-60-5	0.083	0.083	1.8	2.0	24						
Methyl tert-butyl ether	1634-04-4	0.11	0.11	1.9	2.0	18						
1,1-Dichloroethane	75-34-3	0.061	0.50	2.0	2.0	33						
cis-1,2-Dichloroethene	156-59-2	0.084	0.084	1.9	2.0	24						
2-Butanone	78-93-3	0.61	0.61	4.0	4.0	7						
Bromochloromethane	74-97-5	0.087	0.087	1.8	2.0	23						
Chloroform	67-66-3	0.17	0.17	2.2	2.0	12						
1,1,1-Trichloroethane	71-55-6	0.084	0.084	2.0	2.0	24						
Cyclohexane	110-82-7	0.039	0.25	2.0	2.0	51						
Carbon tetrachloride	56-23-5	0.067	0.067	1.9	2.0	30						
Benzene	71-43-2	0.11	0.11	1.9	2.0	18						
1,2-Dichloroethane	107-06-2	0.12	0.12	1.9	2.0	17						
1,4-Dioxane	123-91-1	5.9	5.9	50	36	6						
Trichloroethene	79-01-6	0.084	0.084	1.8	2.0	24						
Methylcyclohexane	108-87-2	0.16	0.16	1.9	2.0	13						
1,2-Dichloropropane	78-87-5	0.21	1.0	1.9	2.0	10						
Bromodichloromethane	75-27-4	0.050	1.0	1.8	2.0	40						
cis-1,3-Dichloropropene	10061-01-5	0.063	0.063	1.8	2.0	32						
4-Methyl-2-pentanone	108-10-1	0.18	0.18	3.9	4.0	22						
Toluene	108-88-3	0.035	0.25	1.9	2.0	57						
trans-1,3-Dichloropropene	10061-02-6	0.058	0.058	1.7	2.0	34						

MDL VERIFICATION STUDY SUMMARY

DATE COMPLETED:	01/08/2008						MATRIX:	SOIL					
METHOD NUMBER:	SOM01.2						INSTRUMENT ID(s):	M.i					
METHOD DESCRIPTION:	Low Level						COLUMN ID(s):	DB-624					
PREP METHOD:	SOM01.2						ANALYST(s)	Edward L. Coffey					
CLEANUP METHOD(s):	NA						REVIEW:	Mark T. Phillips					
		STATISTICAL	INSTRUMENT	MDLVD analyzed on 01/08/2008									
		MDL	MDLV	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE		ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	0.11	0.11	2.1	2.0	18						
Tetrachloroethene	127-18-4	0.082	0.082	1.8	2.0	24						
2-Hexanone	591-78-6	0.82	0.82	3.7	4.0	5						
Dibromochloromethane	124-48-1	0.066	0.066	1.7	2.0	30						
1,2-Dibromoethane	106-93-4	0.050	2.0	1.8	2.0	40						
Chlorobenzene	108-90-7	0.036	0.25	1.8	2.0	56						
Ethylbenzene	100-41-4	0.053	0.25	1.8	2.0	38						
o-Xylene	95-47-6	0.059	0.059	1.7	2.0	34						
m,p-Xylene	179601-23-1	0.025	0.25	1.8	2.0	80						
Styrene	100-42-5	0.072	0.072	1.7	2.0	28						
Bromoform	75-25-2	0.086	1.0	1.7	2.0	23						
Isopropylbenzene	98-82-8	0.032	0.25	1.8	2.0	63						
1,1,2,2-Tetrachloroethane	79-34-5	0.078	0.50	1.9	2.0	26						
1,3-Dichlorobenzene	541-73-1	0.13	0.13	1.9	2.0	15						
1,4-Dichlorobenzene	106-46-7	0.14	0.14	1.9	2.0	14						
1,2-Dichlorobenzene	95-50-1	0.067	0.067	1.9	2.0	30						
1,2-Dibromo-3-chloropropane	96-12-8	0.77	0.77	2.5	2.0	3						
1,2,4-Trichlorobenzene	120-82-1	0.28	0.28	1.6	2.0	7						
1,2,3-Trichlorobenzene	87-61-6	0.26	0.26	1.8	2.0	8						

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	0.25 J	5.0	0.25	ug/kg
Chloromethane	74-87-3	0.36 J	5.0	0.25	ug/kg
Vinyl chloride	75-01-4	0.21 J	5.0	0.25	ug/kg
Bromomethane	74-83-9	0.54 J	5.0	0.25	ug/kg
Chloroethane	75-00-3	0.29 J	5.0	0.25	ug/kg
Trichlorofluoromethane	75-69-4	0.24 J	5.0	0.25	ug/kg
1,1-Dichloroethene	75-35-4	0.28 J	5.0	0.25	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.23 J	5.0	0.25	ug/kg
Acetone	67-64-1	2.6 J	10	0.50	ug/kg
Carbon disulfide	75-15-0	0.40 J	5.0	0.25	ug/kg
Methyl acetate	79-20-9	5.0 U	5.0	0.25	ug/kg
Methylene chloride	75-09-2	0.33 J	5.0	0.25	ug/kg
trans-1,2-Dichloroethene	156-60-5	0.27 J	5.0	0.25	ug/kg
Methyl tert-butyl ether	1634-04-4	0.25 J	5.0	0.25	ug/kg
1,1-Dichloroethane	75-34-3	5.0 U	5.0	0.25	ug/kg
cis-1,2-Dichloroethene	156-59-2	0.23 J	5.0	0.25	ug/kg
2-Butanone	78-93-3	0.73 J	10	0.50	ug/kg
Bromochloromethane	74-97-5	0.18 J	5.0	0.25	ug/kg
Chloroform	67-66-3	0.30 J	5.0	0.25	ug/kg
1,1,1-Trichloroethane	71-55-6	0.26 J	5.0	0.25	ug/kg
Cyclohexane	110-82-7	0.31 J	5.0	0.25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 01:34
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVA_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	0.23 J	5.0	0.25	ug/kg
Benzene	71-43-2	0.38 J	5.0	0.25	ug/kg
1,2-Dichloroethane	107-06-2	5.0 U	5.0	0.25	ug/kg
1,4-Dioxane	123-91-1	100 U	100	4.5	ug/kg
Trichloroethene	79-01-6	0.31 J	5.0	0.25	ug/kg
Methylcyclohexane	108-87-2	0.29 J	5.0	0.25	ug/kg
1,2-Dichloropropane	78-87-5	5.0 U	5.0	0.25	ug/kg
Bromodichloromethane	75-27-4	5.0 U	5.0	0.25	ug/kg
cis-1,3-Dichloropropene	10061-01-5	0.23 J	5.0	0.25	ug/kg
4-Methyl-2-pentanone	108-10-1	0.64 J	10	0.50	ug/kg
Toluene	108-88-3	0.33 J	5.0	0.25	ug/kg
trans-1,3-Dichloropropene	10061-02-6	0.23 J	5.0	0.25	ug/kg
1,1,2-Trichloroethane	79-00-5	0.43 J	5.0	0.25	ug/kg
Tetrachloroethene	127-18-4	0.21 J	5.0	0.25	ug/kg
2-Hexanone	591-78-6	0.59 J	10	0.50	ug/kg
Dibromochloromethane	124-48-1	0.19 J	5.0	0.25	ug/kg
1,2-Dibromoethane	106-93-4	5.0 U	5.0	0.25	ug/kg
Chlorobenzene	108-90-7	0.27 J	5.0	0.25	ug/kg
Ethylbenzene	100-41-4	0.28 J	5.0	0.25	ug/kg
o-Xylene	95-47-6	0.24 J	5.0	0.25	ug/kg
m,p-Xylene	179601-23-1	0.31 J	5.0	0.25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 01:34
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVA_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	0.22 J	5.0	0.25	ug/kg
Bromoform	75-25-2	5.0 U	5.0	0.25	ug/kg
Isopropylbenzene	98-82-8	0.25 J	5.0	0.25	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	5.0 U	5.0	0.25	ug/kg
1,3-Dichlorobenzene	541-73-1	0.30 J	5.0	0.25	ug/kg
1,4-Dichlorobenzene	106-46-7	0.32 J	5.0	0.25	ug/kg
1,2-Dichlorobenzene	95-50-1	0.30 J	5.0	0.25	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	0.63 J	5.0	0.25	ug/kg
1,2,4-Trichlorobenzene	120-82-1	0.28 J	5.0	0.25	ug/kg
1,2,3-Trichlorobenzene	87-61-6	0.33 J	5.0	0.25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 01:34
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVA_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	0.39 J	5.0	0.50	ug/kg
Chloromethane	74-87-3	0.55 J	5.0	0.50	ug/kg
Vinyl chloride	75-01-4	0.39 J	5.0	0.50	ug/kg
Bromomethane	74-83-9	0.71 J	5.0	0.50	ug/kg
Chloroethane	75-00-3	0.53 J	5.0	0.50	ug/kg
Trichlorofluoromethane	75-69-4	0.46 J	5.0	0.50	ug/kg
1,1-Dichloroethene	75-35-4	0.49 J	5.0	0.50	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.44 J	5.0	0.50	ug/kg
Acetone	67-64-1	3.1 J	10	1.0	ug/kg
Carbon disulfide	75-15-0	0.59 J	5.0	0.50	ug/kg
Methyl acetate	79-20-9	0.69 J	5.0	0.50	ug/kg
Methylene chloride	75-09-2	0.52 J	5.0	0.50	ug/kg
trans-1,2-Dichloroethene	156-60-5	0.50 J	5.0	0.50	ug/kg
Methyl tert-butyl ether	1634-04-4	0.47 J	5.0	0.50	ug/kg
1,1-Dichloroethane	75-34-3	0.49 J	5.0	0.50	ug/kg
cis-1,2-Dichloroethene	156-59-2	0.44 J	5.0	0.50	ug/kg
2-Butanone	78-93-3	1.1 J	10	1.0	ug/kg
Bromochloromethane	74-97-5	0.43 J	5.0	0.50	ug/kg
Chloroform	67-66-3	0.48 J	5.0	0.50	ug/kg
1,1,1-Trichloroethane	71-55-6	0.46 J	5.0	0.50	ug/kg
Cyclohexane	110-82-7	0.51 J	5.0	0.50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:03
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVB_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	0.43 J	5.0	0.50	ug/kg
Benzene	71-43-2	0.61 J	5.0	0.50	ug/kg
1,2-Dichloroethane	107-06-2	0.43 J	5.0	0.50	ug/kg
1,4-Dioxane	123-91-1	100 U	100	9.0	ug/kg
Trichloroethene	79-01-6	0.49 J	5.0	0.50	ug/kg
Methylcyclohexane	108-87-2	0.46 J	5.0	0.50	ug/kg
1,2-Dichloropropane	78-87-5	5.0 U	5.0	0.50	ug/kg
Bromodichloromethane	75-27-4	5.0 U	5.0	0.50	ug/kg
cis-1,3-Dichloropropene	10061-01-5	0.40 J	5.0	0.50	ug/kg
4-Methyl-2-pentanone	108-10-1	1.1 J	10	1.0	ug/kg
Toluene	108-88-3	0.52 J	5.0	0.50	ug/kg
trans-1,3-Dichloropropene	10061-02-6	0.40 J	5.0	0.50	ug/kg
1,1,2-Trichloroethane	79-00-5	0.70 J	5.0	0.50	ug/kg
Tetrachloroethene	127-18-4	0.39 J	5.0	0.50	ug/kg
2-Hexanone	591-78-6	1.0 J	10	1.0	ug/kg
Dibromochloromethane	124-48-1	0.40 J	5.0	0.50	ug/kg
1,2-Dibromoethane	106-93-4	5.0 U	5.0	0.50	ug/kg
Chlorobenzene	108-90-7	0.47 J	5.0	0.50	ug/kg
Ethylbenzene	100-41-4	0.45 J	5.0	0.50	ug/kg
o-Xylene	95-47-6	0.45 J	5.0	0.50	ug/kg
m,p-Xylene	179601-23-1	0.45 J	5.0	0.50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:03
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVB_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	0.43 J	5.0	0.50	ug/kg
Bromoform	75-25-2	5.0 U	5.0	0.50	ug/kg
Isopropylbenzene	98-82-8	0.43 J	5.0	0.50	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	0.51 J	5.0	0.50	ug/kg
1,3-Dichlorobenzene	541-73-1	0.47 J	5.0	0.50	ug/kg
1,4-Dichlorobenzene	106-46-7	0.52 J	5.0	0.50	ug/kg
1,2-Dichlorobenzene	95-50-1	0.48 J	5.0	0.50	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	0.94 J	5.0	0.50	ug/kg
1,2,4-Trichlorobenzene	120-82-1	0.44 J	5.0	0.50	ug/kg
1,2,3-Trichlorobenzene	87-61-6	0.47 J	5.0	0.50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:03
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVB_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	0.97 J	5.0	1.0	ug/kg
Chloromethane	74-87-3	1.1 J	5.0	1.0	ug/kg
Vinyl chloride	75-01-4	0.90 J	5.0	1.0	ug/kg
Bromomethane	74-83-9	1.2 J	5.0	1.0	ug/kg
Chloroethane	75-00-3	0.84 J	5.0	1.0	ug/kg
Trichlorofluoromethane	75-69-4	0.88 J	5.0	1.0	ug/kg
1,1-Dichloroethene	75-35-4	0.98 J	5.0	1.0	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.97 J	5.0	1.0	ug/kg
Acetone	67-64-1	4.8 J	10	2.0	ug/kg
Carbon disulfide	75-15-0	1.0 J	5.0	1.0	ug/kg
Methyl acetate	79-20-9	1.2 J	5.0	1.0	ug/kg
Methylene chloride	75-09-2	0.94 J	5.0	1.0	ug/kg
trans-1,2-Dichloroethene	156-60-5	0.90 J	5.0	1.0	ug/kg
Methyl tert-butyl ether	1634-04-4	0.94 J	5.0	1.0	ug/kg
1,1-Dichloroethane	75-34-3	0.95 J	5.0	1.0	ug/kg
cis-1,2-Dichloroethene	156-59-2	0.90 J	5.0	1.0	ug/kg
2-Butanone	78-93-3	2.1 J	10	2.0	ug/kg
Bromochloromethane	74-97-5	0.88 J	5.0	1.0	ug/kg
Chloroform	67-66-3	1.1 J	5.0	1.0	ug/kg
1,1,1-Trichloroethane	71-55-6	0.95 J	5.0	1.0	ug/kg
Cyclohexane	110-82-7	1.0 J	5.0	1.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:31
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVC_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	0.89 J	5.0	1.0	ug/kg
Benzene	71-43-2	1.1 J	5.0	1.0	ug/kg
1,2-Dichloroethane	107-06-2	0.96 J	5.0	1.0	ug/kg
1,4-Dioxane	123-91-1	25 J	100	18	ug/kg
Trichloroethene	79-01-6	1.0 J	5.0	1.0	ug/kg
Methylcyclohexane	108-87-2	0.98 J	5.0	1.0	ug/kg
1,2-Dichloropropane	78-87-5	0.56 J	5.0	1.0	ug/kg
Bromodichloromethane	75-27-4	0.88 J	5.0	1.0	ug/kg
cis-1,3-Dichloropropene	10061-01-5	0.86 J	5.0	1.0	ug/kg
4-Methyl-2-pentanone	108-10-1	2.1 J	10	2.0	ug/kg
Toluene	108-88-3	0.97 J	5.0	1.0	ug/kg
trans-1,3-Dichloropropene	10061-02-6	0.84 J	5.0	1.0	ug/kg
1,1,2-Trichloroethane	79-00-5	1.2 J	5.0	1.0	ug/kg
Tetrachloroethene	127-18-4	0.89 J	5.0	1.0	ug/kg
2-Hexanone	591-78-6	2.1 J	10	2.0	ug/kg
Dibromochloromethane	124-48-1	0.81 J	5.0	1.0	ug/kg
1,2-Dibromoethane	106-93-4	0.87 J	5.0	1.0	ug/kg
Chlorobenzene	108-90-7	0.91 J	5.0	1.0	ug/kg
Ethylbenzene	100-41-4	0.92 J	5.0	1.0	ug/kg
o-Xylene	95-47-6	0.96 J	5.0	1.0	ug/kg
m,p-Xylene	179601-23-1	0.94 J	5.0	1.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:31
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVC_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	0.86 J	5.0	1.0	ug/kg
Bromoform	75-25-2	0.79 J	5.0	1.0	ug/kg
Isopropylbenzene	98-82-8	0.88 J	5.0	1.0	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	0.91 J	5.0	1.0	ug/kg
1,3-Dichlorobenzene	541-73-1	0.92 J	5.0	1.0	ug/kg
1,4-Dichlorobenzene	106-46-7	1.0 J	5.0	1.0	ug/kg
1,2-Dichlorobenzene	95-50-1	0.96 J	5.0	1.0	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	1.3 J	5.0	1.0	ug/kg
1,2,4-Trichlorobenzene	120-82-1	0.92 J	5.0	1.0	ug/kg
1,2,3-Trichlorobenzene	87-61-6	0.99 J	5.0	1.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:31
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVC_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Dichlorodifluoromethane	75-71-8	2.0 J	5.0	2.0	ug/kg
Chloromethane	74-87-3	2.0 J	5.0	2.0	ug/kg
Vinyl chloride	75-01-4	1.9 J	5.0	2.0	ug/kg
Bromomethane	74-83-9	2.3 J	5.0	2.0	ug/kg
Chloroethane	75-00-3	2.2 J	5.0	2.0	ug/kg
Trichlorofluoromethane	75-69-4	1.8 J	5.0	2.0	ug/kg
1,1-Dichloroethene	75-35-4	1.9 J	5.0	2.0	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	1.8 J	5.0	2.0	ug/kg
Acetone	67-64-1	3.9 J	10	4.0	ug/kg
Carbon disulfide	75-15-0	1.9 J	5.0	2.0	ug/kg
Methyl acetate	79-20-9	2.2 J	5.0	2.0	ug/kg
Methylene chloride	75-09-2	2.0 J	5.0	2.0	ug/kg
trans-1,2-Dichloroethene	156-60-5	1.8 J	5.0	2.0	ug/kg
Methyl tert-butyl ether	1634-04-4	1.9 J	5.0	2.0	ug/kg
1,1-Dichloroethane	75-34-3	2.0 J	5.0	2.0	ug/kg
cis-1,2-Dichloroethene	156-59-2	1.9 J	5.0	2.0	ug/kg
2-Butanone	78-93-3	4.0 J	10	4.0	ug/kg
Bromochloromethane	74-97-5	1.8 J	5.0	2.0	ug/kg
Chloroform	67-66-3	2.2 J	5.0	2.0	ug/kg
1,1,1-Trichloroethane	71-55-6	2.0 J	5.0	2.0	ug/kg
Cyclohexane	110-82-7	2.0 J	5.0	2.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:59
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVD_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Carbon tetrachloride	56-23-5	1.9 J	5.0	2.0	ug/kg
Benzene	71-43-2	1.9 J	5.0	2.0	ug/kg
1,2-Dichloroethane	107-06-2	1.9 J	5.0	2.0	ug/kg
1,4-Dioxane	123-91-1	50 J	100	36	ug/kg
Trichloroethene	79-01-6	1.8 J	5.0	2.0	ug/kg
Methylcyclohexane	108-87-2	1.9 J	5.0	2.0	ug/kg
1,2-Dichloropropane	78-87-5	1.9 J	5.0	2.0	ug/kg
Bromodichloromethane	75-27-4	1.8 J	5.0	2.0	ug/kg
cis-1,3-Dichloropropene	10061-01-5	1.8 J	5.0	2.0	ug/kg
4-Methyl-2-pentanone	108-10-1	3.9 J	10	4.0	ug/kg
Toluene	108-88-3	1.9 J	5.0	2.0	ug/kg
trans-1,3-Dichloropropene	10061-02-6	1.7 J	5.0	2.0	ug/kg
1,1,2-Trichloroethane	79-00-5	2.1 J	5.0	2.0	ug/kg
Tetrachloroethene	127-18-4	1.8 J	5.0	2.0	ug/kg
2-Hexanone	591-78-6	3.7 J	10	4.0	ug/kg
Dibromochloromethane	124-48-1	1.7 J	5.0	2.0	ug/kg
1,2-Dibromoethane	106-93-4	1.8 J	5.0	2.0	ug/kg
Chlorobenzene	108-90-7	1.8 J	5.0	2.0	ug/kg
Ethylbenzene	100-41-4	1.8 J	5.0	2.0	ug/kg
o-Xylene	95-47-6	1.7 J	5.0	2.0	ug/kg
m,p-Xylene	179601-23-1	1.8 J	5.0	2.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:59
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVD_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Method Detection Limit Verification (MDLV) Study Summary
Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: L
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	True Value	Units
Styrene	100-42-5	1.7 J	5.0	2.0	ug/kg
Bromoform	75-25-2	1.7 J	5.0	2.0	ug/kg
Isopropylbenzene	98-82-8	1.8 J	5.0	2.0	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	1.9 J	5.0	2.0	ug/kg
1,3-Dichlorobenzene	541-73-1	1.9 J	5.0	2.0	ug/kg
1,4-Dichlorobenzene	106-46-7	1.9 J	5.0	2.0	ug/kg
1,2-Dichlorobenzene	95-50-1	1.9 J	5.0	2.0	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	2.5 J	5.0	2.0	ug/kg
1,2,4-Trichlorobenzene	120-82-1	1.6 J	5.0	2.0	ug/kg
1,2,3-Trichlorobenzene	87-61-6	1.8 J	5.0	2.0	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 01/08/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Edward L. Coffey
Analysis Date & Time: 01/08/2008 02:59
Reviewed By: Mark T. Phillips
Review Date: 01/09/2008
Study Name: MDLVD_SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-08-2008_MDLVa

Statistical Method Detection Limit (MDL) Study Summary
Method: SOM01.2

Matrix: SOIL
Analysis Level: L

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Dichlorodifluoromethane	75-71-8	0.9459	1.003	0.9780	1.029	1.016	0.9741	1.016	0.9946	1.0	99	2.954E-2	0.093	5.0	11
Chloromethane	74-87-3	1.066	0.9749	0.9648	1.064	1.022	1.077	1.034	1.029	1.0	103	4.476E-2	0.14	5.0	7
Vinyl chloride	75-01-4	0.8924	0.9204	0.8439	0.9182	0.9172	0.9335	0.9566	0.9117	1.0	91	3.561E-2	0.11	5.0	8
Bromomethane	74-83-9	1.251	0.9836	1.176	1.147	1.188	1.186	1.271	1.172	1.0	117	9.366E-2	0.29	5.0	4
Chloroethane	75-00-3	1.057	1.087	0.8542	1.049	1.032	1.108	1.110	1.042	1.0	104	8.817E-2	0.28	5.0	4
Trichlorofluoromethane	75-69-4	0.8754	0.8419	0.9187	0.9109	0.8833	0.9672	0.9892	0.9124	1.0	91	5.185E-2	0.16	5.0	6
1,1-Dichloroethene	75-35-4	0.9205	0.9569	0.9169	1.000	0.9131	0.9555	0.9609	0.9463	1.0	95	3.143E-2	0.099	5.0	10
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	0.8842	0.9037	0.9314	0.9366	0.9278	0.9506	0.9556	0.9271	1.0	93	2.537E-2	0.080	5.0	12
Acetone	67-64-1	4.430	4.639	3.713	4.114	3.845	4.166	3.893	4.114	2.0	206	3.317E-1	1.0	10	4
Carbon disulfide	75-15-0	1.080	1.088	1.074	1.049	1.012	1.075	1.009	1.055	1.0	106	3.285E-2	0.10	5.0	11
Methyl acetate	79-20-9	1.227	1.446	1.327	1.223	1.291	1.117	0.9680	1.228	1.0	123	1.534E-1	0.48	5.0	3
Methylene chloride	75-09-2	0.9426	1.023	0.9650	1.051	0.9158	1.023	0.8996	0.9743	1.0	97	5.877E-2	0.18	5.0	5
trans-1,2-Dichloroethene	156-60-5	0.8945	0.9827	0.9424	0.9489	0.9535	0.9562	0.9426	0.9458	1.0	95	2.643E-2	0.083	5.0	11
Methyl tert-butyl ether	1634-04-4	0.9208	1.012	0.9235	0.9711	0.9066	0.9503	0.9409	0.9465	1.0	95	3.588E-2	0.11	5.0	9
1,1-Dichloroethane	75-34-3	0.9215	0.9389	0.9244	0.9062	0.9023	0.9437	0.9540	0.9273	1.0	93	1.927E-2	0.061	5.0	15
cis-1,2-Dichloroethene	156-59-2	0.8847	0.9191	0.9065	0.8851	0.8625	0.9328	0.9321	0.9033	1.0	90	2.678E-2	0.084	5.0	11
2-Butanone	78-93-3	2.645	2.857	2.447	2.591	2.367	2.392	2.307	2.515	2.0	126	1.935E-1	0.61	10	4
Bromochloromethane	74-97-5	0.8409	0.8420	0.8991	0.8781	0.8269	0.8806	0.8873	0.8650	1.0	87	2.780E-2	0.087	5.0	10
Chloroform	67-66-3	0.9635	0.9119	0.9546	0.9543	1.009	1.037	1.066	0.9852	1.0	99	5.403E-2	0.17	5.0	6
1,1,1-Trichloroethane	71-55-6	0.9106	0.9131	0.9111	0.9570	0.9637	0.9481	0.9705	0.9392	1.0	94	2.666E-2	0.084	5.0	11
Cyclohexane	110-82-7	1.021	0.9827	1.010	1.009	1.004	1.018	1.009	1.008	1.0	101	1.246E-2	0.039	5.0	26

*X = Mean Value/MDL
X factor criteria:
DoD 1≤X≤5 for water
DoD 1≤X≤10 for soil
STL 1≤X≤10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 01/07/2008

Comments: _____

Analyzed By: Edward L. Coffey
Reviewed By: Mark T. Phillips

Analysis Date: 01/07/2008
Review Date: 01/09/2008

Study Name: SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-07-2008_MDLa
Study ID: 9T0S8I4K_MDL

Statistical Method Detection Limit (MDL) Study Summary
Method: SOM01.2

Matrix: SOIL
Analysis Level: L

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Carbon tetrachloride	56-23-5	0.9013	0.8865	0.9224	0.9319	0.9375	0.8837	0.9027	0.9094	1.0	91	2.145E-2	0.067	5.0	14
Benzene	71-43-2	1.018	0.9457	1.021	1.001	1.061	1.005	1.026	1.011	1.0	101	3.482E-2	0.11	5.0	9
1,2-Dichloroethane	107-06-2	0.9321	0.9411	0.9228	0.8589	0.8532	0.9254	0.8760	0.9014	1.0	90	3.725E-2	0.12	5.0	8
1,4-Dioxane	123-91-1	24.90	27.26	28.08	26.32	28.75	25.72	23.36	26.34	18	146	1.872E+0	5.9	100	4
Trichloroethene	79-01-6	0.9859	0.9408	0.9888	0.9664	1.004	0.9400	1.001	0.9753	1.0	98	2.675E-2	0.084	5.0	12
Methylcyclohexane	108-87-2	1.005	0.9268	0.9384	1.083	1.002	1.022	1.001	0.9969	1.0	100	5.242E-2	0.16	5.0	6
1,2-Dichloropropane	78-87-5	0.9379	0.7782	0.7700	0.7460	0.8392	0.7454	0.7959	0.8018	1.0	80	6.809E-2	0.21	5.0	4
Bromodichloromethane	75-27-4	0.8826	0.8923	0.8944	0.9082	0.8629	0.8897	0.8672	0.8853	1.0	89	1.588E-2	0.050	5.0	18
cis-1,3-Dichloropropene	10061-01-5	0.8856	0.8970	0.8447	0.8784	0.8809	0.8848	0.8478	0.8742	1.0	87	1.997E-2	0.063	5.0	14
4-Methyl-2-pentanone	108-10-1	2.001	2.110	1.990	2.138	2.048	2.101	2.089	2.068	2.0	103	5.652E-2	0.18	10	11
Toluene	108-88-3	0.9603	0.9519	0.9688	0.9523	0.9655	0.9548	0.9826	0.9623	1.0	96	1.105E-2	0.035	5.0	27
trans-1,3-Dichloropropene	10061-02-6	0.8383	0.8895	0.8522	0.8591	0.8550	0.8414	0.8775	0.8590	1.0	86	1.859E-2	0.058	5.0	15
1,1,2-Trichloroethane	79-00-5	1.203	1.272	1.230	1.214	1.157	1.206	1.235	1.217	1.0	122	3.522E-2	0.11	5.0	11
Tetrachloroethene	127-18-4	0.8799	0.8683	0.9035	0.9186	0.9235	0.8699	0.8579	0.8888	1.0	89	2.620E-2	0.082	5.0	11
2-Hexanone	591-78-6	2.731	2.518	2.316	2.462	2.365	1.901	2.202	2.356	2.0	118	2.616E-1	0.82	10	3
Dibromochloromethane	124-48-1	0.8168	0.8408	0.8271	0.8540	0.8167	0.7889	0.8143	0.8227	1.0	82	2.086E-2	0.066	5.0	12
1,2-Dibromoethane	106-93-4	0.9121	0.9026	0.8998	0.8700	0.9094	0.8771	0.8997	0.8958	1.0	90	1.604E-2	0.050	5.0	18
Chlorobenzene	108-90-7	0.9280	0.9431	0.9479	0.9194	0.9308	0.9366	0.9170	0.9318	1.0	93	1.153E-2	0.036	5.0	26
Ethylbenzene	100-41-4	0.9193	0.9249	0.9609	0.9334	0.9418	0.9121	0.9195	0.9303	1.0	93	1.671E-2	0.053	5.0	18
o-Xylene	95-47-6	0.9134	0.9237	0.9167	0.9032	0.9496	0.9148	0.8881	0.9156	1.0	92	1.888E-2	0.059	5.0	16
m,p-Xylene	179601-23-	0.9557	0.9638	0.9546	0.9487	0.9649	0.9520	0.9430	0.9547	1.0	95	7.832E-3	0.025	5.0	38

*X = Mean Value/MDL
X factor criteria:
DoD 1≤X≤5 for water
DoD 1≤X≤10 for soil
STL 1≤X≤10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 01/07/2008

Comments: _____

Analyzed By: Edward L. Coffey
Reviewed By: Mark T. Phillips

Analysis Date: 01/07/2008
Review Date: 01/09/2008

Study Name: SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-07-2008_MDLa
Study ID: 9T0S8I4K_MDL

Statistical Method Detection Limit (MDL) Study Summary
Method: SOM01.2

Matrix: SOIL
Analysis Level: L

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Styrene	100-42-5	0.8737	0.9130	0.8942	0.8732	0.8445	0.8600	0.8610	0.8742	1.0	87	2.297E-2	0.072	5.0	12
Bromoform	75-25-2	0.7991	0.8204	0.7978	0.8184	0.7778	0.7550	0.8349	0.8005	1.0	80	2.737E-2	0.086	5.0	9
Isopropylbenzene	98-82-8	0.8943	0.8961	0.9023	0.8820	0.9006	0.8919	0.8745	0.8917	1.0	89	1.006E-2	0.032	5.0	28
1,1,2,2-Tetrachloroethane	79-34-5	0.9517	1.001	0.9602	0.9310	0.9328	0.9556	0.9310	0.9519	1.0	95	2.494E-2	0.078	5.0	12
1,3-Dichlorobenzene	541-73-1	0.9928	0.9794	1.010	0.9607	0.9297	0.8934	0.9766	0.9632	1.0	96	3.981E-2	0.13	5.0	7
1,4-Dichlorobenzene	106-46-7	1.095	1.065	1.024	1.012	1.032	0.9832	0.9688	1.026	1.0	103	4.401E-2	0.14	5.0	7
1,2-Dichlorobenzene	95-50-1	1.026	1.013	0.9975	0.9929	0.9872	0.9581	0.9929	0.9954	1.0	100	2.130E-2	0.067	5.0	15
1,2-Dibromo-3-chloropropane	96-12-8	1.452	1.346	0.8886	1.296	1.485	0.9426	1.430	1.263	1.0	126	2.462E-1	0.77	5.0	2
1,2,4-Trichlorobenzene	120-82-1	1.170	1.066	1.048	1.000	0.9344	0.9454	0.9314	1.014	1.0	101	8.780E-2	0.28	5.0	4
1,2,3-Trichlorobenzene	87-61-6	1.220	1.119	1.159	1.045	1.056	0.9967	1.002	1.085	1.0	109	8.365E-2	0.26	5.0	4

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 01/07/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1≤X≤5 for water
DoD 1≤X≤10 for soil
STL 1≤X≤10 for all

Comments: _____

Analyzed By: Edward L. Coffey
Reviewed By: Mark T. Phillips

Analysis Date: 01/07/2008
Review Date: 01/09/2008

Study Name: SOM01.2_SOM01.2_L_SOIL_M.i_DB-624_01-07-2008_MDLa
Study ID: 9T0S8I4K_MDL

Verified MDL Report

EFFECTIVE DATE:	**6/26/2008**				**MATRIX:**	**SOIL**			
TEST METHOD:	**SOM01.2**	**PREP METHOD: SOM01.2**			**DEPARTMENT REVIEW:**	**Mark T. Phillips**			
CLEANUP METHOD(s):	**NA**				**QA APPROVAL:**	**Kirstin L. McCracken**			
STUDY ID:	**EI0ZI9Z5_ApprovedMdlvs**				**DATE APPROVED:**	**6/26/2008**			
ANALYTE	**CAS #**	**MDLV SOURCE**	**SOURCE STUDY**	**SOURCE INSTRUMENT**	**SOURCE ANALYSIS DATE**	**vMDL ug/kg**	**QL ug/kg**	**QL/vMDL Ratio**	**RL ug/kg**
Dichlorodifluoromethane	75-71-8	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.8	250	26	250
Chloromethane	74-87-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	7.0	250	36	250
Vinyl chloride	75-01-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.6	250	38	250
Bromomethane	74-83-9	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	39	250	6	250
Chloroethane	75-00-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	17	250	15	250
Trichlorofluoromethane	75-69-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.6	250	29	250
1,1-Dichloroethene	75-35-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	13	250	19	250
Acetone	67-64-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	83	500	6	500
Carbon disulfide	75-15-0	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.0	250	28	250
Methyl acetate	79-20-9	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	16	250	16	250
Methylene chloride	75-09-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	14	250	18	250
trans-1,2-Dichloroethene	156-60-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.1	250	41	250
Methyl tert-butyl ether	1634-04-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.0	250	31	250
1,1-Dichloroethane	75-34-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.1	250	31	250
cis-1,2-Dichloroethene	156-59-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.0	250	42	250
2-Butanone	78-93-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	73	500	7	500
Bromochloromethane	74-97-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	3.3	250	76	250
Chloroform	67-66-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.5	250	29	250
1,1,1-Trichloroethane	71-55-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.9	250	28	250
Cyclohexane	110-82-7	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	15	250	17	250
Carbon tetrachloride	56-23-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	12	250	21	250
Benzene	71-43-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	13	250	19	250
1,2-Dichloroethane	107-06-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
1,4-Dioxane	123-91-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	490	5000	10	5000
Trichloroethene	79-01-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
Methylcyclohexane	108-87-2	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	15	250	17	250
1,2-Dichloropropane	78-87-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	22	250	11	250
Bromodichloromethane	75-27-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.5	250	38	250
cis-1,3-Dichloropropene	10061-01-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	7.8	250	32	250
4-Methyl-2-pentanone	108-10-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	20	500	25	500
Toluene	108-88-3	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.5	250	29	250
trans-1,3-Dichloropropene	10061-02-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	12	250	21	250
1,1,2-Trichloroethane	79-00-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.0	250	31	250
Tetrachloroethene	127-18-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.1	250	31	250

Verified MDL Report

EFFECTIVE DATE:	**6/26/2008**	**MATRIX:**	**SOIL**
TEST METHOD:	**SOM01.2** **PREP METHOD: SOM01.2**	**DEPARTMENT REVIEW:**	**Mark T. Phillips**
CLEANUP METHOD(s):	**NA**	**QA APPROVAL:**	**Kirstin L. McCracken**
STUDY ID:	**EI0ZI9Z5_ApprovedMdlvs**	**DATE APPROVED:**	**6/26/2008**

ANALYTE	CAS #	MDLV SOURCE	SOURCE STUDY	SOURCE INSTRUMENT	SOURCE ANALYSIS DATE	vMDL ug/kg	QL ug/kg	QL/vMDL Ratio	RL ug/kg
2-Hexanone	591-78-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	40	500	13	500
Dibromochloromethane	124-48-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	5.8	250	43	250
1,2-Dibromoethane	106-93-4	MDLV Standard	EH0XWSZR_MDLV	M.i	6/24/2008	25	250	10	250
Chlorobenzene	108-90-7	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.9	250	28	250
Ethylbenzene	100-41-4	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	6.6	250	38	250
o-Xylene	95-47-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.1	250	31	250
m,p-Xylene	179601-23-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.1	250	27	250
Styrene	100-42-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	8.0	250	31	250
Bromoform	75-25-2	MDLV Standard	EH0XWSZR_MDLV	M.i	6/24/2008	25	250	10	250
Isopropylbenzene	98-82-8	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	7.7	250	32	250
1,1,2,2-Tetrachloroethane	79-34-5	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.0	250	28	250
1,3-Dichlorobenzene	541-73-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.7	250	26	250
1,4-Dichlorobenzene	106-46-7	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	9.4	250	27	250
1,2-Dichlorobenzene	95-50-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	10	250	25	250
1,2-Dibromo-3-chloropropane	96-12-8	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	34	250	7	250
1,2,4-Trichlorobenzene	120-82-1	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	11	250	23	250
1,2,3-Trichlorobenzene	87-61-6	Statistical MDL	EH0XVX46_MDL	M.i	6/24/2008	12	250	21	250

MDL VERIFICATION STANDARD SUMMARY

DATE COMPLETED:	6/24/2008	**INSTRUMENT ID(s):**	M.i
TEST METHOD:	SOM01.2	**COLUMN ID(s):**	DB-624
PREP METHOD:	SOM01.2	**ANALYST(s):**	Michael R. Veilleux
CLEANUP METHOD(s):	NA	**DEPARTMENT REVIEW:**	Mark T. Phillips
MATRIX:	SOIL	**DATE REVIEWED:**	6/25/2008

		CALCULATED	VERIFIED	MDLVA			MDLVB			MDLVC		
		MDL	MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	9.8	9.8	108.6	100	10	18.11	13	1	29.53	25	3
Chloromethane	74-87-3	7.0	7.0	107.5	100	14	19.42	13	2	29.67	25	4
Vinyl chloride	75-01-4	6.6	6.6	103.4	100	15	NA	13	2	26.02	25	4
Bromomethane	74-83-9	39	39	133.4	100	3	24.87	13	NA	28.48	25	NA
Chloroethane	75-00-3	17	17	124.4	100	6	NA	13	NA	NA	25	2
Trichlorofluoromethane	75-69-4	8.6	8.6	101.4	100	12	17.34	13	2	27.34	25	3
1,1-Dichloroethene	75-35-4	11	11	107.4	100	9	24.43	13	1	34.69	25	2
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	13	13	99.38	100	8	17.92	13	1	27.19	25	2
Acetone	67-64-1	83	83	181.5	200	2	NA	25	NA	91.37	50	NA
Carbon disulfide	75-15-0	9.0	9.0	95.42	100	11	NA	13	1	23.99	25	3
Methyl acetate	79-20-9	16	16	128.7	100	6	NA	13	NA	61.13	25	2
Methylene chloride	75-09-2	14	14	100.8	100	7	21.78	13	NA	28.96	25	2
trans-1,2-Dichloroethene	156-60-5	6.1	6.1	102.9	100	16	22.69	13	2	32.82	25	4
Methyl tert-butyl ether	1634-04-4	8.0	8.0	100.3	100	13	22.76	13	2	30.02	25	3
1,1-Dichloroethane	75-34-3	8.1	8.1	105.6	100	12	18.45	13	2	28.96	25	3
cis-1,2-Dichloroethene	156-59-2	6.0	6.0	105.3	100	17	19.39	13	2	32.88	25	4
2-Butanone	78-93-3	73	73	273.3	200	3	132.7	25	NA	139.3	50	NA
Bromochloromethane	74-97-5	3.3	3.3	96.14	100	30	14.12	13	4	24.84	25	8
Chloroform	67-66-3	8.5	8.5	106.5	100	12	20.74	13	2	29.39	25	3
1,1,1-Trichloroethane	71-55-6	8.9	8.9	98.31	100	11	17.43	13	2	28.52	25	3
Cyclohexane	110-82-7	15	15	102.5	100	7	22.12	13	NA	30.71	25	2
Carbon tetrachloride	56-23-5	12	12	95.62	100	8	16.17	13	1	24.61	25	2
Benzene	71-43-2	13	13	97.79	100	8	19.66	13	1	26.87	25	2
1,2-Dichloroethane	107-06-2	11	11	103.2	100	9	17.85	13	1	28.61	25	2
1,4-Dioxane	123-91-1	490	490	2053	1800	4	NA	230	NA	NA	450	NA
Trichloroethene	79-01-6	11	11	102.1	100	9	19.00	13	1	30.97	25	2
Methylcyclohexane	108-87-2	15	15	105.4	100	7	19.96	13	NA	32.01	25	2
1,2-Dichloropropane	78-87-5	22	22	108.7	100	5	14.34	13	NA	26.62	25	1
Bromodichloromethane	75-27-4	6.5	6.5	96.42	100	15	18.21	13	2	26.87	25	4
cis-1,3-Dichloropropene	10061-01-5	7.8	7.8	98.51	100	13	19.18	13	2	27.77	25	3
4-Methyl-2-pentanone	108-10-1	20	20	200.7	200	10	39.09	25	1	71.17	50	3
Toluene	108-88-3	8.5	8.5	101.3	100	12	23.46	13	2	34.01	25	3
trans-1,3-Dichloropropene	10061-02-6	12	12	101.6	100	8	19.08	13	1	29.30	25	2

MDL VERIFICATION STANDARD SUMMARY

DATE COMPLETED:	6/24/2008	INSTRUMENT ID(s):	M.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s):	Michael R. Veilleux
CLEANUP METHOD(s):	NA	DEPARTMENT REVIEW:	Mark T. Phillips
MATRIX:	SOIL	DATE REVIEWED:	6/25/2008

				MDLVA			MDLVB			MDLVC		
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	8.0	8.0	100.4	100	13	17.80	13	2	27.57	25	3
Tetrachloroethene	127-18-4	8.1	8.1	96.33	100	12	15.53	13	2	24.60	25	3
2-Hexanone	591-78-6	40	40	228.4	200	5	50.98	25	NA	59.87	50	1
Dibromochloromethane	124-48-1	5.8	5.8	94.37	100	17	15.43	13	2	24.83	25	4
1,2-Dibromoethane	106-93-4	5.5	25	94.60	100	18	NA	13	2	23.93	25	5
Chlorobenzene	108-90-7	8.9	8.9	98.48	100	11	17.63	13	2	25.77	25	3
Ethylbenzene	100-41-4	6.6	6.6	99.70	100	15	19.24	13	2	28.52	25	4
o-Xylene	95-47-6	8.1	8.1	102.6	100	12	18.32	13	2	28.58	25	3
m,p-Xylene	179601-23-1	9.1	9.1	101.3	100	11	21.32	13	1	30.37	25	3
Styrene	100-42-5	8.0	8.0	95.82	100	13	16.81	13	2	26.41	25	3
Bromoform	75-25-2	5.2	25	91.22	100	19	NA	13	3	24.20	25	5
Isopropylbenzene	98-82-8	7.7	7.7	99.14	100	13	18.21	13	2	27.69	25	3
1,1,2,2-Tetrachloroethane	79-34-5	9.0	9.0	99.40	100	11	18.71	13	1	27.86	25	3
1,3-Dichlorobenzene	541-73-1	9.7	9.7	91.92	100	10	17.53	13	1	27.80	25	3
1,4-Dichlorobenzene	106-46-7	9.4	9.4	98.45	100	11	18.94	13	1	27.63	25	3
1,2-Dichlorobenzene	95-50-1	10	10	97.38	100	10	17.01	13	1	27.46	25	3
1,2-Dibromo-3-chloropropane	96-12-8	34	34	108.9	100	3	16.29	13	NA	31.34	25	NA
1,2,4-Trichlorobenzene	120-82-1	11	11	87.44	100	9	14.19	13	1	26.80	25	2
1,2,3-Trichlorobenzene	87-61-6	12	12	95.94	100	8	18.71	13	1	28.39	25	2

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MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	6/24/2008	INSTRUMENT ID(s):	M.i
TEST METHOD:	SOM01.2	COLUMN ID(s):	DB-624
PREP METHOD:	SOM01.2	ANALYST(s)	Michael R. Veilleux
CLEANUP METHOD(s):	NA	DEPARTMENT REVIEW:	Mark T. Phillips
MATRIX:	SOIL	REVIEW DATE:	6/25/2008

		CALCULATED	VERIFIED	MDLVD								
		MDL	MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
Dichlorodifluoromethane	75-71-8	9.8	9.8	51.30	50	5						
Chloromethane	74-87-3	7.0	7.0	50.09	50	7						
Vinyl chloride	75-01-4	6.6	6.6	50.78	50	8						
Bromomethane	74-83-9	39	39	62.90	50	1						
Chloroethane	75-00-3	17	17	66.90	50	3						
Trichlorofluoromethane	75-69-4	8.6	8.6	46.34	50	6						
1,1-Dichloroethene	75-35-4	11	11	58.44	50	5						
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	13	13	50.78	50	4						
Acetone	67-64-1	83	83	132.4	100	1						
Carbon disulfide	75-15-0	9.0	9.0	51.11	50	6						
Methyl acetate	79-20-9	16	16	79.51	50	3						
Methylene chloride	75-09-2	14	14	52.66	50	4						
trans-1,2-Dichloroethene	156-60-5	6.1	6.1	53.83	50	8						
Methyl tert-butyl ether	1634-04-4	8.0	8.0	49.79	50	6						
1,1-Dichloroethane	75-34-3	8.1	8.1	51.23	50	6						
cis-1,2-Dichloroethene	156-59-2	6.0	6.0	49.44	50	8						
2-Butanone	78-93-3	73	73	159.2	100	1						
Bromochloromethane	74-97-5	3.3	3.3	46.90	50	15						
Chloroform	67-66-3	8.5	8.5	51.35	50	6						
1,1,1-Trichloroethane	71-55-6	8.9	8.9	51.30	50	6						
Cyclohexane	110-82-7	15	15	52.02	50	3						
Carbon tetrachloride	56-23-5	12	12	46.63	50	4						
Benzene	71-43-2	13	13	50.31	50	4						
1,2-Dichloroethane	107-06-2	11	11	52.23	50	5						
1,4-Dioxane	123-91-1	490	490	1534	900	2						
Trichloroethene	79-01-6	11	11	51.03	50	5						
Methylcyclohexane	108-87-2	15	15	47.78	50	3						
1,2-Dichloropropane	78-87-5	22	22	42.83	50	2						
Bromodichloromethane	75-27-4	6.5	6.5	46.06	50	8						
cis-1,3-Dichloropropene	10061-01-5	7.8	7.8	48.67	50	6						
4-Methyl-2-pentanone	108-10-1	20	20	111.8	100	5						
Toluene	108-88-3	8.5	8.5	54.92	50	6						
trans-1,3-Dichloropropene	10061-02-6	12	12	49.06	50	4						

MDL VERIFICATION STANDARD STUDY

DATE COMPLETED:	6/24/2008	**INSTRUMENT ID(s):**	M.i
TEST METHOD:	SOM01.2	**COLUMN ID(s):**	DB-624
PREP METHOD:	SOM01.2	**ANALYST(s)**	Michael R. Veilleux
CLEANUP METHOD(s):	NA	**DEPARTMENT REVIEW:**	Mark T. Phillips
MATRIX:	SOIL	**REVIEW DATE:**	6/25/2008

				MDLVD								
		CALCULATED MDL	VERIFIED MDL (vMDL)	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL	RESULT	SPIKE CONC	SPIKE/MDL
ANALYTE	CAS #	ug/kg	ug/kg	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio	ug/kg	ug/kg	Ratio
1,1,2-Trichloroethane	79-00-5	8.0	8.0	49.83	50	6						
Tetrachloroethene	127-18-4	8.1	8.1	50.12	50	6						
2-Hexanone	591-78-6	40	40	87.97	100	3						
Dibromochloromethane	124-48-1	5.8	5.8	44.60	50	9						
1,2-Dibromoethane	106-93-4	5.5	25	45.09	50	9						
Chlorobenzene	108-90-7	8.9	8.9	49.31	50	6						
Ethylbenzene	100-41-4	6.6	6.6	50.66	50	8						
o-Xylene	95-47-6	8.1	8.1	49.86	50	6						
m,p-Xylene	179601-23-1	9.1	9.1	52.02	50	6						
Styrene	100-42-5	8.0	8.0	47.23	50	6						
Bromoform	75-25-2	5.2	25	44.69	50	10						
Isopropylbenzene	98-82-8	7.7	7.7	47.83	50	7						
1,1,2,2-Tetrachloroethane	79-34-5	9.0	9.0	50.14	50	6						
1,3-Dichlorobenzene	541-73-1	9.7	9.7	48.02	50	5						
1,4-Dichlorobenzene	106-46-7	9.4	9.4	51.23	50	5						
1,2-Dichlorobenzene	95-50-1	10	10	50.14	50	5						
1,2-Dibromo-3-chloropropane	96-12-8	34	34	51.44	50	2						
1,2,4-Trichlorobenzene	120-82-1	11	11	48.77	50	5						
1,2,3-Trichlorobenzene	87-61-6	12	12	44.86	50	4						

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	108.6 J	250	100	ug/kg
Chloromethane	74-87-3	107.5 J	250	100	ug/kg
Vinyl chloride	75-01-4	103.4 J	250	100	ug/kg
Bromomethane	74-83-9	133.4 J	250	100	ug/kg
Chloroethane	75-00-3	124.4 J	250	100	ug/kg
Trichlorofluoromethane	75-69-4	101.4 J	250	100	ug/kg
1,1-Dichloroethene	75-35-4	107.4 J	250	100	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	99.38 J	250	100	ug/kg
Acetone	67-64-1	181.5 J	500	200	ug/kg
Carbon disulfide	75-15-0	95.42 J	250	100	ug/kg
Methyl acetate	79-20-9	128.7 J	250	100	ug/kg
Methylene chloride	75-09-2	100.8 J	250	100	ug/kg
trans-1,2-Dichloroethene	156-60-5	102.9 J	250	100	ug/kg
Methyl tert-butyl ether	1634-04-4	100.3 J	250	100	ug/kg
1,1-Dichloroethane	75-34-3	105.6 J	250	100	ug/kg
cis-1,2-Dichloroethene	156-59-2	105.3 J	250	100	ug/kg
2-Butanone	78-93-3	273.3 J	500	200	ug/kg
Bromochloromethane	74-97-5	96.14 J	250	100	ug/kg
Chloroform	67-66-3	106.5 J	250	100	ug/kg
1,1,1-Trichloroethane	71-55-6	98.31 J	250	100	ug/kg
Cyclohexane	110-82-7	102.5 J	250	100	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 20:26
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVA_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	95.62 J	250	100	ug/kg
Benzene	71-43-2	97.79 J	250	100	ug/kg
1,2-Dichloroethane	107-06-2	103.2 J	250	100	ug/kg
1,4-Dioxane	123-91-1	2053 J	5000	1800	ug/kg
Trichloroethene	79-01-6	102.1 J	250	100	ug/kg
Methylcyclohexane	108-87-2	105.4 J	250	100	ug/kg
1,2-Dichloropropane	78-87-5	108.7 J	250	100	ug/kg
Bromodichloromethane	75-27-4	96.42 J	250	100	ug/kg
cis-1,3-Dichloropropene	10061-01-5	98.51 J	250	100	ug/kg
4-Methyl-2-pentanone	108-10-1	200.7 J	500	200	ug/kg
Toluene	108-88-3	101.3 J	250	100	ug/kg
trans-1,3-Dichloropropene	10061-02-6	101.6 J	250	100	ug/kg
1,1,2-Trichloroethane	79-00-5	100.4 J	250	100	ug/kg
Tetrachloroethene	127-18-4	96.33 J	250	100	ug/kg
2-Hexanone	591-78-6	228.4 J	500	200	ug/kg
Dibromochloromethane	124-48-1	94.37 J	250	100	ug/kg
1,2-Dibromoethane	106-93-4	94.60 J	250	100	ug/kg
Chlorobenzene	108-90-7	98.48 J	250	100	ug/kg
Ethylbenzene	100-41-4	99.70 J	250	100	ug/kg
o-Xylene	95-47-6	102.6 J	250	100	ug/kg
m,p-Xylene	179601-23-1	101.3 J	250	100	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 20:26
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVA_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVA
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	95.82 J	250	100	ug/kg
Bromoform	75-25-2	91.22 J	250	100	ug/kg
Isopropylbenzene	98-82-8	99.14 J	250	100	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	99.40 J	250	100	ug/kg
1,3-Dichlorobenzene	541-73-1	91.92 J	250	100	ug/kg
1,4-Dichlorobenzene	106-46-7	98.45 J	250	100	ug/kg
1,2-Dichlorobenzene	95-50-1	97.38 J	250	100	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	108.9 J	250	100	ug/kg
1,2,4-Trichlorobenzene	120-82-1	87.44 J	250	100	ug/kg
1,2,3-Trichlorobenzene	87-61-6	95.94 J	250	100	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 20:26
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVA_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	18.11 J	250	13	ug/kg
Chloromethane	74-87-3	19.42 J	250	13	ug/kg
Vinyl chloride	75-01-4	250.0 U	250	13	ug/kg
Bromomethane	74-83-9	24.87 J	250	13	ug/kg
Chloroethane	75-00-3	250.0 U	250	13	ug/kg
Trichlorofluoromethane	75-69-4	17.34 J	250	13	ug/kg
1,1-Dichloroethene	75-35-4	24.43 J	250	13	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	17.92 J	250	13	ug/kg
Acetone	67-64-1	500.0 U	500	25	ug/kg
Carbon disulfide	75-15-0	250.0 U	250	13	ug/kg
Methyl acetate	79-20-9	250.0 U	250	13	ug/kg
Methylene chloride	75-09-2	21.78 J	250	13	ug/kg
trans-1,2-Dichloroethene	156-60-5	22.69 J	250	13	ug/kg
Methyl tert-butyl ether	1634-04-4	22.76 J	250	13	ug/kg
1,1-Dichloroethane	75-34-3	18.45 J	250	13	ug/kg
cis-1,2-Dichloroethene	156-59-2	19.39 J	250	13	ug/kg
2-Butanone	78-93-3	132.7 J	500	25	ug/kg
Bromochloromethane	74-97-5	14.12 J	250	13	ug/kg
Chloroform	67-66-3	20.74 J	250	13	ug/kg
1,1,1-Trichloroethane	71-55-6	17.43 J	250	13	ug/kg
Cyclohexane	110-82-7	22.12 J	250	13	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:03
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVB_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	16.17 J	250	13	ug/kg
Benzene	71-43-2	19.66 J	250	13	ug/kg
1,2-Dichloroethane	107-06-2	17.85 J	250	13	ug/kg
1,4-Dioxane	123-91-1	5000 U	5000	230	ug/kg
Trichloroethene	79-01-6	19.00 J	250	13	ug/kg
Methylcyclohexane	108-87-2	19.96 J	250	13	ug/kg
1,2-Dichloropropane	78-87-5	14.34 J	250	13	ug/kg
Bromodichloromethane	75-27-4	18.21 J	250	13	ug/kg
cis-1,3-Dichloropropene	10061-01-5	19.18 J	250	13	ug/kg
4-Methyl-2-pentanone	108-10-1	39.09 J	500	25	ug/kg
Toluene	108-88-3	23.46 J	250	13	ug/kg
trans-1,3-Dichloropropene	10061-02-6	19.08 J	250	13	ug/kg
1,1,2-Trichloroethane	79-00-5	17.80 J	250	13	ug/kg
Tetrachloroethene	127-18-4	15.53 J	250	13	ug/kg
2-Hexanone	591-78-6	50.98 J	500	25	ug/kg
Dibromochloromethane	124-48-1	15.43 J	250	13	ug/kg
1,2-Dibromoethane	106-93-4	250.0 U	250	13	ug/kg
Chlorobenzene	108-90-7	17.63 J	250	13	ug/kg
Ethylbenzene	100-41-4	19.24 J	250	13	ug/kg
o-Xylene	95-47-6	18.32 J	250	13	ug/kg
m,p-Xylene	179601-23-1	21.32 J	250	13	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:03
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVB_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVB
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	16.81 J	250	13	ug/kg
Bromoform	75-25-2	250.0 U	250	13	ug/kg
Isopropylbenzene	98-82-8	18.21 J	250	13	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	18.71 J	250	13	ug/kg
1,3-Dichlorobenzene	541-73-1	17.53 J	250	13	ug/kg
1,4-Dichlorobenzene	106-46-7	18.94 J	250	13	ug/kg
1,2-Dichlorobenzene	95-50-1	17.01 J	250	13	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	16.29 J	250	13	ug/kg
1,2,4-Trichlorobenzene	120-82-1	14.19 J	250	13	ug/kg
1,2,3-Trichlorobenzene	87-61-6	18.71 J	250	13	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:03
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVB_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	29.53 J	250	25	ug/kg
Chloromethane	74-87-3	29.67 J	250	25	ug/kg
Vinyl chloride	75-01-4	26.02 J	250	25	ug/kg
Bromomethane	74-83-9	28.48 J	250	25	ug/kg
Chloroethane	75-00-3	250.0 U	250	25	ug/kg
Trichlorofluoromethane	75-69-4	27.34 J	250	25	ug/kg
1,1-Dichloroethene	75-35-4	34.69 J	250	25	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	27.19 J	250	25	ug/kg
Acetone	67-64-1	91.37 J	500	50	ug/kg
Carbon disulfide	75-15-0	23.99 J	250	25	ug/kg
Methyl acetate	79-20-9	61.13 J	250	25	ug/kg
Methylene chloride	75-09-2	28.96 J	250	25	ug/kg
trans-1,2-Dichloroethene	156-60-5	32.82 J	250	25	ug/kg
Methyl tert-butyl ether	1634-04-4	30.02 J	250	25	ug/kg
1,1-Dichloroethane	75-34-3	28.96 J	250	25	ug/kg
cis-1,2-Dichloroethene	156-59-2	32.88 J	250	25	ug/kg
2-Butanone	78-93-3	139.3 J	500	50	ug/kg
Bromochloromethane	74-97-5	24.84 J	250	25	ug/kg
Chloroform	67-66-3	29.39 J	250	25	ug/kg
1,1,1-Trichloroethane	71-55-6	28.52 J	250	25	ug/kg
Cyclohexane	110-82-7	30.71 J	250	25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:31
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVC_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	24.61 J	250	25	ug/kg
Benzene	71-43-2	26.87 J	250	25	ug/kg
1,2-Dichloroethane	107-06-2	28.61 J	250	25	ug/kg
1,4-Dioxane	123-91-1	5000 U	5000	450	ug/kg
Trichloroethene	79-01-6	30.97 J	250	25	ug/kg
Methylcyclohexane	108-87-2	32.01 J	250	25	ug/kg
1,2-Dichloropropane	78-87-5	26.62 J	250	25	ug/kg
Bromodichloromethane	75-27-4	26.87 J	250	25	ug/kg
cis-1,3-Dichloropropene	10061-01-5	27.77 J	250	25	ug/kg
4-Methyl-2-pentanone	108-10-1	71.17 J	500	50	ug/kg
Toluene	108-88-3	34.01 J	250	25	ug/kg
trans-1,3-Dichloropropene	10061-02-6	29.30 J	250	25	ug/kg
1,1,2-Trichloroethane	79-00-5	27.57 J	250	25	ug/kg
Tetrachloroethene	127-18-4	24.60 J	250	25	ug/kg
2-Hexanone	591-78-6	59.87 J	500	50	ug/kg
Dibromochloromethane	124-48-1	24.83 J	250	25	ug/kg
1,2-Dibromoethane	106-93-4	23.93 J	250	25	ug/kg
Chlorobenzene	108-90-7	25.77 J	250	25	ug/kg
Ethylbenzene	100-41-4	28.52 J	250	25	ug/kg
o-Xylene	95-47-6	28.58 J	250	25	ug/kg
m,p-Xylene	179601-23-1	30.37 J	250	25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:31
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVC_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVC
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	26.41 J	250	25	ug/kg
Bromoform	75-25-2	24.20 J	250	25	ug/kg
Isopropylbenzene	98-82-8	27.69 J	250	25	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	27.86 J	250	25	ug/kg
1,3-Dichlorobenzene	541-73-1	27.80 J	250	25	ug/kg
1,4-Dichlorobenzene	106-46-7	27.63 J	250	25	ug/kg
1,2-Dichlorobenzene	95-50-1	27.46 J	250	25	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	31.34 J	250	25	ug/kg
1,2,4-Trichlorobenzene	120-82-1	26.80 J	250	25	ug/kg
1,2,3-Trichlorobenzene	87-61-6	28.39 J	250	25	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:31
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVC_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Dichlorodifluoromethane	75-71-8	51.30 J	250	50	ug/kg
Chloromethane	74-87-3	50.09 J	250	50	ug/kg
Vinyl chloride	75-01-4	50.78 J	250	50	ug/kg
Bromomethane	74-83-9	62.90 J	250	50	ug/kg
Chloroethane	75-00-3	66.90 J	250	50	ug/kg
Trichlorofluoromethane	75-69-4	46.34 J	250	50	ug/kg
1,1-Dichloroethene	75-35-4	58.44 J	250	50	ug/kg
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	50.78 J	250	50	ug/kg
Acetone	67-64-1	132.4 J	500	100	ug/kg
Carbon disulfide	75-15-0	51.11 J	250	50	ug/kg
Methyl acetate	79-20-9	79.51 J	250	50	ug/kg
Methylene chloride	75-09-2	52.66 J	250	50	ug/kg
trans-1,2-Dichloroethene	156-60-5	53.83 J	250	50	ug/kg
Methyl tert-butyl ether	1634-04-4	49.79 J	250	50	ug/kg
1,1-Dichloroethane	75-34-3	51.23 J	250	50	ug/kg
cis-1,2-Dichloroethene	156-59-2	49.44 J	250	50	ug/kg
2-Butanone	78-93-3	159.2 J	500	100	ug/kg
Bromochloromethane	74-97-5	46.90 J	250	50	ug/kg
Chloroform	67-66-3	51.35 J	250	50	ug/kg
1,1,1-Trichloroethane	71-55-6	51.30 J	250	50	ug/kg
Cyclohexane	110-82-7	52.02 J	250	50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:59
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVD_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Carbon tetrachloride	56-23-5	46.63 J	250	50	ug/kg
Benzene	71-43-2	50.31 J	250	50	ug/kg
1,2-Dichloroethane	107-06-2	52.23 J	250	50	ug/kg
1,4-Dioxane	123-91-1	1534 J	5000	900	ug/kg
Trichloroethene	79-01-6	51.03 J	250	50	ug/kg
Methylcyclohexane	108-87-2	47.78 J	250	50	ug/kg
1,2-Dichloropropane	78-87-5	42.83 J	250	50	ug/kg
Bromodichloromethane	75-27-4	46.06 J	250	50	ug/kg
cis-1,3-Dichloropropene	10061-01-5	48.67 J	250	50	ug/kg
4-Methyl-2-pentanone	108-10-1	111.8 J	500	100	ug/kg
Toluene	108-88-3	54.92 J	250	50	ug/kg
trans-1,3-Dichloropropene	10061-02-6	49.06 J	250	50	ug/kg
1,1,2-Trichloroethane	79-00-5	49.83 J	250	50	ug/kg
Tetrachloroethene	127-18-4	50.12 J	250	50	ug/kg
2-Hexanone	591-78-6	87.97 J	500	100	ug/kg
Dibromochloromethane	124-48-1	44.60 J	250	50	ug/kg
1,2-Dibromoethane	106-93-4	45.09 J	250	50	ug/kg
Chlorobenzene	108-90-7	49.31 J	250	50	ug/kg
Ethylbenzene	100-41-4	50.66 J	250	50	ug/kg
o-Xylene	95-47-6	49.86 J	250	50	ug/kg
m,p-Xylene	179601-23-1	52.02 J	250	50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:59
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVD_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Individual Method Detection Limit Verification (MDLV) Study Summary
Test Method: SOM01.2

Sample ID: MDLVD
Matrix: SOIL
Instrument ID: M.i
Analysis Level: Medium
Column ID: DB-624
Column Number: 1

Compound	CAS #	Result	RL	Spike Concentration	Units
Styrene	100-42-5	47.23 J	250	50	ug/kg
Bromoform	75-25-2	44.69 J	250	50	ug/kg
Isopropylbenzene	98-82-8	47.83 J	250	50	ug/kg
1,1,2,2-Tetrachloroethane	79-34-5	50.14 J	250	50	ug/kg
1,3-Dichlorobenzene	541-73-1	48.02 J	250	50	ug/kg
1,4-Dichlorobenzene	106-46-7	51.23 J	250	50	ug/kg
1,2-Dichlorobenzene	95-50-1	50.14 J	250	50	ug/kg
1,2-Dibromo-3-chloropropane	96-12-8	51.44 J	250	50	ug/kg
1,2,4-Trichlorobenzene	120-82-1	48.77 J	250	50	ug/kg
1,2,3-Trichlorobenzene	87-61-6	44.86 J	250	50	ug/kg

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Date: 06/24/2008
Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL

Comments: _____

Analyzed By: Michael R. Veilleux
Analysis Date & Time: 06/24/2008 19:59
Reviewed By: Edward L. Coffey
Review Date: 06/25/2008
Study Name: MDLVD_SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLVa

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2

Matrix: SOIL
Analysis Level: Medium

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Dichlorodifluoromethane	75-71-8	62.27	62.35	56.42	53.83	59.94	57.48	58.81	58.73	50	117	3.110E+0	9.8	250	6
Chloromethane	74-87-3	59.58	61.46	56.60	57.72	59.05	63.14	60.53	59.73	50	119	2.220E+0	7.0	250	9
Vinyl chloride	75-01-4	63.87	57.95	60.50	58.88	62.56	61.75	62.26	61.11	50	122	2.113E+0	6.6	250	9
Bromomethane	74-83-9	63.55	66.19	49.90	87.65	54.43	55.72	63.54	63.00	50	126	1.236E+1	39	250	2
Chloroethane	75-00-3	78.89	69.12	78.18	67.05	80.58	80.77	75.52	75.73	50	151	5.538E+0	17	250	4
Trichlorofluoromethane	75-69-4	59.93	60.05	54.98	55.82	58.80	53.84	54.07	56.78	50	114	2.734E+0	8.6	250	7
1,1-Dichloroethene	75-35-4	65.25	70.88	65.61	58.95	63.66	65.00	66.07	65.06	50	130	3.524E+0	11	250	6
1,1,2-Trichloro-1,2,2-trifluo	76-13-1	63.78	60.15	51.55	52.83	58.32	56.95	56.34	57.13	50	114	4.184E+0	13	250	4
Acetone	67-64-1	162.2	140.2	165.0	111.2	142.7	93.02	123.9	134.0	100	134	2.637E+1	83	500	2
Carbon disulfide	75-15-0	57.11	60.38	51.41	53.46	55.75	54.43	56.55	55.58	50	111	2.874E+0	9.0	250	6
Methyl acetate	79-20-9	95.20	93.64	95.30	93.55	102.0	92.10	106.2	96.86	50	194	5.209E+0	16	250	6
Methylene chloride	75-09-2	63.71	64.41	56.40	58.67	67.07	55.95	57.93	60.59	50	121	4.400E+0	14	250	4
trans-1,2-Dichloroethene	156-60-5	63.07	64.57	58.94	61.50	59.50	61.28	60.83	61.38	50	123	1.951E+0	6.1	250	10
Methyl tert-butyl ether	1634-04-4	61.81	61.69	56.68	55.59	60.65	57.14	58.54	58.87	50	118	2.531E+0	8.0	250	7
1,1-Dichloroethane	75-34-3	60.83	64.99	59.47	57.40	61.45	58.20	58.50	60.12	50	120	2.586E+0	8.1	250	7
cis-1,2-Dichloroethene	156-59-2	59.57	59.96	57.73	57.91	62.47	56.65	59.08	59.05	50	118	1.897E+0	6.0	250	10
2-Butanone	78-93-3	201.4	231.0	201.5	198.0	187.1	159.0	172.3	192.9	100	193	2.321E+1	73	500	3
Bromochloromethane	74-97-5	53.58	53.75	51.59	53.39	52.67	53.00	55.01	53.28	50	107	1.051E+0	3.3	250	16
Chloroform	67-66-3	59.74	64.52	58.76	56.12	62.52	59.71	60.76	60.30	50	121	2.691E+0	8.5	250	7
1,1,1-Trichloroethane	71-55-6	61.25	58.02	53.54	54.19	59.96	57.80	58.20	57.57	50	115	2.816E+0	8.9	250	6
Cyclohexane	110-82-7	67.06	60.89	57.87	55.01	65.69	59.03	56.15	60.24	50	120	4.615E+0	15	250	4

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 06/24/2008

Comments: _____

Analyzed By: Michael R. Veilleux
Reviewed By: Edward L. Coffey

Analysis Date: 06/24/2008
Review Date: 06/25/2008

Study Name: SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLa
Study ID: EH0XVX46_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2

Matrix: SOIL
Analysis Level: Medium

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Carbon tetrachloride	56-23-5	56.49	52.71	47.33	46.75	54.11	48.37	54.02	51.40	50	103	3.856E+0	12	250	4
Benzene	71-43-2	59.69	59.78	51.91	51.74	62.49	58.13	56.53	57.18	50	114	4.081E+0	13	250	4
1,2-Dichloroethane	107-06-2	59.49	59.27	55.26	51.81	63.10	56.38	59.36	57.81	50	116	3.649E+0	11	250	5
1,4-Dioxane	123-91-1	1604	1320	1509	1339	1174	1376	1189	1359	900	151	1.570E+2	490	5000	3
Trichloroethene	79-01-6	63.62	63.24	55.46	54.83	59.53	61.52	59.32	59.65	50	119	3.489E+0	11	250	5
Methylcyclohexane	108-87-2	64.98	70.54	57.82	57.13	59.17	63.97	63.05	62.38	50	125	4.743E+0	15	250	4
1,2-Dichloropropane	78-87-5	66.78	52.99	48.08	47.73	57.49	50.20	48.20	53.07	50	106	6.987E+0	22	250	2
Bromodichloromethane	75-27-4	58.36	59.03	54.00	53.85	57.24	55.84	55.07	56.20	50	112	2.063E+0	6.5	250	9
cis-1,3-Dichloropropene	10061-01-5	58.97	59.81	53.93	52.95	56.78	55.95	55.91	56.33	50	113	2.476E+0	7.8	250	7
4-Methyl-2-pentanone	108-10-1	116.3	123.2	131.1	121.1	127.2	114.9	129.9	123.4	100	123	6.377E+0	20	500	6
Toluene	108-88-3	65.30	67.56	62.21	59.39	63.84	61.22	63.89	63.34	50	127	2.695E+0	8.5	250	7
trans-1,3-Dichloropropene	10061-02-6	62.47	62.40	56.58	51.20	55.68	56.14	56.83	57.33	50	115	3.972E+0	12	250	5
1,1,2-Trichloroethane	79-00-5	55.87	58.66	55.00	53.32	60.69	55.01	57.65	56.60	50	113	2.532E+0	8.0	250	7
Tetrachloroethene	127-18-4	52.98	58.38	52.81	51.68	57.27	54.33	56.65	54.87	50	110	2.567E+0	8.1	250	7
2-Hexanone	591-78-6	142.1	155.0	140.3	118.2	129.8	121.7	135.8	134.7	100	135	1.268E+1	40	500	3
Dibromochloromethane	124-48-1	53.56	54.78	50.59	50.54	53.60	50.31	53.23	52.37	50	105	1.837E+0	5.8	250	9
1,2-Dibromoethane	106-93-4	54.49	55.91	54.90	52.56	58.20	54.32	55.78	55.17	50	110	1.740E+0	5.5	250	10
Chlorobenzene	108-90-7	57.77	60.87	53.99	54.26	60.34	54.96	55.91	56.87	50	114	2.844E+0	8.9	250	6
Ethylbenzene	100-41-4	58.14	61.22	56.40	55.47	60.12	57.15	59.44	58.28	50	117	2.086E+0	6.6	250	9
o-Xylene	95-47-6	56.64	60.34	54.73	55.36	61.46	55.84	57.73	57.44	50	115	2.567E+0	8.1	250	7
m,p-Xylene	179601-23-	58.82	62.62	53.64	57.38	61.24	57.52	58.90	58.59	50	117	2.902E+0	9.1	250	6

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 06/24/2008

Comments: _____

Analyzed By: Michael R. Veilleux
Reviewed By: Edward L. Coffey

Analysis Date: 06/24/2008
Review Date: 06/25/2008

Study Name: SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLa
Study ID: EH0XVX46_MDL

Calculated Method Detection Limit (MDL) Study Summary
Test Method: SOM01.2

Matrix: SOIL
Analysis Level: Medium

Instrument ID: M.i
Column ID: DB-624

Compound	CAS #	Rep 1	Rep2	Rep3	Rep4	Rep5	Rep6	Rep7	Mean Value	True Value	Percent Recovery	Std. Dev.	MDL ug/kg	RL ug/kg	X*
Styrene	100-42-5	56.45	59.83	55.59	52.67	59.04	54.26	55.32	56.17	50	112	2.539E+0	8.0	250	7
Bromoform	75-25-2	52.08	53.96	49.54	50.17	52.79	49.96	50.52	51.29	50	103	1.667E+0	5.2	250	10
Isopropylbenzene	98-82-8	58.35	60.91	54.25	54.74	58.92	56.38	59.12	57.52	50	115	2.464E+0	7.7	250	7
1,1,2,2-Tetrachloroethane	79-34-5	57.72	62.00	56.90	55.41	60.42	53.58	58.16	57.74	50	115	2.856E+0	9.0	250	6
1,3-Dichlorobenzene	541-73-1	57.53	57.94	51.71	53.36	60.23	53.27	56.54	55.80	50	112	3.078E+0	9.7	250	6
1,4-Dichlorobenzene	106-46-7	60.60	62.21	57.56	53.15	58.36	56.66	56.18	57.82	50	116	2.978E+0	9.4	250	6
1,2-Dichlorobenzene	95-50-1	58.30	60.48	53.25	51.31	58.21	55.47	56.92	56.28	50	113	3.173E+0	10	250	6
1,2-Dibromo-3-chloropropane	96-12-8	59.41	58.79	74.17	59.13	67.62	56.37	86.30	65.97	50	132	1.093E+1	34	250	2
1,2,4-Trichlorobenzene	120-82-1	60.43	58.09	54.10	50.06	56.00	52.52	52.66	54.84	50	110	3.575E+0	11	250	5
1,2,3-Trichlorobenzene	87-61-6	58.55	61.41	53.01	53.87	58.47	56.03	50.94	56.04	50	112	3.673E+0	12	250	5

Cleanup Method(s):

Prepared By: Mark T. Phillips

Preparation Method: SOM01.2
Preparation Factor: 5.0 g concentrated to 5000 uL
Prep Date: 06/24/2008

*X = Mean Value/MDL
X factor criteria:
DoD 1<X<5 for water
DoD 1<X<10 for soil
TA 1<X<10 for all

Comments: _____

Analyzed By: Michael R. Veilleux
Reviewed By: Edward L. Coffey

Analysis Date: 06/24/2008
Review Date: 06/25/2008

Study Name: SOM01.2_SOM01.2_M_SOIL_M.i_DB-624_06-24-2008_MDLa
Study ID: EH0XVX46_MDL

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Data Summary – Wet Chemistry

WET CHEMISTRY

Sample Report Summary

Client Sample No.

A2D

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 767832

Matrix: SOIL | Client: NJEP10 | Date Received: 09/17/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		88.5	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

A3B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 767833

Matrix: SOIL | Client: NJEP10 | Date Received: 09/17/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		90.4	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

A1B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768003

Matrix: SOIL | Client: NJEP10 | Date Received: 09/18/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		91.9	

WET CHEMISTRY

Sample Report Summary

Client Sample No.

A4B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768004

Matrix: SOIL | Client: NJEP10 | Date Received: 09/18/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		87.3	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.
A5B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768005

Matrix: SOIL | Client: NJEP10 | Date Received: 09/18/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		90.4	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

C5B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768006

Matrix: SOIL | Client: NJEP10 | Date Received: 09/18/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		87.6	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

C4C

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768007

Matrix: SOIL | Client: NJEP10 | Date Received: 09/18/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		80.1	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

C3D

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768008

Matrix: SOIL | Client: NJEP10 | Date Received: 09/18/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/18/08	N/A	mg/Kg	1.0		87.1	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

D1C

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768254

Matrix: SOIL | Client: NJEP10 | Date Received: 09/19/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/22/08	N/A	mg/Kg	1.0		88.4	

WET CHEMISTRY

Sample Report Summary

Client Sample No.

C2C

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768255

Matrix: SOIL | Client: NJEP10 | Date Received: 09/19/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/22/08	N/A	mg/Kg	1.0		92.8	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.
B3B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768256

Matrix: SOIL | Client: NJEP10 | Date Received: 09/19/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/22/08	N/A	mg/Kg	1.0		88.0	

WET CHEMISTRY

Sample Report Summary

Client Sample No.

B5B

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768257

Matrix: SOIL | Client: NJEP10 | Date Received: 09/19/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/22/08	N/A	mg/Kg	1.0		90.7	

Printed on: 09/24/08 08:50 AM

WET CHEMISTRY

Sample Report Summary

Client Sample No.

B4C

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768258

Matrix: SOIL | Client: NJEP10 | Date Received: 09/19/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/22/08	N/A	mg/Kg	1.0		90.4	

WET CHEMISTRY

Sample Report Summary

Client Sample No.

DUP1

Lab Name: TestAmerica Burlington | Contract: A71586 | SDG No.: 127655

Lab Code: TALVT | Case No.: H2400200 | Lab Sample ID: 768259

Matrix: SOIL | Client: NJEP10 | Date Received: 09/19/08

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
SOLIDS_VOA	Percent Solids, VOA	09/22/08	N/A	mg/Kg	1.0		88.8	

Printed on: 09/24/08 08:50 AM

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Data Summary – SOM01.2 Volatiles – Soils

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A4B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768004

Sample wt/vol: 5.57 (g/mL) g Lab File ID: 768004

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 13 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2	U
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	5.2	U
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A4B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768004

Sample wt/vol: 5.57 (g/mL) g Lab File ID: 768004

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 13 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.2	U
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
A4B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768004

Sample wt/vol: 5.57 (g/mL) g Lab File ID: 768004

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 13 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	53	JXB
02		Unknown	16.40	9.1	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768005

Sample wt/vol: 5.53 (g/mL) g Lab File ID: 768005

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768005

Sample wt/vol: 5.53 (g/mL) g Lab File ID: 768005

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
A5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768005

Sample wt/vol: 5.53 (g/mL) g Lab File ID: 768005

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	56	JXB
02		Unknown	16.38	19	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768258

Sample wt/vol: 5.41 (g/mL) g Lab File ID: 768258

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 10 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.1	U
74-87-3	Chloromethane	5.1	U
75-01-4	Vinyl chloride	5.1	U
74-83-9	Bromomethane	5.1	U
75-00-3	Chloroethane	5.1	U
75-69-4	Trichlorofluoromethane	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.1	U
79-20-9	Methyl acetate	5.1	U
75-09-2	Methylene chloride	5.1	U
156-60-5	trans-1,2-Dichloroethene	5.1	U
1634-04-4	Methyl tert-butyl ether	5.1	U
75-34-3	1,1-Dichloroethane	5.1	U
156-59-2	cis-1,2-Dichloroethene	5.1	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.1	U
67-66-3	Chloroform	3.5	J
71-55-6	1,1,1-Trichloroethane	5.1	U
110-82-7	Cyclohexane	5.1	U
56-23-5	Carbon tetrachloride	5.1	U
71-43-2	Benzene	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768258

Sample wt/vol: 5.41 (g/mL) g Lab File ID: 768258

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 10 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.1	U
108-87-2	Methylcyclohexane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
75-27-4	Bromodichloromethane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.1	U
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
127-18-4	Tetrachloroethene	5.1	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.1	U
106-93-4	1,2-Dibromoethane	5.1	U
108-90-7	Chlorobenzene	5.1	U
100-41-4	Ethylbenzene	5.1	U
95-47-6	o-Xylene	5.1	U
179601-23-1	m,p-Xylene	5.1	U
100-42-5	Styrene	5.1	U
75-25-2	Bromoform	5.1	U
98-82-8	Isopropylbenzene	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	5.1	U
541-73-1	1,3-Dichlorobenzene	5.1	U
106-46-7	1,4-Dichlorobenzene	5.1	U
95-50-1	1,2-Dichlorobenzene	5.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.1	U
120-82-1	1,2,4-Trichlorobenzene	5.1	U
87-61-6	1,2,3-Trichlorobenzene	5.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768258

Sample wt/vol: 5.41 (g/mL) g Lab File ID: 768258

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 10 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	55	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.68	8.3	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768257

Sample wt/vol: 5.27 (g/mL) g Lab File ID: 768257

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 9.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2	U
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	3.5	J
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768257

Sample wt/vol: 5.27 (g/mL) g Lab File ID: 768257

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 9.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.2	U
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768257

Sample wt/vol: 5.27 (g/mL) g Lab File ID: 768257

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 9.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	57	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.68	8.9	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768007

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768007

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2	U
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	5.2	U
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768007

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768007

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.2	U
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C4C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768007

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768007

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	59	JXB
02		Unknown	16.40	36	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768006

Sample wt/vol: 5.70 (g/mL) g Lab File ID: 768006

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 12 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768006

Sample wt/vol: 5.70 (g/mL) g Lab File ID: 768006

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 12 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C5B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768006

Sample wt/vol: 5.70 (g/mL) g Lab File ID: 768006

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2008

% Moisture: not dec. 12 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	54	JXB
02		Unknown	16.40	10	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
D1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768254

Sample wt/vol: 5.77 (g/mL) g Lab File ID: 768254

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	4.9	U
74-87-3	Chloromethane	4.9	U
75-01-4	Vinyl chloride	4.9	U
74-83-9	Bromomethane	4.9	U
75-00-3	Chloroethane	4.9	U
75-69-4	Trichlorofluoromethane	4.9	U
75-35-4	1,1-Dichloroethene	4.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.9	U
67-64-1	Acetone	9.8	U
75-15-0	Carbon disulfide	4.9	U
79-20-9	Methyl acetate	4.9	U
75-09-2	Methylene chloride	4.9	U
156-60-5	trans-1,2-Dichloroethene	4.9	U
1634-04-4	Methyl tert-butyl ether	4.9	U
75-34-3	1,1-Dichloroethane	4.9	U
156-59-2	cis-1,2-Dichloroethene	4.9	U
78-93-3	2-Butanone	9.8	U
74-97-5	Bromochloromethane	4.9	U
67-66-3	Chloroform	4.9	U
71-55-6	1,1,1-Trichloroethane	4.9	U
110-82-7	Cyclohexane	4.9	U
56-23-5	Carbon tetrachloride	4.9	U
71-43-2	Benzene	4.9	U
107-06-2	1,2-Dichloroethane	4.9	U
123-91-1	1,4-Dioxane	98	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
D1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768254

Sample wt/vol: 5.77 (g/mL) g Lab File ID: 768254

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	4.9	U
108-87-2	Methylcyclohexane	4.9	U
78-87-5	1,2-Dichloropropane	4.9	U
75-27-4	Bromodichloromethane	4.9	U
10061-01-5	cis-1,3-Dichloropropene	4.9	U
108-10-1	4-Methyl-2-pentanone	9.8	U
108-88-3	Toluene	4.9	U
10061-02-6	trans-1,3-Dichloropropene	4.9	U
79-00-5	1,1,2-Trichloroethane	4.9	U
127-18-4	Tetrachloroethene	4.9	U
591-78-6	2-Hexanone	9.8	U
124-48-1	Dibromochloromethane	4.9	U
106-93-4	1,2-Dibromoethane	4.9	U
108-90-7	Chlorobenzene	4.9	U
100-41-4	Ethylbenzene	4.9	U
95-47-6	o-Xylene	4.9	U
179601-23-1	m,p-Xylene	4.9	U
100-42-5	Styrene	4.9	U
75-25-2	Bromoform	4.9	U
98-82-8	Isopropylbenzene	4.9	U
79-34-5	1,1,2,2-Tetrachloroethane	4.9	U
541-73-1	1,3-Dichlorobenzene	4.9	U
106-46-7	1,4-Dichlorobenzene	4.9	U
95-50-1	1,2-Dichlorobenzene	4.9	U
96-12-8	1,2-Dibromo-3-chloropropane	4.9	U
120-82-1	1,2,4-Trichlorobenzene	4.9	U
87-61-6	1,2,3-Trichlorobenzene	4.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
D1C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768254

Sample wt/vol: 5.77 (g/mL) g Lab File ID: 768254

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	51	JXB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
DUP1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768259

Sample wt/vol: 5.49 (g/mL) g Lab File ID: 768259

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 11 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.1	U
74-87-3	Chloromethane	5.1	U
75-01-4	Vinyl chloride	5.1	U
74-83-9	Bromomethane	5.1	U
75-00-3	Chloroethane	5.1	U
75-69-4	Trichlorofluoromethane	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.1	U
79-20-9	Methyl acetate	5.1	U
75-09-2	Methylene chloride	5.1	U
156-60-5	trans-1,2-Dichloroethene	5.1	U
1634-04-4	Methyl tert-butyl ether	5.1	U
75-34-3	1,1-Dichloroethane	5.1	U
156-59-2	cis-1,2-Dichloroethene	5.1	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.1	U
67-66-3	Chloroform	5.1	U
71-55-6	1,1,1-Trichloroethane	5.1	U
110-82-7	Cyclohexane	5.1	U
56-23-5	Carbon tetrachloride	5.1	U
71-43-2	Benzene	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
DUP1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768259

Sample wt/vol: 5.49 (g/mL) g Lab File ID: 768259

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 11 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.1	U
108-87-2	Methylcyclohexane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
75-27-4	Bromodichloromethane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.1	U
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
127-18-4	Tetrachloroethene	2.6	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.1	U
106-93-4	1,2-Dibromoethane	5.1	U
108-90-7	Chlorobenzene	5.1	U
100-41-4	Ethylbenzene	5.1	U
95-47-6	o-Xylene	5.1	U
179601-23-1	m,p-Xylene	5.1	U
100-42-5	Styrene	5.1	U
75-25-2	Bromoform	5.1	U
98-82-8	Isopropylbenzene	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	5.1	U
541-73-1	1,3-Dichlorobenzene	5.1	U
106-46-7	1,4-Dichlorobenzene	5.1	U
95-50-1	1,2-Dichlorobenzene	5.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.1	U
120-82-1	1,2,4-Trichlorobenzene	5.1	U
87-61-6	1,2,3-Trichlorobenzene	5.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
DUP1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768259

Sample wt/vol: 5.49 (g/mL) g Lab File ID: 768259

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2008

% Moisture: not dec. 11 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	57	JXB
02	541-05-9	Cyclotrisiloxane, hexamethyl	11.68	8.6	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03A

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03A

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03A

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/24/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	52	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI8

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03B

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	4.1	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI8

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03B

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKI8

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MTZB03B

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	54	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767834

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 767834I2

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	4.8	JB
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767834

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 767834I2

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767834

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 767834I2

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	53	JXB
02		Unknown	16.40	63	J
03		Unknown	18.10	8.8	J
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

2C - FORM II VOA-3
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKI1	102	104	78	63	100	93	98
02	D1C	104	102	79	58	101	89	96
03	B5B	108	108	83	72	101	99	104
04	B4C	103	104	80	65	99	96	100
05	DUP1	110	110	83	71	107	101	102
06	VBLKI8	102	102	79	66	97	94	99
07	A4B	101	105	79	49	101	89	99
08	A5B	107	107	82	61	105	97	107
09	C5B	103	103	80	60	104	97	105
10	C4C	106	107	82	64	110	101	106
11	VHBLK01	103	104	79	72	95	94	101
12								
13								
14								
15								
16								
17								
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19								
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22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS
VDMC1	(VCL) = Vinyl chloride-d3	(68-122)
VDMC2	(CLA) = Chloroethane-d5	(61-130)
VDMC3	(DCE) = 1,1-Dichloroethene-d2	(45-132)
VDMC4	(BUT) = 2-Butanone-d5	(20-182)
VDMC5	(CLF) = Chloroform-d	(72-123)
VDMC6	(DCA) = 1,2-Dichloroethane-d4	(79-122)
VDMC7	(BEN) = Benzene-d6	(80-121)

Column to be used to flag recovery values
* Values outside of contract required QC limits

2D - FORM II VOA-4
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC8 (DPA)#	VDMC9 (TOL)#	VDMC10 (TDP)#	VDMC11 (HEX)#	VDMC12 (DXE)#	VDMC13 (TCA)#	VDMC14 (DCZ)#	TOT OUT
01	VBLKI1	89	94	92	72	85	86	87	0
02	D1C	87	94	90	64	69	79	86	0
03	B5B	94	100	99	85	98	95	92	0
04	B4C	91	97	94	74	104	87	89	0
05	DUP1	94	98	98	80	118	93	94	0
06	VBLKI8	90	95	96	73	91	89	91	0
07	A4B	88	96	91	58	75	77	89	0
08	A5B	97	102	99	73	89	90	96	0
09	C5B	96	101	98	71	85	87	94	0
10	C4C	97	102	101	75	89	93	98	0
11	VHBLK01	92	97	95	78	83	87	94	0
12									
13									
14									
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	QC LIMITS
VDMC8 (DPA) = 1,2-Dichloropropane-d6	(74-124)
VDMC9 (TOL) = Toluene-d8	(78-121)
VDMC10 (TDP) = trans-1,3-Dichloropropene-d4	(72-130)
VDMC11 (HEX) = 2-Hexanone-d5	(17-184)
VDMC12 (DXE) = 1,4-Dioxane-d8	(50-150)
VDMC13 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(56-161)
VDMC14 (DCZ) = 1,2-Dichlorobenzene-d4	(70-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKI1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MTZB03A Lab Sample ID: VBLKI1

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/24/2008

Level: (TRACE or LOW/MED) LOW Time Analyzed: 1927

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	D1C	768254	768254	2132
02	B5B	768257	768257	2200
03	B4C	768258	768258	2227
04	DUP1	768259	768259	2255
05				
06				
07				
08				
09				
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COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MTZB03B Lab Sample ID: VBLKI8

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/25/2008

Level: (TRACE or LOW/MED) LOW Time Analyzed: 1121

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A4B	768004	768004	1303
02	A5B	768005	768005	1331
03	C5B	768006	768006	1359
04	C4C	768007	768007	1427
05	VHBLK01	767834	767834I2	1523
06				
07				
08				
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COMMENTS:

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBTZ

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MTZ01PV BFB Injection Date: 09/23/2008

Instrument ID: M.i BFB Injection Time: 1024

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.6
75	30.0 - 60.0% of mass 95	42.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 120.0% of mass 95	55.1
175	5.0 - 9.0% of mass 174	4.2 (7.6)1
176	95.0 - 101.0% of mass 174	53.7 (97.3)1
177	5.0 - 9.0% of mass 176	3.4 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD2.5TZ	VSTD2.5TZ	MTZ005V	09/23/2008	1146
02	VSTD005TZ	VSTD005TZ	MTZ010V	09/23/2008	1214
03	VSTD025TZ	VSTD025TZ	MTZ050V	09/23/2008	1243
04	VSTD050TZ	VSTD050TZ	MTZ100V	09/23/2008	1323
05	VSTD100TZ	VSTD100TZ	MTZ200V	09/23/2008	1351
06					
07					
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22					

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBZ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MTZ02PV BFB Injection Date: 09/24/2008

Instrument ID: M.i BFB Injection Time: 1752

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.1
75	30.0 - 60.0% of mass 95	42.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	57.2
175	5.0 - 9.0% of mass 174	4.3 (7.5)1
176	95.0 - 101.0% of mass 174	56.4 (98.7)1
177	5.0 - 9.0% of mass 176	3.6 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD025Z1	VSTD025Z1	MTZ050AV	09/24/2008	1832
02	VBLKI1	VBLKI1	MTZB03A	09/24/2008	1927
03	D1C	768254	768254	09/24/2008	2132
04	B5B	768257	768257	09/24/2008	2200
05	B4C	768258	768258	09/24/2008	2227
06	DUP1	768259	768259	09/24/2008	2255
07	VSTD025Z2	VSTD025Z2	MTZ50AC1	09/25/2008	0433
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09					
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19					
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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBI8

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MTZ03PV BFB Injection Date: 09/25/2008

Instrument ID: M.i BFB Injection Time: 0927

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.5
75	30.0 - 60.0% of mass 95	43.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 120.0% of mass 95	54.5
175	5.0 - 9.0% of mass 174	4.0 (7.3)1
176	95.0 - 101.0% of mass 174	54.0 (99.0)1
177	5.0 - 9.0% of mass 176	3.4 (6.3)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD025B1	VSTD025B1	MTZ50BV	09/25/2008	1026
02	VBLKI8	VBLKI8	MTZB03B	09/25/2008	1121
03	A4B	768004	768004	09/25/2008	1303
04	A5B	768005	768005	09/25/2008	1331
05	C5B	768006	768006	09/25/2008	1359
06	C4C	768007	768007	09/25/2008	1427
07	VHBLK01	767834	767834I2	09/25/2008	1523
08	VSTD025B2	VSTD025B2	MTZ50BC1	09/25/2008	1553
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/23/2008 09/23/2008

Heated Purge: (Y/N)Y Calibration Time(s): 1146 1351

Purge Volume: 10.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF2.5 = MTZ005V RRF5.0 = MTZ010V
RRF25 = MTZ050V RRF50 = MTZ100V RRF100 = MTZ200V

COMPOUND	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	%RSD	
Dichlorodifluoromethane	0.380	0.429	0.381	0.364	0.380	0.387	6.3	
Chloromethane	0.320	0.343	0.295	0.282	0.290	0.306	8.2	
Vinyl chloride	0.305	0.356	0.314	0.300	0.315	0.318	6.9	
Bromomethane	0.138	0.191	0.188	0.200	0.225	0.188	16.9	
Chloroethane	0.208	0.226	0.200	0.192	0.201	0.206	6.2	
Trichlorofluoromethane	0.603	0.693	0.623	0.610	0.632	0.632	5.7	
1,1-Dichloroethene	0.315	0.349	0.317	0.315	0.324	0.324	4.5	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.659	0.744	0.675	0.662	0.674	0.683	5.1	
Acetone	0.087	0.098	0.081	0.083	0.075	0.085	10.4	
Carbon disulfide	0.901	1.069	0.967	0.945	0.973	0.971	6.3	
Methyl acetate	0.162	0.178	0.171	0.181	0.172	0.173	4.3	
Methylene chloride	0.293	0.342	0.300	0.304	0.312	0.310	6.1	
trans-1,2-Dichloroethene	0.329	0.384	0.345	0.347	0.355	0.352	5.8	
Methyl tert-butyl ether	0.626	0.702	0.620	0.656	0.633	0.648	5.2	
1,1-Dichloroethane	0.656	0.741	0.657	0.662	0.674	0.678	5.3	
cis-1,2-Dichloroethene	0.342	0.398	0.351	0.353	0.362	0.361	6.0	
2-Butanone	0.132	0.153	0.136	0.145	0.127	0.139	7.3	
Bromochloromethane	0.181	0.207	0.186	0.195	0.199	0.194	5.3	
Chloroform	0.774	0.885	0.706	0.703	0.667	0.747	11.6	
1,1,1-Trichloroethane	0.663	0.775	0.676	0.658	0.683	0.691	6.9	
Cyclohexane	0.628	0.747	0.666	0.660	0.681	0.677	6.5	
Carbon tetrachloride	0.615	0.720	0.638	0.625	0.645	0.649	6.4	
Benzene	1.106	1.283	1.123	1.128	1.152	1.158	6.2	
1,2-Dichloroethane	0.346	0.390	0.342	0.351	0.342	0.354	5.8	
1,4-Dioxane	0.003	0.003	0.003	0.003	0.003	0.003	7.2	<-
Trichloroethene	0.491	0.575	0.499	0.492	0.508	0.513	6.8	
Methylcyclohexane	0.553	0.656	0.591	0.578	0.591	0.594	6.4	

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/23/2008 09/23/2008

Heated Purge: (Y/N)Y Calibration Time(s): 1146 1351

Purge Volume: 10.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF2.5 = MTZ005V RRF5.0 = MTZ010V
RRF25 = MTZ050V RRF50 = MTZ100V RRF100 = MTZ200V

COMPOUND	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.482	0.549	0.501	0.504	0.531	0.513	5.1
Bromodichloromethane	0.779	0.899	0.785	0.812	0.829	0.821	5.9
cis-1,3-Dichloropropene	0.684	0.791	0.702	0.719	0.741	0.727	5.7
4-Methyl-2-pentanone	0.337	0.424	0.372	0.402	0.368	0.381	8.8
Toluene	1.197	1.408	1.234	1.239	1.247	1.265	6.5
trans-1,3-Dichloropropene	0.588	0.658	0.587	0.614	0.619	0.613	4.7
1,1,2-Trichloroethane	0.386	0.459	0.396	0.412	0.420	0.414	6.8
Tetrachloroethene	0.356	0.413	0.368	0.374	0.381	0.378	5.6
2-Hexanone	0.301	0.352	0.309	0.326	0.295	0.317	7.3
Dibromochloromethane	0.610	0.717	0.620	0.644	0.666	0.651	6.6
1,2-Dibromoethane	0.551	0.635	0.569	0.589	0.592	0.587	5.3
Chlorobenzene	0.964	1.085	0.988	0.996	0.999	1.006	4.6
Ethylbenzene	1.583	1.838	1.626	1.625	1.586	1.652	6.4
o-Xylene	0.581	0.670	0.598	0.600	0.606	0.611	5.6
m,p-Xylene	0.598	0.707	0.638	0.637	0.639	0.644	6.1
Styrene	0.973	1.152	1.028	1.039	1.046	1.048	6.2
Bromoform	0.809	0.971	0.829	0.870	0.852	0.866	7.3
Isopropylbenzene	1.759	2.075	1.863	1.835	1.794	1.865	6.6
1,1,2,2-Tetrachloroethane	0.701	0.813	0.723	0.756	0.737	0.746	5.7
1,3-Dichlorobenzene	1.467	1.761	1.557	1.521	1.607	1.583	7.1
1,4-Dichlorobenzene	1.756	2.134	1.793	1.850	1.713	1.849	9.0
1,2-Dichlorobenzene	1.415	1.677	1.465	1.480	1.458	1.499	6.8
1,2-Dibromo-3-chloropropane	0.255	0.354	0.288	0.314	0.291	0.301	12.2
1,2,4-Trichlorobenzene	1.038	1.197	1.114	1.153	1.130	1.126	5.2
1,2,3-Trichlorobenzene	0.932	1.153	1.014	1.073	1.059	1.046	7.7

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/23/2008 09/23/2008

Heated Purge: (Y/N)Y Calibration Time(s): 1146 1351

Purge Volume: 10.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF2.5 = MTZ005V RRF5.0 = MTZ010V
RRF25 = MTZ050V RRF50 = MTZ100V RRF100 = MTZ200V

COMPOUND	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	%RSD	
Vinyl chloride-d3	0.290	0.341	0.303	0.291	0.306	0.306	6.8	
Chloroethane-d5	0.272	0.298	0.270	0.259	0.265	0.273	5.6	
1,1-Dichloroethene-d2	0.752	0.858	0.783	0.759	0.777	0.786	5.4	
2-Butanone-d5	0.152	0.172	0.152	0.162	0.141	0.156	7.7	
Chloroform-d	0.603	0.686	0.694	0.687	0.723	0.679	6.6	
1,2-Dichloroethane-d4	0.286	0.350	0.302	0.309	0.300	0.309	7.9	
Benzene-d6	1.171	1.344	1.191	1.198	1.229	1.227	5.6	
1,2-Dichloropropane-d6	0.630	0.729	0.646	0.643	0.678	0.665	6.0	
Toluene-d8	1.125	1.338	1.186	1.193	1.213	1.211	6.4	
trans-1,3-Dichloropropene-d4	0.562	0.671	0.576	0.603	0.613	0.605	7.0	
2-Hexanone-d5	0.180	0.208	0.180	0.191	0.173	0.186	7.4	
1,4-Dioxane-d8	0.003	0.003	0.003	0.003	0.003	0.003	5.1	<-
1,1,2,2-Tetrachloroethane-d2	0.726	0.828	0.740	0.778	0.755	0.765	5.2	
1,2-Dichlorobenzene-d4	0.948	1.067	0.946	0.974	0.974	0.982	5.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/24/2008 Time: 1832

Lab File ID: MTZ050AV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.356	0.010	-7.9	40.0	
Chloromethane	0.306	0.255	0.010	-16.6	40.0	
Vinyl chloride	0.318	0.297	0.100	-6.7	25.0	
Bromomethane	0.188	0.229	0.100	21.8	25.0	
Chloroethane	0.206	0.193	0.010	-6.1	40.0	
Trichlorofluoromethane	0.632	0.585	0.010	-7.4	40.0	
1,1-Dichloroethene	0.324	0.298	0.100	-8.0	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.616	0.010	-9.7	40.0	
Acetone	0.085	0.069	0.010	-18.8	40.0	
Carbon disulfide	0.971	0.911	0.010	-6.1	40.0	
Methyl acetate	0.173	0.156	0.010	-9.8	40.0	
Methylene chloride	0.310	0.307	0.010	-1.2	40.0	
trans-1,2-Dichloroethene	0.352	0.335	0.010	-4.7	40.0	
Methyl tert-butyl ether	0.648	0.608	0.010	-6.1	40.0	
1,1-Dichloroethane	0.678	0.643	0.200	-5.1	25.0	
cis-1,2-Dichloroethene	0.361	0.343	0.010	-5.1	40.0	
2-Butanone	0.139	0.118	0.010	-15.2	40.0	
Bromochloromethane	0.194	0.192	0.050	-0.7	25.0	
Chloroform	0.747	0.658	0.200	-11.9	25.0	
1,1,1-Trichloroethane	0.691	0.601	0.100	-13.1	25.0	
Cyclohexane	0.677	0.592	0.010	-12.5	40.0	
Carbon tetrachloride	0.649	0.563	0.100	-13.2	25.0	
Benzene	1.158	1.046	0.400	-9.7	25.0	
1,2-Dichloroethane	0.354	0.340	0.100	-3.9	25.0	
1,4-Dioxane	0.003	0.003	0.005	2.1	50.0	<-
Trichloroethene	0.513	0.462	0.300	-9.9	25.0	
Methylcyclohexane	0.594	0.514	0.010	-13.4	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/24/2008 Time: 1832

Lab File ID: MTZ050AV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.472	0.010	-8.0	40.0
Bromodichloromethane	0.821	0.765	0.200	-6.8	25.0
cis-1,3-Dichloropropene	0.727	0.695	0.200	-4.5	25.0
4-Methyl-2-pentanone	0.381	0.341	0.010	-10.6	40.0
Toluene	1.265	1.168	0.400	-7.7	25.0
trans-1,3-Dichloropropene	0.613	0.593	0.100	-3.3	25.0
1,1,2-Trichloroethane	0.414	0.396	0.100	-4.4	25.0
Tetrachloroethene	0.378	0.345	0.100	-8.8	25.0
2-Hexanone	0.317	0.277	0.010	-12.5	40.0
Dibromochloromethane	0.651	0.630	0.100	-3.3	25.0
1,2-Dibromoethane	0.587	0.562	0.010	-4.2	40.0
Chlorobenzene	1.006	0.974	0.500	-3.3	25.0
Ethylbenzene	1.652	1.573	0.100	-4.7	25.0
o-Xylene	0.611	0.589	0.300	-3.6	25.0
m,p-Xylene	0.644	0.617	0.300	-4.2	25.0
Styrene	1.048	1.021	0.300	-2.6	25.0
Bromoform	0.866	0.788	0.050	-9.0	25.0
Isopropylbenzene	1.865	1.779	0.010	-4.6	40.0
1,1,2,2-Tetrachloroethane	0.746	0.719	0.300	-3.7	25.0
1,3-Dichlorobenzene	1.583	1.457	0.600	-8.0	25.0
1,4-Dichlorobenzene	1.849	1.808	0.500	-2.3	25.0
1,2-Dichlorobenzene	1.499	1.423	0.400	-5.1	25.0
1,2-Dibromo-3-chloropropane	0.301	0.260	0.010	-13.5	40.0
1,2,4-Trichlorobenzene	1.126	1.127	0.200	0.1	25.0
1,2,3-Trichlorobenzene	1.046	1.023	0.200	-2.2	25.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/24/2008 Time: 1832

Lab File ID: MTZ050AV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.284	0.010	-7.4	25.0	
Chloroethane-d5	0.273	0.253	0.010	-7.4	40.0	
1,1-Dichloroethene-d2	0.786	0.727	0.010	-7.5	25.0	
2-Butanone-d5	0.156	0.134	0.010	-14.2	40.0	
Chloroform-d	0.679	0.712	0.010	4.9	25.0	
1,2-Dichloroethane-d4	0.309	0.297	0.010	-3.9	25.0	
Benzene-d6	1.227	1.101	0.010	-10.2	25.0	
1,2-Dichloropropane-d6	0.665	0.605	0.010	-9.0	40.0	
Toluene-d8	1.211	1.120	0.010	-7.5	25.0	
trans-1,3-Dichloropropene-d4	0.605	0.582	0.010	-3.8	25.0	
2-Hexanone-d5	0.186	0.162	0.010	-13.2	40.0	
1,4-Dioxane-d8	0.003	0.003	0.005	0.3	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.738	0.010	-3.5	25.0	
1,2-Dichlorobenzene-d4	0.982	0.937	0.010	-4.6	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0433

Lab File ID: MTZ50AC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.375	0.010	-3.1	50.0	
Chloromethane	0.306	0.266	0.010	-13.0	50.0	
Vinyl chloride	0.318	0.305	0.010	-4.0	50.0	
Bromomethane	0.188	0.233	0.010	23.5	50.0	
Chloroethane	0.206	0.200	0.010	-2.6	50.0	
Trichlorofluoromethane	0.632	0.613	0.010	-3.0	50.0	
1,1-Dichloroethene	0.324	0.314	0.010	-2.9	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.656	0.010	-4.0	50.0	
Acetone	0.085	0.041	0.010	-52.0	50.0	<-
Carbon disulfide	0.971	0.940	0.010	-3.1	50.0	
Methyl acetate	0.173	0.159	0.010	-8.0	50.0	
Methylene chloride	0.310	0.321	0.010	3.4	50.0	
trans-1,2-Dichloroethene	0.352	0.348	0.010	-1.1	50.0	
Methyl tert-butyl ether	0.648	0.647	0.010	-0.0	50.0	
1,1-Dichloroethane	0.678	0.666	0.010	-1.7	50.0	
cis-1,2-Dichloroethene	0.361	0.363	0.010	0.5	50.0	
2-Butanone	0.139	0.095	0.010	-31.2	50.0	
Bromochloromethane	0.194	0.203	0.010	4.8	50.0	
Chloroform	0.747	0.734	0.010	-1.7	50.0	
1,1,1-Trichloroethane	0.691	0.669	0.010	-3.1	50.0	
Cyclohexane	0.677	0.645	0.010	-4.6	50.0	
Carbon tetrachloride	0.649	0.611	0.010	-5.8	50.0	
Benzene	1.158	1.146	0.010	-1.1	50.0	
1,2-Dichloroethane	0.354	0.362	0.010	2.3	50.0	
1,4-Dioxane	0.003	0.003	0.005	-6.4	50.0	<-
Trichloroethene	0.513	0.495	0.010	-3.6	50.0	
Methylcyclohexane	0.594	0.557	0.010	-6.2	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0433

Lab File ID: MTZ50AC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.518	0.010	0.9	50.0
Bromodichloromethane	0.821	0.851	0.010	3.7	50.0
cis-1,3-Dichloropropene	0.727	0.742	0.010	2.0	50.0
4-Methyl-2-pentanone	0.381	0.362	0.010	-4.9	50.0
Toluene	1.265	1.264	0.010	-0.1	50.0
trans-1,3-Dichloropropene	0.613	0.631	0.010	2.9	50.0
1,1,2-Trichloroethane	0.414	0.431	0.010	3.9	50.0
Tetrachloroethene	0.378	0.362	0.010	-4.4	50.0
2-Hexanone	0.317	0.270	0.010	-14.8	50.0
Dibromochloromethane	0.651	0.680	0.010	4.4	50.0
1,2-Dibromoethane	0.587	0.606	0.010	3.2	50.0
Chlorobenzene	1.006	0.997	0.010	-0.9	50.0
Ethylbenzene	1.652	1.604	0.010	-2.9	50.0
o-Xylene	0.611	0.597	0.010	-2.3	50.0
m,p-Xylene	0.644	0.608	0.010	-5.6	50.0
Styrene	1.048	1.047	0.010	-0.1	50.0
Bromoform	0.866	0.935	0.010	8.0	50.0
Isopropylbenzene	1.865	1.754	0.010	-5.9	50.0
1,1,2,2-Tetrachloroethane	0.746	0.767	0.010	2.8	50.0
1,3-Dichlorobenzene	1.583	1.653	0.010	4.4	50.0
1,4-Dichlorobenzene	1.849	1.743	0.010	-5.8	50.0
1,2-Dichlorobenzene	1.499	1.544	0.010	3.0	50.0
1,2-Dibromo-3-chloropropane	0.301	0.306	0.010	2.0	50.0
1,2,4-Trichlorobenzene	1.126	1.093	0.010	-3.0	50.0
1,2,3-Trichlorobenzene	1.046	1.024	0.010	-2.1	50.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 0433

Lab File ID: MTZ50AC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.298	0.010	-2.9	50.0	
Chloroethane-d5	0.273	0.271	0.010	-0.9	50.0	
1,1-Dichloroethene-d2	0.786	0.751	0.010	-4.5	50.0	
2-Butanone-d5	0.156	0.105	0.010	-32.4	50.0	
Chloroform-d	0.679	0.749	0.010	10.3	50.0	
1,2-Dichloroethane-d4	0.309	0.316	0.010	2.3	50.0	
Benzene-d6	1.227	1.219	0.010	-0.6	50.0	
1,2-Dichloropropane-d6	0.665	0.677	0.010	1.7	50.0	
Toluene-d8	1.211	1.198	0.010	-1.1	50.0	
trans-1,3-Dichloropropene-d4	0.605	0.612	0.010	1.1	50.0	
2-Hexanone-d5	0.186	0.153	0.010	-17.8	50.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-3.6	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.782	0.010	2.2	50.0	
1,2-Dichlorobenzene-d4	0.982	1.032	0.010	5.1	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1026

Lab File ID: MTZ50BV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.345	0.010	-10.9	40.0	
Chloromethane	0.306	0.256	0.010	-16.5	40.0	
Vinyl chloride	0.318	0.286	0.100	-10.1	25.0	
Bromomethane	0.188	0.218	0.100	16.0	25.0	
Chloroethane	0.206	0.188	0.010	-8.3	40.0	
Trichlorofluoromethane	0.632	0.567	0.010	-10.3	40.0	
1,1-Dichloroethene	0.324	0.290	0.100	-10.3	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.602	0.010	-11.8	40.0	
Acetone	0.085	0.083	0.010	-2.0	40.0	
Carbon disulfide	0.971	0.889	0.010	-8.4	40.0	
Methyl acetate	0.173	0.161	0.010	-6.6	40.0	
Methylene chloride	0.310	0.306	0.010	-1.5	40.0	
trans-1,2-Dichloroethene	0.352	0.323	0.010	-8.2	40.0	
Methyl tert-butyl ether	0.648	0.619	0.010	-4.4	40.0	
1,1-Dichloroethane	0.678	0.628	0.200	-7.4	25.0	
cis-1,2-Dichloroethene	0.361	0.337	0.010	-6.6	40.0	
2-Butanone	0.139	0.136	0.010	-2.1	40.0	
Bromochloromethane	0.194	0.195	0.050	0.8	25.0	
Chloroform	0.747	0.704	0.200	-5.7	25.0	
1,1,1-Trichloroethane	0.691	0.611	0.100	-11.6	25.0	
Cyclohexane	0.677	0.585	0.010	-13.6	40.0	
Carbon tetrachloride	0.649	0.564	0.100	-13.1	25.0	
Benzene	1.158	1.065	0.400	-8.1	25.0	
1,2-Dichloroethane	0.354	0.350	0.100	-1.3	25.0	
1,4-Dioxane	0.003	0.003	0.005	9.8	50.0	<-
Trichloroethene	0.513	0.471	0.300	-8.2	25.0	
Methylcyclohexane	0.594	0.511	0.010	-13.9	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1026

Lab File ID: MTZ50BV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.488	0.010	-4.9	40.0
Bromodichloromethane	0.821	0.798	0.200	-2.7	25.0
cis-1,3-Dichloropropene	0.727	0.718	0.200	-1.3	25.0
4-Methyl-2-pentanone	0.381	0.378	0.010	-0.8	40.0
Toluene	1.265	1.201	0.400	-5.1	25.0
trans-1,3-Dichloropropene	0.613	0.625	0.100	2.0	25.0
1,1,2-Trichloroethane	0.414	0.415	0.100	0.1	25.0
Tetrachloroethene	0.378	0.349	0.100	-7.8	25.0
2-Hexanone	0.317	0.329	0.010	3.8	40.0
Dibromochloromethane	0.651	0.656	0.100	0.6	25.0
1,2-Dibromoethane	0.587	0.601	0.010	2.4	40.0
Chlorobenzene	1.006	1.011	0.500	0.5	25.0
Ethylbenzene	1.652	1.612	0.100	-2.4	25.0
o-Xylene	0.611	0.612	0.300	0.2	25.0
m,p-Xylene	0.644	0.633	0.300	-1.7	25.0
Styrene	1.048	1.076	0.300	2.7	25.0
Bromoform	0.866	0.857	0.050	-1.1	25.0
Isopropylbenzene	1.865	1.827	0.010	-2.1	40.0
1,1,2,2-Tetrachloroethane	0.746	0.778	0.300	4.3	25.0
1,3-Dichlorobenzene	1.583	1.620	0.600	2.4	25.0
1,4-Dichlorobenzene	1.849	1.796	0.500	-2.9	25.0
1,2-Dichlorobenzene	1.499	1.502	0.400	0.2	25.0
1,2-Dibromo-3-chloropropane	0.301	0.289	0.010	-3.8	40.0
1,2,4-Trichlorobenzene	1.126	1.185	0.200	5.2	25.0
1,2,3-Trichlorobenzene	1.046	1.073	0.200	2.6	25.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1026

Lab File ID: MTZ50BV Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.276	0.010	-10.0	25.0	
Chloroethane-d5	0.273	0.252	0.010	-7.5	40.0	
1,1-Dichloroethene-d2	0.786	0.708	0.010	-9.9	25.0	
2-Butanone-d5	0.156	0.154	0.010	-1.3	40.0	
Chloroform-d	0.679	0.689	0.010	1.4	25.0	
1,2-Dichloroethane-d4	0.309	0.305	0.010	-1.4	25.0	
Benzene-d6	1.227	1.123	0.010	-8.4	25.0	
1,2-Dichloropropane-d6	0.665	0.625	0.010	-6.1	40.0	
Toluene-d8	1.211	1.160	0.010	-4.2	25.0	
trans-1,3-Dichloropropene-d4	0.605	0.605	0.010	-0.1	25.0	
2-Hexanone-d5	0.186	0.197	0.010	5.7	40.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-2.2	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.804	0.010	5.0	25.0	
1,2-Dichlorobenzene-d4	0.982	0.987	0.010	0.5	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1553

Lab File ID: MTZ50BC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.387	0.332	0.010	-14.3	50.0	
Chloromethane	0.306	0.240	0.010	-21.7	50.0	
Vinyl chloride	0.318	0.266	0.010	-16.3	50.0	
Bromomethane	0.188	0.208	0.010	10.5	50.0	
Chloroethane	0.206	0.173	0.010	-16.0	50.0	
Trichlorofluoromethane	0.632	0.544	0.010	-14.0	50.0	
1,1-Dichloroethene	0.324	0.275	0.010	-15.1	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.683	0.576	0.010	-15.6	50.0	
Acetone	0.085	0.061	0.010	-28.5	50.0	
Carbon disulfide	0.971	0.834	0.010	-14.1	50.0	
Methyl acetate	0.173	0.151	0.010	-12.6	50.0	
Methylene chloride	0.310	0.285	0.010	-8.2	50.0	
trans-1,2-Dichloroethene	0.352	0.303	0.010	-13.9	50.0	
Methyl tert-butyl ether	0.648	0.575	0.010	-11.2	50.0	
1,1-Dichloroethane	0.678	0.590	0.010	-13.0	50.0	
cis-1,2-Dichloroethene	0.361	0.324	0.010	-10.4	50.0	
2-Butanone	0.139	0.109	0.010	-21.4	50.0	
Bromochloromethane	0.194	0.182	0.010	-6.3	50.0	
Chloroform	0.747	0.678	0.010	-9.2	50.0	
1,1,1-Trichloroethane	0.691	0.589	0.010	-14.7	50.0	
Cyclohexane	0.677	0.560	0.010	-17.2	50.0	
Carbon tetrachloride	0.649	0.551	0.010	-15.1	50.0	
Benzene	1.158	1.021	0.010	-11.9	50.0	
1,2-Dichloroethane	0.354	0.326	0.010	-8.0	50.0	
1,4-Dioxane	0.003	0.003	0.005	-0.6	50.0	<-
Trichloroethene	0.513	0.447	0.010	-12.8	50.0	
Methylcyclohexane	0.594	0.499	0.010	-16.0	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1553

Lab File ID: MTZ50BC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.513	0.459	0.010	-10.7	50.0
Bromodichloromethane	0.821	0.762	0.010	-7.2	50.0
cis-1,3-Dichloropropene	0.727	0.677	0.010	-6.9	50.0
4-Methyl-2-pentanone	0.381	0.351	0.010	-7.8	50.0
Toluene	1.265	1.142	0.010	-9.7	50.0
trans-1,3-Dichloropropene	0.613	0.595	0.010	-2.9	50.0
1,1,2-Trichloroethane	0.414	0.391	0.010	-5.7	50.0
Tetrachloroethene	0.378	0.346	0.010	-8.5	50.0
2-Hexanone	0.317	0.273	0.010	-13.7	50.0
Dibromochloromethane	0.651	0.624	0.010	-4.1	50.0
1,2-Dibromoethane	0.587	0.557	0.010	-5.2	50.0
Chlorobenzene	1.006	0.957	0.010	-5.0	50.0
Ethylbenzene	1.652	1.531	0.010	-7.3	50.0
o-Xylene	0.611	0.579	0.010	-5.2	50.0
m,p-Xylene	0.644	0.618	0.010	-4.0	50.0
Styrene	1.048	1.021	0.010	-2.5	50.0
Bromoform	0.866	0.791	0.010	-8.6	50.0
Isopropylbenzene	1.865	1.732	0.010	-7.2	50.0
1,1,2,2-Tetrachloroethane	0.746	0.722	0.010	-3.1	50.0
1,3-Dichlorobenzene	1.583	1.482	0.010	-6.3	50.0
1,4-Dichlorobenzene	1.849	1.796	0.010	-2.9	50.0
1,2-Dichlorobenzene	1.499	1.432	0.010	-4.5	50.0
1,2-Dibromo-3-chloropropane	0.301	0.277	0.010	-8.0	50.0
1,2,4-Trichlorobenzene	1.126	1.147	0.010	1.8	50.0
1,2,3-Trichlorobenzene	1.046	1.037	0.010	-0.9	50.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/25/2008 Time: 1553

Lab File ID: MTZ50BC1 Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B2 Init. Calib. Time(s): 1146 1351

Heated Purge: (Y/N)Y GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 10.0 (mL)

COMPOUND	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.306	0.261	0.010	-14.9	50.0	
Chloroethane-d5	0.273	0.235	0.010	-14.1	50.0	
1,1-Dichloroethene-d2	0.786	0.669	0.010	-14.9	50.0	
2-Butanone-d5	0.156	0.123	0.010	-21.3	50.0	
Chloroform-d	0.679	0.646	0.010	-4.9	50.0	
1,2-Dichloroethane-d4	0.309	0.290	0.010	-6.2	50.0	
Benzene-d6	1.227	1.081	0.010	-11.9	50.0	
1,2-Dichloropropane-d6	0.665	0.592	0.010	-11.1	50.0	
Toluene-d8	1.211	1.097	0.010	-9.4	50.0	
trans-1,3-Dichloropropene-d4	0.605	0.578	0.010	-4.5	50.0	
2-Hexanone-d5	0.186	0.160	0.010	-14.0	50.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-2.5	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.765	0.740	0.010	-3.3	50.0	
1,2-Dichlorobenzene-d4	0.982	0.953	0.010	-3.0	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025Z1 Date Analyzed: 09/24/2008

Lab File ID (Standard): MTZ050AV Time Analyzed: 1832

Instrument ID: M.i Heated Purge: (Y/N) Y

		IS1(CBZ) AREA #		IS2(DFB) AREA #		IS3(DCB) AREA #	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	2606011	12.95	2866354	9.37	1387265	15.65
	UPPER LIMIT	5212022	13.45	5732708	9.87	2774530	16.15
	LOWER LIMIT	1303006	12.45	1433177	8.87	693632	15.15
	EPA SAMPLE NO.						
01	VBLKI1	2628938	12.92	2991563	9.37	1359337	15.65
02	D1C	2544991	12.92	2880541	9.37	1314691	15.66
03	B5B	2410708	12.94	2787486	9.37	1199705	15.65
04	B4C	2393395	12.94	2749750	9.37	1186498	15.65
05	DUP1	2431621	12.94	2735848	9.37	1209694	15.65
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22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/23/2008 09/23/2008

EPA Sample No.(VSTD#####): VSTD025B1 Date Analyzed: 09/25/2008

Lab File ID (Standard): MTZ50BV Time Analyzed: 1026

Instrument ID: M.i Heated Purge: (Y/N) Y

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2529735	12.93	2882778	9.37	1332551	15.66
	UPPER LIMIT	5059470	13.43	5765556	9.87	2665102	16.16
	LOWER LIMIT	1264868	12.43	1441389	8.87	666276	15.16
	EPA SAMPLE NO.						
01	VBLKI8	2580155	12.94	2981605	9.37	1331388	15.65
02	A4B	2396383	12.93	2800937	9.37	1214591	15.64
03	A5B	2308942	12.92	2776335	9.37	1093460	15.65
04	C5B	2414259	12.94	2883160	9.37	1155160	15.65
05	C4C	2403585	12.94	2800229	9.37	1179794	15.65
06	VHBLK01	2572149	12.92	3002587	9.37	1296018	15.65
07							
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21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

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Sample Data Summary – SOM01.2 Volatiles – Soils Medium Level

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A1B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768003

Sample wt/vol: 4.96 (g/mL) g Lab File ID: 768003ED

Level: (TRACE/LOW/MED) MED Date Received: 09/18/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 8.8

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	2600	U
74-87-3	Chloromethane	2600	U
75-01-4	Vinyl chloride	2600	U
74-83-9	Bromomethane	2600	U
75-00-3	Chloroethane	2600	U
75-69-4	Trichlorofluoromethane	2600	U
75-35-4	1,1-Dichloroethene	2600	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2600	U
67-64-1	Acetone	5200	U
75-15-0	Carbon disulfide	2600	U
79-20-9	Methyl acetate	2600	U
75-09-2	Methylene chloride	2600	U
156-60-5	trans-1,2-Dichloroethene	2600	U
1634-04-4	Methyl tert-butyl ether	2600	U
75-34-3	1,1-Dichloroethane	2600	U
156-59-2	cis-1,2-Dichloroethene	2600	U
78-93-3	2-Butanone	5200	U
74-97-5	Bromochloromethane	2600	U
67-66-3	Chloroform	2600	U
71-55-6	1,1,1-Trichloroethane	2600	U
110-82-7	Cyclohexane	2600	U
56-23-5	Carbon tetrachloride	2600	U
71-43-2	Benzene	2600	U
107-06-2	1,2-Dichloroethane	2600	U
123-91-1	1,4-Dioxane	52000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A1B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768003

Sample wt/vol: 4.96 (g/mL) g Lab File ID: 768003ED

Level: (TRACE/LOW/MED) MED Date Received: 09/18/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 8.8

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	2600	U
108-87-2	Methylcyclohexane	2600	U
78-87-5	1,2-Dichloropropane	2600	U
75-27-4	Bromodichloromethane	2600	U
10061-01-5	cis-1,3-Dichloropropene	2600	U
108-10-1	4-Methyl-2-pentanone	5200	U
108-88-3	Toluene	5200	
10061-02-6	trans-1,3-Dichloropropene	2600	U
79-00-5	1,1,2-Trichloroethane	2600	U
127-18-4	Tetrachloroethene	2600	U
591-78-6	2-Hexanone	5200	U
124-48-1	Dibromochloromethane	2600	U
106-93-4	1,2-Dibromoethane	2600	U
108-90-7	Chlorobenzene	2300	J
100-41-4	Ethylbenzene	29000	
95-47-6	o-Xylene	20000	
179601-23-1	m,p-Xylene	86000	
100-42-5	Styrene	2600	U
75-25-2	Bromoform	2600	U
98-82-8	Isopropylbenzene	51000	
79-34-5	1,1,2,2-Tetrachloroethane	2600	U
541-73-1	1,3-Dichlorobenzene	2600	U
106-46-7	1,4-Dichlorobenzene	2600	U
95-50-1	1,2-Dichlorobenzene	12000	
96-12-8	1,2-Dibromo-3-chloropropane	2600	U
120-82-1	1,2,4-Trichlorobenzene	2600	U
87-61-6	1,2,3-Trichlorobenzene	2600	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
A1B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768003

Sample wt/vol: 4.96 (g/mL) g Lab File ID: 768003ED

Level: (TRACE or LOW/MED) MED Date Received: 09/18/2008

% Moisture: not dec. 8.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 8.8

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	29000	JXB
02		Unknown	14.62	4800	J
03	611-14-3	Benzene, 1-ethyl-2-methyl-	15.07	37000	NJ
04	108-67-8	Benzene, 1,3,5-trimethyl-	15.27	51000	NJ
05		Unknown	15.72	28000	J
06		Unknown	15.93	22000	J
07	1758-88-9	Benzene, 2-ethyl-1,4-dimethy	15.97	20000	NJ
08	95-13-6	Indene	16.16	13000	NJ
09		Unknown	16.26	13000	J
10	934-74-7	Benzene, 1-ethyl-3,5-dimethy	16.35	9400	NJ
11		Unknown	16.47	6700	J
12		Unknown	16.72	4800	J
13	527-53-7	Benzene, 1,2,3,5-tetramethyl	16.77	26000	NJ
14	824-22-6	1H-Indene, 2,3-dihydro-4-met	17.05	7600	NJ
15		Unknown	17.19	17000	J
16	2177-47-1	2-Methylindene	17.26	13000	NJ
17	2177-47-1	2-Methylindene	17.36	17000	NJ
18		Unknown	17.50	4900	J
19	56253-64-6	Benzene, (2-methyl-1-butenyl	17.64	7600	NJ
20	17059-48-2	1H-Indene, 2,3-dihydro-1,6-d	18.20	4900	NJ
21	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.41	4400	NJ
22		Unknown	18.79	3000	J
23	90-12-0	Naphthalene, 1-methyl-	19.33	41000	NJ
24	1127-76-0	Naphthalene, 1-ethyl-	20.35	6800	NJ
25	575-43-9	Naphthalene, 1,6-dimethyl-	20.54	12000	NJ
26	581-40-8	Naphthalene, 2,3-dimethyl-	20.78	11000	NJ
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A	260000	J

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A2D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767832

Sample wt/vol: 5.94 (g/mL) g Lab File ID: 767832ED

Level: (TRACE/LOW/MED) MED Date Received: 09/17/2008

% Moisture: not dec. 12 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 7.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	1900	U
74-87-3	Chloromethane	1900	U
75-01-4	Vinyl chloride	1900	U
74-83-9	Bromomethane	1900	U
75-00-3	Chloroethane	1900	U
75-69-4	Trichlorofluoromethane	1900	U
75-35-4	1,1-Dichloroethene	1900	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1900	U
67-64-1	Acetone	3800	U
75-15-0	Carbon disulfide	1200	JB
79-20-9	Methyl acetate	1900	U
75-09-2	Methylene chloride	1900	U
156-60-5	trans-1,2-Dichloroethene	1900	U
1634-04-4	Methyl tert-butyl ether	1900	U
75-34-3	1,1-Dichloroethane	1900	U
156-59-2	cis-1,2-Dichloroethene	2500	
78-93-3	2-Butanone	3800	U
74-97-5	Bromochloromethane	1900	U
67-66-3	Chloroform	1900	U
71-55-6	1,1,1-Trichloroethane	750	J
110-82-7	Cyclohexane	1900	U
56-23-5	Carbon tetrachloride	1900	U
71-43-2	Benzene	3900	
107-06-2	1,2-Dichloroethane	1900	U
123-91-1	1,4-Dioxane	38000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A2D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767832

Sample wt/vol: 5.94 (g/mL) g Lab File ID: 767832ED

Level: (TRACE/LOW/MED) MED Date Received: 09/17/2008

% Moisture: not dec. 12 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 7.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	70000	
108-87-2	Methylcyclohexane	1900	U
78-87-5	1,2-Dichloropropane	1900	U
75-27-4	Bromodichloromethane	1900	U
10061-01-5	cis-1,3-Dichloropropene	1900	U
108-10-1	4-Methyl-2-pentanone	3800	U
108-88-3	Toluene	11000	
10061-02-6	trans-1,3-Dichloropropene	1900	U
79-00-5	1,1,2-Trichloroethane	1900	U
127-18-4	Tetrachloroethene	3400	
591-78-6	2-Hexanone	3800	U
124-48-1	Dibromochloromethane	1900	U
106-93-4	1,2-Dibromoethane	1900	U
108-90-7	Chlorobenzene	360	J
100-41-4	Ethylbenzene	6300	
95-47-6	o-Xylene	6300	
179601-23-1	m,p-Xylene	26000	
100-42-5	Styrene	2700	
75-25-2	Bromoform	1900	U
98-82-8	Isopropylbenzene	2700	
79-34-5	1,1,2,2-Tetrachloroethane	1900	U
541-73-1	1,3-Dichlorobenzene	1900	U
106-46-7	1,4-Dichlorobenzene	1900	U
95-50-1	1,2-Dichlorobenzene	920	J
96-12-8	1,2-Dibromo-3-chloropropane	1900	U
120-82-1	1,2,4-Trichlorobenzene	370	JB
87-61-6	1,2,3-Trichlorobenzene	1900	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
A2D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767832

Sample wt/vol: 5.94 (g/mL) g Lab File ID: 767832ED

Level: (TRACE or LOW/MED) MED Date Received: 09/17/2008

% Moisture: not dec. 12 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 7.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	22000	JXB
02	95-49-8	Benzene, 1-chloro-2-methyl-	14.75	16000	NJ
03		Unknown	15.09	3500	J
04	526-73-8	Benzene, 1,2,3-trimethyl-	15.26	8200	NJ
05		Unknown	15.94	3700	J
06	95-13-6	Indene	16.15	2300	NJ
07		Unknown	16.78	4400	J
08		Unknown	17.18	3600	J
09	95-15-8	Benzo[b]thiophene	17.95	2300	NJ
10		Unknown	18.06	2400	J
11	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.39	2500	NJ
12		Unknown	19.23	3200	J
13	90-12-0	Naphthalene, 1-methyl-	19.32	94000	NJ
14	1127-76-0	Naphthalene, 1-ethyl-	20.33	8600	NJ
15	582-16-1	Naphthalene, 2,7-dimethyl-	20.52	12000	NJ
16	571-58-4	Naphthalene, 1,4-dimethyl-	20.77	11000	NJ
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A3B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767833

Sample wt/vol: 5.95 (g/mL) g Lab File ID: 767833E

Level: (TRACE/LOW/MED) MED Date Received: 09/17/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	260	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl chloride	260	U
74-83-9	Bromomethane	260	U
75-00-3	Chloroethane	260	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	260	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	260	U
67-64-1	Acetone	200	J
75-15-0	Carbon disulfide	86	JB
79-20-9	Methyl acetate	520	
75-09-2	Methylene chloride	260	U
156-60-5	trans-1,2-Dichloroethene	260	U
1634-04-4	Methyl tert-butyl ether	260	U
75-34-3	1,1-Dichloroethane	260	U
156-59-2	cis-1,2-Dichloroethene	53	J
78-93-3	2-Butanone	520	U
74-97-5	Bromochloromethane	260	U
67-66-3	Chloroform	260	U
71-55-6	1,1,1-Trichloroethane	260	U
110-82-7	Cyclohexane	260	U
56-23-5	Carbon tetrachloride	260	U
71-43-2	Benzene	170	J
107-06-2	1,2-Dichloroethane	260	U
123-91-1	1,4-Dioxane	5200	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
A3B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767833

Sample wt/vol: 5.95 (g/mL) g Lab File ID: 767833E

Level: (TRACE/LOW/MED) MED Date Received: 09/17/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	110	J
108-87-2	Methylcyclohexane	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-pentanone	520	U
108-88-3	Toluene	750	
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	520	U
124-48-1	Dibromochloromethane	260	U
106-93-4	1,2-Dibromoethane	260	U
108-90-7	Chlorobenzene	260	U
100-41-4	Ethylbenzene	1100	
95-47-6	o-Xylene	1400	
179601-23-1	m,p-Xylene	3500	
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	U
98-82-8	Isopropylbenzene	330	
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	260	U
106-46-7	1,4-Dichlorobenzene	260	U
95-50-1	1,2-Dichlorobenzene	260	J
96-12-8	1,2-Dibromo-3-chloropropane	260	U
120-82-1	1,2,4-Trichlorobenzene	270	B
87-61-6	1,2,3-Trichlorobenzene	100	JB

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
A3B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767833

Sample wt/vol: 5.95 (g/mL) g Lab File ID: 767833E

Level: (TRACE or LOW/MED) MED Date Received: 09/17/2008

% Moisture: not dec. 10 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	3000	JXB
02		Unknown	13.97	1100	J
03	108-67-8	Benzene, 1,3,5-trimethyl-	15.28	2400	NJ
04		Unknown	15.93	1700	J
05	1758-88-9	Benzene, 2-ethyl-1,4-dimethy	15.98	960	NJ
06		Unknown	16.17	1200	J
07		Unknown	16.28	2100	J
08	527-84-4	Benzene, 1-methyl-2-(1-methy	16.35	1600	NJ
09		Unknown	16.47	980	J
10		Unknown	16.54	320	J
11		Unknown	16.71	1500	J
12	527-84-4	Benzene, 1-methyl-2-(1-methy	16.76	2300	NJ
13		Unknown	16.82	2700	J
14		Unknown	16.97	450	J
15		Unknown	17.18	3300	J
16		Unknown	17.36	520	J
17		Unknown	17.52	1400	J
18		Unknown	17.64	2000	J
19	17059-48-2	1H-Indene, 2,3-dihydro-1,6-d	18.18	1600	NJ
20	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.41	2100	NJ
21		Unknown	18.53	780	J
22	17057-82-8	1H-Indene, 2,3-dihydro-1,2-d	18.64	1300	NJ
23		Unknown	18.81	610	J
24	2471-83-2	1H-Indene, 1-ethylidene-	19.35	29000	NJ
25		Unknown	19.71	300	J
26	1127-76-0	Naphthalene, 1-ethyl-	20.34	2500	NJ
27	571-61-9	Naphthalene, 1,5-dimethyl-	20.54	3500	NJ
28	581-40-8	Naphthalene, 2,3-dimethyl-	20.78	3100	NJ
29					
30					
	E966796(1)	Total Alkanes	N/A	32000	J

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768256E

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	300	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl chloride	1000	
74-83-9	Bromomethane	300	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	300	U
75-35-4	1,1-Dichloroethene	300	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	300	U
67-64-1	Acetone	550	J
75-15-0	Carbon disulfide	62	JB
79-20-9	Methyl acetate	770	
75-09-2	Methylene chloride	300	U
156-60-5	trans-1,2-Dichloroethene	300	U
1634-04-4	Methyl tert-butyl ether	300	U
75-34-3	1,1-Dichloroethane	1800	
156-59-2	cis-1,2-Dichloroethene	8000	
78-93-3	2-Butanone	250	J
74-97-5	Bromochloromethane	300	U
67-66-3	Chloroform	300	U
71-55-6	1,1,1-Trichloroethane	300	U
110-82-7	Cyclohexane	300	U
56-23-5	Carbon tetrachloride	300	U
71-43-2	Benzene	1300	
107-06-2	1,2-Dichloroethane	220	J
123-91-1	1,4-Dioxane	6000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768256E

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	90	J
108-87-2	Methylcyclohexane	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-pentanone	320	J
108-88-3	Toluene	13000	E
10061-02-6	trans-1,3-Dichloropropene	300	U
79-00-5	1,1,2-Trichloroethane	300	U
127-18-4	Tetrachloroethene	1200	
591-78-6	2-Hexanone	600	U
124-48-1	Dibromochloromethane	300	U
106-93-4	1,2-Dibromoethane	300	U
108-90-7	Chlorobenzene	110	J
100-41-4	Ethylbenzene	4000	
95-47-6	o-Xylene	4000	
179601-23-1	m,p-Xylene	13000	E
100-42-5	Styrene	620	
75-25-2	Bromoform	300	U
98-82-8	Isopropylbenzene	470	
79-34-5	1,1,2,2-Tetrachloroethane	300	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	180	J
95-50-1	1,2-Dichlorobenzene	1600	
96-12-8	1,2-Dibromo-3-chloropropane	300	U
120-82-1	1,2,4-Trichlorobenzene	930	B
87-61-6	1,2,3-Trichlorobenzene	440	B

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B3B

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768256E

Level: (TRACE or LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	3400	JXB
02		Unknown	15.09	2800	J
03	108-67-8	Benzene, 1,3,5-trimethyl-	15.27	4000	NJ
04		Unknown	15.72	2900	J
05		Unknown	15.93	2100	J
06		Unknown	16.18	700	J
07		Unknown	16.28	1300	J
08	874-41-9	Benzene, 1-ethyl-2,4-dimethy	16.35	1500	NJ
09		Unknown	16.47	1600	J
10		Unknown	16.65	1400	J
11		Unknown	16.72	1600	J
12	527-53-7	Benzene, 1,2,3,5-tetramethyl	16.77	8000	NJ
13		Unknown	16.98	720	J
14		Unknown	17.05	2200	J
15	874-35-1	1H-Indene, 2,3-dihydro-5-met	17.19	7100	NJ
16		Unknown	17.36	490	J
17		Unknown	17.50	5100	J
18		Unknown	17.64	3900	J
19	17057-82-8	1H-Indene, 2,3-dihydro-1,2-d	18.20	3100	NJ
20	4175-53-5	1H-Indene, 2,3-dihydro-1,3-d	18.41	3900	NJ
21		Unknown	18.53	1900	J
22	1685-82-1	1H-Indene, 2,3-dihydro-4,6-d	18.63	2900	NJ
23		Unknown	18.81	970	J
24		Unknown	18.93	370	J
25	2443-46-1	Bicyclo[4.4.1]undeca-1,3,5,7	19.36	70000	NJ
26		Unknown	19.71	400	J
27	1127-76-0	Naphthalene, 1-ethyl-	20.34	3700	NJ
28	582-16-1	Naphthalene, 2,7-dimethyl-	20.54	4700	NJ
29	581-40-8	Naphthalene, 2,3-dimethyl-	20.78	3400	NJ
30					
	E966796(1)	Total Alkanes	N/A	13000	J

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3BDL

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256D1

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768256E2

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.7

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	510	U
74-87-3	Chloromethane	510	U
75-01-4	Vinyl chloride	1100	D
74-83-9	Bromomethane	510	U
75-00-3	Chloroethane	510	U
75-69-4	Trichlorofluoromethane	510	U
75-35-4	1,1-Dichloroethene	510	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	510	U
67-64-1	Acetone	610	DJ
75-15-0	Carbon disulfide	110	DJB
79-20-9	Methyl acetate	510	D
75-09-2	Methylene chloride	510	U
156-60-5	trans-1,2-Dichloroethene	510	U
1634-04-4	Methyl tert-butyl ether	510	U
75-34-3	1,1-Dichloroethane	1900	D
156-59-2	cis-1,2-Dichloroethene	8500	D
78-93-3	2-Butanone	1000	U
74-97-5	Bromochloromethane	510	U
67-66-3	Chloroform	510	U
71-55-6	1,1,1-Trichloroethane	510	U
110-82-7	Cyclohexane	510	U
56-23-5	Carbon tetrachloride	510	U
71-43-2	Benzene	1300	D
107-06-2	1,2-Dichloroethane	230	DJ
123-91-1	1,4-Dioxane	10000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3BDL

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256D1

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768256E2

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.7

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	180	DJ
108-87-2	Methylcyclohexane	510	U
78-87-5	1,2-Dichloropropane	510	U
75-27-4	Bromodichloromethane	510	U
10061-01-5	cis-1,3-Dichloropropene	510	U
108-10-1	4-Methyl-2-pentanone	300	DJ
108-88-3	Toluene	13000	D
10061-02-6	trans-1,3-Dichloropropene	510	U
79-00-5	1,1,2-Trichloroethane	510	U
127-18-4	Tetrachloroethene	1200	D
591-78-6	2-Hexanone	1000	U
124-48-1	Dibromochloromethane	510	U
106-93-4	1,2-Dibromoethane	510	U
108-90-7	Chlorobenzene	120	DJ
100-41-4	Ethylbenzene	4000	D
95-47-6	o-Xylene	4100	D
179601-23-1	m,p-Xylene	14000	D
100-42-5	Styrene	630	D
75-25-2	Bromoform	510	U
98-82-8	Isopropylbenzene	470	DJ
79-34-5	1,1,2,2-Tetrachloroethane	510	U
541-73-1	1,3-Dichlorobenzene	510	U
106-46-7	1,4-Dichlorobenzene	180	DJ
95-50-1	1,2-Dichlorobenzene	1600	D
96-12-8	1,2-Dibromo-3-chloropropane	510	U
120-82-1	1,2,4-Trichlorobenzene	1100	D
87-61-6	1,2,3-Trichlorobenzene	560	D

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B3BDL

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256D1

Sample wt/vol: 5.38 (g/mL) g Lab File ID: 768256E2

Level: (TRACE or LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.7

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	5700	JXBD
02	611-14-3	Benzene, 1-ethyl-2-methyl-	15.07	2900	NJD
03	108-67-8	Benzene, 1,3,5-trimethyl-	15.25	4100	NJD
04		Unknown	15.70	3400	JD
05		Unknown	15.91	2200	JD
06		Unknown	16.16	720	JD
07		Unknown	16.26	1300	JD
08	1758-88-9	Benzene, 2-ethyl-1,4-dimethy	16.33	1500	NJD
09		Unknown	16.45	1600	JD
10		Unknown	16.63	1500	JD
11		Unknown	16.70	1700	JD
12	95-93-2	Benzene, 1,2,4,5-tetramethyl	16.75	8400	NJD
13		Unknown	16.96	720	JD
14		Unknown	17.03	2200	JD
15		Unknown	17.17	7400	JD
16		Unknown	17.49	5600	JD
17		Unknown	17.61	3500	JD
18	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.16	3400	NJD
19	4175-53-5	1H-Indene, 2,3-dihydro-1,3-d	18.37	4500	NJD
20		Unknown	18.50	2300	JD
21	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.60	3600	NJD
22		Unknown	18.78	1300	JD
23	2471-83-2	1H-Indene, 1-ethylidene-	19.32	95000	NJD
24		Unknown	19.67	600	JD
25	1127-76-0	Naphthalene, 1-ethyl-	20.33	4400	NJD
26	581-42-0	Naphthalene, 2,6-dimethyl-	20.51	5600	NJD
27	581-40-8	Naphthalene, 2,3-dimethyl-	20.75	4200	NJD
28					
29					
30					
	E966796(1)	Total Alkanes	N/A	12000	J

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768255

Sample wt/vol: 6.02 (g/mL) g Lab File ID: 768255E2

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 58.7

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	14000	U
74-87-3	Chloromethane	14000	U
75-01-4	Vinyl chloride	14000	U
74-83-9	Bromomethane	14000	U
75-00-3	Chloroethane	14000	U
75-69-4	Trichlorofluoromethane	14000	U
75-35-4	1,1-Dichloroethene	14000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14000	U
67-64-1	Acetone	28000	U
75-15-0	Carbon disulfide	5900	JB
79-20-9	Methyl acetate	14000	U
75-09-2	Methylene chloride	14000	U
156-60-5	trans-1,2-Dichloroethene	14000	U
1634-04-4	Methyl tert-butyl ether	14000	U
75-34-3	1,1-Dichloroethane	14000	U
156-59-2	cis-1,2-Dichloroethene	14000	U
78-93-3	2-Butanone	28000	U
74-97-5	Bromochloromethane	14000	U
67-66-3	Chloroform	14000	U
71-55-6	1,1,1-Trichloroethane	6100	J
110-82-7	Cyclohexane	14000	U
56-23-5	Carbon tetrachloride	14000	U
71-43-2	Benzene	19000	
107-06-2	1,2-Dichloroethane	14000	U
123-91-1	1,4-Dioxane	280000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768255

Sample wt/vol: 6.02 (g/mL) g Lab File ID: 768255E2

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 58.7

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	350000	
108-87-2	Methylcyclohexane	14000	U
78-87-5	1,2-Dichloropropane	14000	U
75-27-4	Bromodichloromethane	14000	U
10061-01-5	cis-1,3-Dichloropropene	14000	U
108-10-1	4-Methyl-2-pentanone	28000	U
108-88-3	Toluene	75000	
10061-02-6	trans-1,3-Dichloropropene	14000	U
79-00-5	1,1,2-Trichloroethane	14000	U
127-18-4	Tetrachloroethene	48000	
591-78-6	2-Hexanone	28000	U
124-48-1	Dibromochloromethane	14000	U
106-93-4	1,2-Dibromoethane	14000	U
108-90-7	Chlorobenzene	14000	U
100-41-4	Ethylbenzene	75000	
95-47-6	o-Xylene	87000	
179601-23-1	m,p-Xylene	280000	
100-42-5	Styrene	40000	
75-25-2	Bromoform	14000	U
98-82-8	Isopropylbenzene	27000	
79-34-5	1,1,2,2-Tetrachloroethane	14000	U
541-73-1	1,3-Dichlorobenzene	14000	U
106-46-7	1,4-Dichlorobenzene	14000	U
95-50-1	1,2-Dichlorobenzene	18000	
96-12-8	1,2-Dibromo-3-chloropropane	14000	U
120-82-1	1,2,4-Trichlorobenzene	8700	J
87-61-6	1,2,3-Trichlorobenzene	3200	J

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C2C

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768255

Sample wt/vol: 6.02 (g/mL) g Lab File ID: 768255E2

Level: (TRACE or LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 7.0 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 58.7

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	160000	JXB
02		Unknown	15.07	86000	J
03	108-67-8	Benzene, 1,3,5-trimethyl-	15.25	140000	NJ
04		Unknown	15.70	76000	J
05		Unknown	15.91	37000	J
06	1758-88-9	Benzene, 2-ethyl-1,4-dimethy	15.96	39000	NJ
07		Unknown	16.15	30000	J
08		Unknown	16.24	48000	J
09	1758-88-9	Benzene, 2-ethyl-1,4-dimethy	16.33	32000	NJ
10		Unknown	16.45	21000	J
11	934-74-7	Benzene, 1-ethyl-3,5-dimethy	16.70	22000	NJ
12		Unknown	16.75	47000	J
13		Unknown	17.17	39000	J
14		Unknown	17.62	17000	J
15		Unknown	18.17	22000	J
16	2809-64-5	Naphthalene, 1,2,3,4-tetrahy	18.39	16000	NJ
17		Unknown	18.74	16000	J
18	90-12-0	Naphthalene, 1-methyl-	19.30	57000	NJ
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A	570000	J

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C3D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768008

Sample wt/vol: 5.62 (g/mL) g Lab File ID: 768008E

Level: (TRACE/LOW/MED) MED Date Received: 09/18/2008

% Moisture: not dec. 13 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	290	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl chloride	290	U
74-83-9	Bromomethane	290	U
75-00-3	Chloroethane	290	U
75-69-4	Trichlorofluoromethane	290	U
75-35-4	1,1-Dichloroethene	290	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon disulfide	290	U
79-20-9	Methyl acetate	290	U
75-09-2	Methylene chloride	290	U
156-60-5	trans-1,2-Dichloroethene	290	U
1634-04-4	Methyl tert-butyl ether	290	U
75-34-3	1,1-Dichloroethane	290	U
156-59-2	cis-1,2-Dichloroethene	93	J
78-93-3	2-Butanone	590	U
74-97-5	Bromochloromethane	290	U
67-66-3	Chloroform	290	U
71-55-6	1,1,1-Trichloroethane	290	U
110-82-7	Cyclohexane	290	U
56-23-5	Carbon tetrachloride	290	U
71-43-2	Benzene	64	J
107-06-2	1,2-Dichloroethane	290	U
123-91-1	1,4-Dioxane	5900	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
C3D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768008

Sample wt/vol: 5.62 (g/mL) g Lab File ID: 768008E

Level: (TRACE/LOW/MED) MED Date Received: 09/18/2008

% Moisture: not dec. 13 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	290	U
108-87-2	Methylcyclohexane	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-pentanone	590	U
108-88-3	Toluene	560	
10061-02-6	trans-1,3-Dichloropropene	290	U
79-00-5	1,1,2-Trichloroethane	290	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
124-48-1	Dibromochloromethane	290	U
106-93-4	1,2-Dibromoethane	290	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	1200	
95-47-6	o-Xylene	1200	
179601-23-1	m,p-Xylene	3900	
100-42-5	Styrene	290	U
75-25-2	Bromoform	290	U
98-82-8	Isopropylbenzene	500	
79-34-5	1,1,2,2-Tetrachloroethane	290	U
541-73-1	1,3-Dichlorobenzene	290	U
106-46-7	1,4-Dichlorobenzene	290	U
95-50-1	1,2-Dichlorobenzene	290	U
96-12-8	1,2-Dibromo-3-chloropropane	290	U
120-82-1	1,2,4-Trichlorobenzene	220	JB
87-61-6	1,2,3-Trichlorobenzene	86	JB

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C3D

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768008

Sample wt/vol: 5.62 (g/mL) g Lab File ID: 768008E

Level: (TRACE or LOW/MED) MED Date Received: 09/18/2008

% Moisture: not dec. 13 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	3400	JXB
02		Unknown	13.60	1100	J
03	108-67-8	Benzene, 1,3,5-trimethyl-	15.26	8400	NJ
04		Unknown	15.91	2400	J
05		Unknown	16.15	2700	J
06		Unknown	16.26	5400	J
07	874-41-9	Benzene, 1-ethyl-2,4-dimethy	16.34	3400	NJ
08		Unknown	16.47	1300	J
09		Unknown	16.52	920	J
10		Unknown	16.64	4400	J
11		Unknown	16.78	4100	J
12		Unknown	18.18	770	J
13	6682-71-9	1H-Indene, 2,3-dihydro-4,7-d	18.41	590	NJ
14	1127-76-0	Naphthalene, 1-ethyl-	20.37	560	NJ
15	575-43-9	Naphthalene, 1,6-dimethyl-	20.54	1400	NJ
16	581-40-8	Naphthalene, 2,3-dimethyl-	20.80	1000	NJ
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A	110000	J

(1) EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB04

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	110	J
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	57	J
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB04

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	58	J
87-61-6	1,2,3-Trichlorobenzene	71	J

SOM01.2

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB04

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/25/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.82	2700	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJ4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ4

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB08

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	70	J
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJ4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ4

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB08

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	250	U
87-61-6	1,2,3-Trichlorobenzene	250	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKJ4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKJ4

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUBB08

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	2700	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK9

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB03

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	63	J
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK9

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB03

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	250	U
87-61-6	1,2,3-Trichlorobenzene	250	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: VBLKK9

Sample wt/vol: 5.00 (g/mL) g Lab File ID: MUCB03

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS:(ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.80	3000	JX
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLKM1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767834M1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 767834E

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	250	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl chloride	250	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	250	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	250	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon disulfide	77	JB
79-20-9	Methyl acetate	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
1634-04-4	Methyl tert-butyl ether	250	U
75-34-3	1,1-Dichloroethane	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	250	U
67-66-3	Chloroform	250	U
71-55-6	1,1,1-Trichloroethane	250	U
110-82-7	Cyclohexane	250	U
56-23-5	Carbon tetrachloride	250	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	250	U
123-91-1	1,4-Dioxane	5000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLKM1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767834M1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 767834E

Level: (TRACE/LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	250	U
108-87-2	Methylcyclohexane	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	250	U
106-93-4	1,2-Dibromoethane	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
95-47-6	o-Xylene	250	U
179601-23-1	m,p-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
98-82-8	Isopropylbenzene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-chloropropane	250	U
120-82-1	1,2,4-Trichlorobenzene	250	U
87-61-6	1,2,3-Trichlorobenzene	250	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLKM1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 767834M1

Sample wt/vol: 5.00 (g/mL) g Lab File ID: 767834E

Level: (TRACE or LOW/MED) MED Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 10/01/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	10.81	3700	JXB
02		Unknown	14.11	1100	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796(1)	Total Alkanes	N/A		

(1)EPA-designated Registry Number.

SOM01.2

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3BMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256MS

Sample wt/vol: 5.24 (g/mL) g Lab File ID: 768256EM

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	310	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl chloride	370	
74-83-9	Bromomethane	310	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	310	U
75-35-4	1,1-Dichloroethene	3400	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	310	U
67-64-1	Acetone	400	J
75-15-0	Carbon disulfide	58	JB
79-20-9	Methyl acetate	490	
75-09-2	Methylene chloride	310	U
156-60-5	trans-1,2-Dichloroethene	310	U
1634-04-4	Methyl tert-butyl ether	310	U
75-34-3	1,1-Dichloroethane	690	
156-59-2	cis-1,2-Dichloroethene	2900	
78-93-3	2-Butanone	170	J
74-97-5	Bromochloromethane	310	U
67-66-3	Chloroform	310	U
71-55-6	1,1,1-Trichloroethane	310	U
110-82-7	Cyclohexane	310	U
56-23-5	Carbon tetrachloride	310	U
71-43-2	Benzene	3900	
107-06-2	1,2-Dichloroethane	310	U
123-91-1	1,4-Dioxane	6100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3BMS

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256MS

Sample wt/vol: 5.24 (g/mL) g Lab File ID: 768256EM

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	3400	
108-87-2	Methylcyclohexane	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-pentanone	170	J
108-88-3	Toluene	8500	
10061-02-6	trans-1,3-Dichloropropene	310	U
79-00-5	1,1,2-Trichloroethane	310	U
127-18-4	Tetrachloroethene	440	
591-78-6	2-Hexanone	610	U
124-48-1	Dibromochloromethane	310	U
106-93-4	1,2-Dibromoethane	310	U
108-90-7	Chlorobenzene	3200	
100-41-4	Ethylbenzene	2000	
95-47-6	o-Xylene	1900	
179601-23-1	m,p-Xylene	6400	
100-42-5	Styrene	310	U
75-25-2	Bromoform	310	U
98-82-8	Isopropylbenzene	210	J
79-34-5	1,1,2,2-Tetrachloroethane	310	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	71	J
95-50-1	1,2-Dichlorobenzene	580	
96-12-8	1,2-Dibromo-3-chloropropane	310	U
120-82-1	1,2,4-Trichlorobenzene	570	
87-61-6	1,2,3-Trichlorobenzene	340	

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3BMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256MD

Sample wt/vol: 6.21 (g/mL) g Lab File ID: 768256ES

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	260	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl chloride	100	J
74-83-9	Bromomethane	260	U
75-00-3	Chloroethane	260	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	2800	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	260	U
67-64-1	Acetone	450	J
75-15-0	Carbon disulfide	50	JB
79-20-9	Methyl acetate	510	
75-09-2	Methylene chloride	260	U
156-60-5	trans-1,2-Dichloroethene	260	U
1634-04-4	Methyl tert-butyl ether	260	U
75-34-3	1,1-Dichloroethane	410	
156-59-2	cis-1,2-Dichloroethene	1900	
78-93-3	2-Butanone	160	J
74-97-5	Bromochloromethane	260	U
67-66-3	Chloroform	260	U
71-55-6	1,1,1-Trichloroethane	260	U
110-82-7	Cyclohexane	260	U
56-23-5	Carbon tetrachloride	260	U
71-43-2	Benzene	3300	
107-06-2	1,2-Dichloroethane	260	U
123-91-1	1,4-Dioxane	5300	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
B3BMSD

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: 768256MD

Sample wt/vol: 6.21 (g/mL) g Lab File ID: 768256ES

Level: (TRACE/LOW/MED) MED Date Received: 09/19/2008

% Moisture: not dec. 12 Date Analyzed: 09/26/2008

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	2900	
108-87-2	Methylcyclohexane	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-pentanone	140	J
108-88-3	Toluene	7900	
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	510	
591-78-6	2-Hexanone	530	U
124-48-1	Dibromochloromethane	260	U
106-93-4	1,2-Dibromoethane	260	U
108-90-7	Chlorobenzene	2800	
100-41-4	Ethylbenzene	2200	
95-47-6	o-Xylene	2100	
179601-23-1	m,p-Xylene	6900	
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	U
98-82-8	Isopropylbenzene	250	J
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	260	U
106-46-7	1,4-Dichlorobenzene	94	J
95-50-1	1,2-Dichlorobenzene	820	
96-12-8	1,2-Dibromo-3-chloropropane	260	U
120-82-1	1,2,4-Trichlorobenzene	690	
87-61-6	1,2,3-Trichlorobenzene	200	J

2C - FORM II VOA-3
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Level: (LOW/MED) MED

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKJ1	116	107	91	87	98	96	103
02	A2D	121	149*	85	91	98	96	108
03	A3B	116	101	90	93	100	100	109
04	A1B	108	138*	77	83	90	90	103
05	C3D	105	94	81	79	91	90	104
06	B3B	105	90	81	82	92	91	113
07	VBLKJ4	105	96	82	57	93	82	99
08	C2C	107	137*	77	74	91	87	99
09	B3BDL	106	109	80	75	93	89	99
10	B3BMS	98	88	100	70	90	87	101
11	B3BMSD	97	28*	98	74	90	87	103
12	VBLKK9	98	96	78	96	99	99	100
13	VHBLKM1	104	102	83	51	104	98	102
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS
VDMC1	(VCL) = Vinyl chloride-d3	(68-122)
VDMC2	(CLA) = Chloroethane-d5	(61-130)
VDMC3	(DCE) = 1,1-Dichloroethene-d2	(45-132)
VDMC4	(BUT) = 2-Butanone-d5	(20-182)
VDMC5	(CLF) = Chloroform-d	(72-123)
VDMC6	(DCA) = 1,2-Dichloroethane-d4	(79-122)
VDMC7	(BEN) = Benzene-d6	(80-121)

Column to be used to flag recovery values
* Values outside of contract required QC limits

2D - FORM II VOA-4
SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Level: (LOW/MED) MED

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (DXE) #	VDMC13 (TCA) #	VDMC14 (DCZ) #	TOT OUT
01	VBLKJ1	92	97	93	85	100	86	92	0
02	A2D	97	104	100	99	101	98	95	1
03	A3B	100	102	99	101	105	95	93	0
04	A1B	94	100	93	94	68	90	94	1
05	C3D	95	99	93	90	99	90	95	0
06	B3B	101	106	96	98	96	91	97	0
07	VBLKJ4	87	95	85	66	75	69	89	0
08	C2C	89	97	90	89	68	86	94	1
09	B3BDL	90	96	92	89	80	87	93	0
10	B3BMS	90	95	90	86	90	83	90	0
11	B3BMSD	93	98	92	88	85	86	92	1
12	VBLKK9	94	98	97	99	79	98	98	0
13	VHBLKM1	96	102	97	84	98	90	99	0
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		QC LIMITS
VDMC8 (DPA)	= 1,2-Dichloropropane-d6	(74-124)
VDMC9 (TOL)	= Toluene-d8	(78-121)
VDMC10 (TDP)	= trans-1,3-Dichloropropene-d4	(72-130)
VDMC11 (HEX)	= 2-Hexanone-d5	(17-184)
VDMC12 (DXE)	= 1,4-Dioxane-d8	(50-150)
VDMC13 (TCA)	= 1,1,2,2-Tetrachloroethane-d2	(56-161)
VDMC14 (DCZ)	= 1,2-Dichlorobenzene-d4	(70-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

3B - FORM III VOA-2
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Matrix Spike - EPA Sample No.: B3B Level: (LOW/MED) MED

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	3100		3400	110	59-172
Trichloroethene	3100	90	3400	107	62-137
Benzene	3100	1300	3900	84	66-142
Toluene	3100	13000	8500	-145*	59-139
Chlorobenzene	3100	110	3200	100	60-133

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	2600	2800	108	2	0-22	59-172
Trichloroethene	2600	2900	108	1	0-24	62-137
Benzene	2600	3300	77	9	0-21	66-142
Toluene	2600	7900	-196*	-30*	0-21	59-139
Chlorobenzene	2600	2800	103	3	0-21	60-133

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 2 out of 10 outside limits

COMMENTS: _____

SOM01.2

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKJ1

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MUBB04 Lab Sample ID: VBLKJ1

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/25/2008

Level: (TRACE or LOW/MED) MED Time Analyzed: 2033

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A2D	767832	767832ED	2130
02	A3B	767833	767833E	2157
03	A1B	768003	768003ED	2225
04	C3D	768008	768008E	2253
05	B3B	768256	768256E	0209
06				
07				
08				
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COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKJ4

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MUBB08 Lab Sample ID: VBLKJ4

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 09/26/2008

Level: (TRACE or LOW/MED) MED Time Analyzed: 0946

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	C2C	768255	768255E2	1039
02	B3BDL	768256D1	768256E2	1121
03	B3BMS	768256MS	768256EM	1208
04	B3BMSD	768256MD	768256ES	1236
05				
06				
07				
08				
09				
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COMMENTS: _____

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MUCB03 Lab Sample ID: VBLKK9

Instrument ID: M.i

Matrix: (SOIL/SED/WATER) Soil Date Analyzed: 10/01/2008

Level: (TRACE or LOW/MED) MED Time Analyzed: 1218

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLKM1	767834M1	767834E	1455
02				
03				
04				
05				
06				
07				
08				
09				
10				
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COMMENTS:

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBUB

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MUB01PV BFB Injection Date: 09/25/2008

Instrument ID: M.i BFB Injection Time: 1634

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.1
75	30.0 - 60.0% of mass 95	44.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 120.0% of mass 95	56.4
175	5.0 - 9.0% of mass 174	4.0 (7.1)1
176	95.0 - 101.0% of mass 174	54.8 (97.2)1
177	5.0 - 9.0% of mass 176	3.5 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005UB	VSTD005UB	MUB005V	09/25/2008	1744
02	VSTD010UB	VSTD010UB	MUB010V	09/25/2008	1812
03	VSTD050UB	VSTD050UB	MUB050V	09/25/2008	1841
04	VSTD100UB	VSTD100UB	MUB100V	09/25/2008	1909
05	VSTD200UB	VSTD200UB	MUB200V	09/25/2008	1937
06	VBLKJ1	VBLKJ1	MUBB04	09/25/2008	2033
07	A2D	767832	767832ED	09/25/2008	2130
08	A3B	767833	767833E	09/25/2008	2157
09	A1B	768003	768003ED	09/25/2008	2225
10	C3D	768008	768008E	09/25/2008	2253
11	B3B	768256	768256E	09/26/2008	0209
12	VSTD050M1	VSTD050M1	MUB50C1	09/26/2008	0334
13	VBLKJ4	VBLKJ4	MUBB08	09/26/2008	0946
14	C2C	768255	768255E2	09/26/2008	1039
15	B3BDL	768256D1	768256E2	09/26/2008	1121
16	B3BMS	768256MS	768256EM	09/26/2008	1208
17	B3BMSD	768256MD	768256ES	09/26/2008	1236
18	VSTD050M3	VSTD050M3	MUB50C3	09/26/2008	1426
19					
20					
21					
22					

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBUC

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MUC01PV BFB Injection Date: 09/27/2008

Instrument ID: M.i BFB Injection Time: 0110

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.0
75	30.0 - 60.0% of mass 95	42.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.6 (1.1)1
174	50.0 - 120.0% of mass 95	57.4
175	5.0 - 9.0% of mass 174	4.2 (7.4)1
176	95.0 - 101.0% of mass 174	56.6 (98.5)1
177	5.0 - 9.0% of mass 176	4.3 (7.5)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005UC	VSTD005UC	MUC005V	09/27/2008	0222
02	VSTD010UC	VSTD010UC	MUC010V	09/27/2008	0250
03	VSTD050UC	VSTD050UC	MUC050V	09/27/2008	0318
04	VSTD100UC	VSTD100UC	MUC100V	09/27/2008	0346
05	VSTD200UC	VSTD200UC	MUC200V	09/27/2008	0414
06					
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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBK9

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Lab File ID: MUC03PV BFB Injection Date: 10/01/2008

Instrument ID: M.i BFB Injection Time: 1002

GC Column: DB-624 ID: 0.53 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.4
75	30.0 - 60.0% of mass 95	41.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.2 (0.4)1
174	50.0 - 120.0% of mass 95	57.6
175	5.0 - 9.0% of mass 174	4.3 (7.4)1
176	95.0 - 101.0% of mass 174	55.4 (96.3)1
177	5.0 - 9.0% of mass 176	3.9 (7.0)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050B1	VSTD050B1	MUC50BV	10/01/2008	1104
02	VBLKK9	VBLKK9	MUCB03	10/01/2008	1218
03	VHBLKM1	767834M1	767834E	10/01/2008	1455
04	VSTD050B2	VSTD050B2	MUC50BC1	10/01/2008	1627
05					
06					
07					
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22					

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/25/2008 09/25/2008

Heated Purge: (Y/N)N Calibration Time(s): 1744 1937

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUB005V RRF10 = MUB010V
RRF50 = MUB050V RRF100 = MUB100V RRF200 = MUB200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Dichlorodifluoromethane	0.362	0.403	0.318	0.287	0.332	0.340	13.0	
Chloromethane	0.276	0.294	0.241	0.223	0.263	0.259	10.8	
Vinyl chloride	0.297	0.328	0.269	0.247	0.287	0.286	10.6	
Bromomethane	0.189	0.219	0.198	0.176	0.208	0.198	8.3	
Chloroethane	0.152	0.163	0.126	0.112	0.125	0.136	15.5	
Trichlorofluoromethane	0.477	0.551	0.447	0.393	0.449	0.463	12.4	
1,1-Dichloroethene	0.352	0.368	0.307	0.277	0.322	0.325	11.1	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.603	0.721	0.597	0.554	0.642	0.623	10.1	
Acetone	0.069	0.077	0.044	0.040	0.046	0.055	29.7	
Carbon disulfide	0.889	1.007	0.853	0.774	0.902	0.885	9.6	
Methyl acetate	0.187	0.209	0.164	0.154	0.174	0.178	12.1	
Methylene chloride	0.355	0.376	0.308	0.281	0.325	0.329	11.5	
trans-1,2-Dichloroethene	0.329	0.384	0.320	0.305	0.352	0.338	9.1	
Methyl tert-butyl ether	0.573	0.675	0.585	0.564	0.639	0.607	7.8	
1,1-Dichloroethane	0.663	0.740	0.620	0.570	0.657	0.650	9.6	
cis-1,2-Dichloroethene	0.360	0.404	0.341	0.312	0.364	0.356	9.4	
2-Butanone	0.120	0.119	0.093	0.087	0.102	0.104	14.6	
Bromochloromethane	0.209	0.241	0.200	0.185	0.215	0.210	9.8	
Chloroform	0.684	0.759	0.657	0.579	0.662	0.668	9.7	
1,1,1-Trichloroethane	0.593	0.700	0.613	0.567	0.655	0.626	8.4	
Cyclohexane	0.539	0.643	0.569	0.529	0.611	0.578	8.4	
Carbon tetrachloride	0.551	0.651	0.577	0.527	0.611	0.583	8.4	
Benzene	1.039	1.220	1.071	0.992	1.128	1.090	8.1	
1,2-Dichloroethane	0.343	0.413	0.351	0.325	0.366	0.360	9.3	
1,4-Dioxane	0.003	0.004	0.002	0.003	0.003	0.003	16.5	<-
Trichloroethene	0.460	0.539	0.467	0.433	0.504	0.481	8.6	
Methylcyclohexane	0.449	0.523	0.459	0.428	0.490	0.470	7.9	

Report 1,4-Dioxane for Low-Medium VOA analysis only

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/25/2008 09/25/2008

Heated Purge: (Y/N)N Calibration Time(s): 1744 1937

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUB005V RRF10 = MUB010V
RRF50 = MUB050V RRF100 = MUB100V RRF200 = MUB200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.497	0.572	0.489	0.465	0.535	0.512	8.3
Bromodichloromethane	0.805	0.924	0.817	0.753	0.875	0.835	7.9
cis-1,3-Dichloropropene	0.722	0.844	0.742	0.679	0.779	0.753	8.3
4-Methyl-2-pentanone	0.328	0.367	0.330	0.305	0.347	0.335	6.9
Toluene	1.191	1.376	1.186	1.088	1.240	1.216	8.6
trans-1,3-Dichloropropene	0.632	0.735	0.647	0.588	0.671	0.655	8.2
1,1,2-Trichloroethane	0.440	0.485	0.431	0.398	0.459	0.443	7.3
Tetrachloroethene	0.334	0.393	0.345	0.321	0.373	0.353	8.4
2-Hexanone	0.253	0.298	0.238	0.218	0.248	0.251	11.7
Dibromochloromethane	0.685	0.793	0.689	0.631	0.735	0.707	8.6
1,2-Dibromoethane	0.623	0.719	0.632	0.573	0.672	0.644	8.5
Chlorobenzene	1.007	1.153	0.982	0.902	1.035	1.016	9.0
Ethylbenzene	1.586	1.833	1.580	1.421	1.613	1.607	9.2
o-Xylene	0.611	0.696	0.605	0.551	0.634	0.619	8.5
m,p-Xylene	0.627	0.729	0.627	0.576	0.658	0.643	8.7
Styrene	1.064	1.216	1.079	0.975	1.119	1.091	8.0
Bromoform	0.797	0.946	0.830	0.773	0.885	0.846	8.3
Isopropylbenzene	1.790	2.054	1.774	1.611	1.834	1.813	8.8
1,1,2,2-Tetrachloroethane	0.771	0.888	0.761	0.686	0.776	0.776	9.3
1,3-Dichlorobenzene	1.567	1.806	1.591	1.443	1.639	1.609	8.2
1,4-Dichlorobenzene	1.809	2.019	1.725	1.583	1.848	1.797	8.9
1,2-Dichlorobenzene	1.500	1.715	1.483	1.357	1.544	1.520	8.5
1,2-Dibromo-3-chloropropane	0.284	0.302	0.264	0.244	0.281	0.275	8.1
1,2,4-Trichlorobenzene	1.052	1.260	1.128	1.048	1.232	1.144	8.6
1,2,3-Trichlorobenzene	0.997	1.174	1.024	0.958	1.123	1.055	8.5

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/25/2008 09/25/2008

Heated Purge: (Y/N)N Calibration Time(s): 1744 1937

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUB005V RRF10 = MUB010V
RRF50 = MUB050V RRF100 = MUB100V RRF200 = MUB200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Vinyl chloride-d3	0.297	0.303	0.265	0.242	0.281	0.278	9.0	
Chloroethane-d5	0.251	0.226	0.180	0.154	0.173	0.197	20.4	
1,1-Dichloroethene-d2	0.793	0.856	0.728	0.663	0.752	0.758	9.5	
2-Butanone-d5	0.113	0.133	0.100	0.092	0.109	0.109	14.2	
Chloroform-d	0.752	0.843	0.719	0.644	0.724	0.736	9.7	
1,2-Dichloroethane-d4	0.304	0.374	0.311	0.288	0.321	0.320	10.3	
Benzene-d6	1.130	1.300	1.141	1.055	1.201	1.165	7.8	
1,2-Dichloropropane-d6	0.624	0.724	0.637	0.589	0.683	0.651	8.1	
Toluene-d8	1.130	1.299	1.123	1.036	1.202	1.158	8.5	
trans-1,3-Dichloropropene-d4	0.620	0.708	0.623	0.576	0.657	0.637	7.7	
2-Hexanone-d5	0.146	0.176	0.137	0.130	0.149	0.148	11.8	
1,4-Dioxane-d8	0.003	0.004	0.003	0.003	0.003	0.003	18.2	<-
1,1,2,2-Tetrachloroethane-d2	0.793	0.891	0.772	0.699	0.800	0.791	8.7	
1,2-Dichlorobenzene-d4	1.029	1.139	0.961	0.893	1.038	1.012	9.1	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/27/2008 09/27/2008

Heated Purge: (Y/N)N Calibration Time(s): 0222 0414

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUC005V RRF10 = MUC010V
RRF50 = MUC050V RRF100 = MUC100V RRF200 = MUC200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Dichlorodifluoromethane	0.325	0.330	0.314	0.321	0.318	0.321	1.9	
Chloromethane	0.232	0.229	0.223	0.234	0.238	0.231	2.3	
Vinyl chloride	0.287	0.281	0.274	0.281	0.277	0.280	1.8	
Bromomethane	0.227	0.206	0.200	0.194	0.199	0.205	6.2	
Chloroethane	0.127	0.134	0.116	0.118	0.115	0.122	7.0	
Trichlorofluoromethane	0.545	0.563	0.509	0.465	0.430	0.502	10.9	
1,1-Dichloroethene	0.357	0.370	0.363	0.371	0.363	0.365	1.5	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.732	0.745	0.745	0.744	0.729	0.739	1.1	
Acetone	0.047	0.037	0.034	0.040	0.038	0.039	12.1	
Carbon disulfide	1.038	1.068	1.050	1.084	1.067	1.061	1.7	
Methyl acetate	0.167	0.173	0.175	0.173	0.174	0.172	1.7	
Methylene chloride	0.343	0.350	0.347	0.354	0.353	0.350	1.3	
trans-1,2-Dichloroethene	0.390	0.392	0.384	0.393	0.389	0.390	0.9	
Methyl tert-butyl ether	0.662	0.685	0.685	0.672	0.678	0.676	1.4	
1,1-Dichloroethane	0.692	0.688	0.683	0.692	0.682	0.687	0.7	
cis-1,2-Dichloroethene	0.387	0.384	0.384	0.394	0.387	0.387	1.1	
2-Butanone	0.086	0.091	0.079	0.086	0.085	0.085	5.1	
Bromochloromethane	0.226	0.233	0.234	0.238	0.237	0.233	2.0	
Chloroform	0.664	0.682	0.682	0.673	0.660	0.672	1.5	
1,1,1-Trichloroethane	0.663	0.683	0.701	0.690	0.683	0.684	2.1	
Cyclohexane	0.635	0.661	0.685	0.679	0.664	0.665	2.9	
Carbon tetrachloride	0.627	0.654	0.662	0.660	0.650	0.651	2.1	
Benzene	1.176	1.209	1.248	1.227	1.193	1.211	2.3	
1,2-Dichloroethane	0.353	0.364	0.366	0.364	0.354	0.360	1.7	
1,4-Dioxane	0.002	0.002	0.003	0.003	0.003	0.003	18.8	<-
Trichloroethene	0.512	0.526	0.536	0.531	0.524	0.526	1.7	
Methylcyclohexane	0.483	0.527	0.536	0.519	0.511	0.515	4.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/27/2008 09/27/2008

Heated Purge: (Y/N)N Calibration Time(s): 0222 0414

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUC005V RRF10 = MUC010V
RRF50 = MUC050V RRF100 = MUC100V RRF200 = MUC200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.494	0.525	0.534	0.534	0.529	0.523	3.2
Bromodichloromethane	0.791	0.837	0.840	0.846	0.832	0.829	2.6
cis-1,3-Dichloropropene	0.736	0.759	0.778	0.780	0.759	0.762	2.3
4-Methyl-2-pentanone	0.282	0.291	0.301	0.294	0.298	0.293	2.5
Toluene	1.240	1.298	1.311	1.273	1.262	1.277	2.2
trans-1,3-Dichloropropene	0.625	0.633	0.649	0.647	0.632	0.637	1.6
1,1,2-Trichloroethane	0.422	0.435	0.451	0.448	0.445	0.440	2.7
Tetrachloroethene	0.372	0.388	0.400	0.396	0.394	0.390	2.8
2-Hexanone	0.208	0.221	0.211	0.208	0.208	0.211	2.6
Dibromochloromethane	0.683	0.711	0.721	0.726	0.721	0.712	2.4
1,2-Dibromoethane	0.615	0.647	0.669	0.671	0.670	0.654	3.7
Chlorobenzene	1.023	1.056	1.053	1.051	1.025	1.041	1.5
Ethylbenzene	1.544	1.627	1.626	1.591	1.530	1.584	2.9
o-Xylene	0.610	0.620	0.632	0.630	0.614	0.621	1.6
m,p-Xylene	0.653	0.661	0.661	0.673	0.658	0.661	1.1
Styrene	1.051	1.093	1.112	1.109	1.070	1.087	2.4
Bromoform	0.819	0.857	0.850	0.862	0.872	0.852	2.3
Isopropylbenzene	1.766	1.813	1.819	1.822	1.756	1.795	1.7
1,1,2,2-Tetrachloroethane	0.699	0.718	0.720	0.715	0.710	0.712	1.2
1,3-Dichlorobenzene	1.491	1.551	1.585	1.680	1.645	1.590	4.7
1,4-Dichlorobenzene	1.789	1.871	1.890	1.793	1.778	1.824	2.9
1,2-Dichlorobenzene	1.514	1.542	1.553	1.512	1.497	1.524	1.5
1,2-Dibromo-3-chloropropane	0.260	0.237	0.241	0.234	0.243	0.243	4.2
1,2,4-Trichlorobenzene	1.053	1.114	1.135	1.149	1.152	1.120	3.6
1,2,3-Trichlorobenzene	0.966	0.986	0.963	0.994	0.998	0.981	1.7

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date(s): 09/27/2008 09/27/2008

Heated Purge: (Y/N)N Calibration Time(s): 0222 0414

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

LAB FILE ID: RRF5.0 = MUC005V RRF10 = MUC010V
RRF50 = MUC050V RRF100 = MUC100V RRF200 = MUC200V

COMPOUND	RRF5.0	RRF10	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD	
Vinyl chloride-d3	0.297	0.294	0.278	0.285	0.283	0.287	2.7	
Chloroethane-d5	0.206	0.194	0.171	0.169	0.167	0.181	9.7	
1,1-Dichloroethene-d2	0.757	0.767	0.755	0.763	0.743	0.757	1.2	
2-Butanone-d5	0.081	0.089	0.084	0.094	0.089	0.088	5.8	
Chloroform-d	0.694	0.711	0.708	0.696	0.687	0.699	1.4	
1,2-Dichloroethane-d4	0.310	0.284	0.308	0.304	0.297	0.301	3.5	
Benzene-d6	1.167	1.220	1.255	1.225	1.195	1.212	2.7	
1,2-Dichloropropane-d6	0.625	0.641	0.663	0.664	0.653	0.649	2.5	
Toluene-d8	1.129	1.188	1.206	1.183	1.156	1.172	2.6	
trans-1,3-Dichloropropene-d4	0.581	0.601	0.613	0.604	0.599	0.600	2.0	
2-Hexanone-d5	0.133	0.135	0.136	0.133	0.135	0.134	0.9	
1,4-Dioxane-d8	0.002	0.003	0.003	0.003	0.003	0.003	17.9	<-
1,1,2,2-Tetrachloroethane-d2	0.686	0.699	0.697	0.694	0.691	0.693	0.7	
1,2-Dichlorobenzene-d4	0.939	0.959	0.959	0.946	0.946	0.950	0.9	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

SOM01.2

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0334

Lab File ID: MUB50C1 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.340	0.288	0.010	-15.5	40.0	
Chloromethane	0.259	0.214	0.010	-17.6	40.0	
Vinyl chloride	0.286	0.255	0.100	-10.7	25.0	
Bromomethane	0.198	0.186	0.100	-6.3	25.0	
Chloroethane	0.136	0.119	0.010	-12.1	40.0	
Trichlorofluoromethane	0.463	0.517	0.010	11.6	40.0	
1,1-Dichloroethene	0.325	0.284	0.100	-12.6	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.623	0.572	0.010	-8.2	40.0	
Acetone	0.055	0.034	0.010	-39.0	40.0	
Carbon disulfide	0.885	0.796	0.010	-10.1	40.0	
Methyl acetate	0.178	0.142	0.010	-19.9	40.0	
Methylene chloride	0.329	0.282	0.010	-14.3	40.0	
trans-1,2-Dichloroethene	0.338	0.314	0.010	-7.1	40.0	
Methyl tert-butyl ether	0.607	0.594	0.010	-2.1	40.0	
1,1-Dichloroethane	0.650	0.569	0.200	-12.4	25.0	
cis-1,2-Dichloroethene	0.356	0.333	0.010	-6.4	40.0	
2-Butanone	0.104	0.080	0.010	-23.6	40.0	
Bromochloromethane	0.210	0.201	0.050	-4.4	25.0	
Chloroform	0.668	0.607	0.200	-9.1	25.0	
1,1,1-Trichloroethane	0.626	0.593	0.100	-5.2	25.0	
Cyclohexane	0.578	0.551	0.010	-4.6	40.0	
Carbon tetrachloride	0.583	0.571	0.100	-2.1	25.0	
Benzene	1.090	1.065	0.400	-2.3	25.0	
1,2-Dichloroethane	0.360	0.317	0.100	-11.7	25.0	
1,4-Dioxane	0.003	0.002	0.005	-44.1	50.0	<-
Trichloroethene	0.481	0.468	0.300	-2.7	25.0	
Methylcyclohexane	0.470	0.439	0.010	-6.5	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0334

Lab File ID: MUB50C1 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.512	0.485	0.010	-5.3	40.0
Bromodichloromethane	0.835	0.783	0.200	-6.1	25.0
cis-1,3-Dichloropropene	0.753	0.719	0.200	-4.6	25.0
4-Methyl-2-pentanone	0.335	0.295	0.010	-11.9	40.0
Toluene	1.216	1.185	0.400	-2.6	25.0
trans-1,3-Dichloropropene	0.655	0.612	0.100	-6.5	25.0
1,1,2-Trichloroethane	0.443	0.438	0.100	-1.0	25.0
Tetrachloroethene	0.353	0.359	0.100	1.6	25.0
2-Hexanone	0.251	0.215	0.010	-14.3	40.0
Dibromochloromethane	0.707	0.710	0.100	0.4	25.0
1,2-Dibromoethane	0.644	0.645	0.010	0.3	40.0
Chlorobenzene	1.016	1.009	0.500	-0.7	25.0
Ethylbenzene	1.607	1.524	0.100	-5.2	25.0
o-Xylene	0.619	0.601	0.300	-2.9	25.0
m,p-Xylene	0.643	0.636	0.300	-1.1	25.0
Styrene	1.091	1.095	0.300	0.4	25.0
Bromoform	0.846	0.885	0.050	4.6	25.0
Isopropylbenzene	1.813	1.779	0.010	-1.9	40.0
1,1,2,2-Tetrachloroethane	0.776	0.736	0.300	-5.2	25.0
1,3-Dichlorobenzene	1.609	1.595	0.600	-0.9	25.0
1,4-Dichlorobenzene	1.797	1.921	0.500	6.9	25.0
1,2-Dichlorobenzene	1.520	1.584	0.400	4.2	25.0
1,2-Dibromo-3-chloropropane	0.275	0.250	0.010	-9.2	40.0
1,2,4-Trichlorobenzene	1.144	1.194	0.200	4.4	25.0
1,2,3-Trichlorobenzene	1.055	1.073	0.200	1.7	25.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 0334

Lab File ID: MUB50C1 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.278	0.251	0.010	-9.7	25.0	
Chloroethane-d5	0.197	0.167	0.010	-15.1	40.0	
1,1-Dichloroethene-d2	0.758	0.655	0.010	-13.7	25.0	
2-Butanone-d5	0.109	0.086	0.010	-21.2	40.0	
Chloroform-d	0.736	0.666	0.010	-9.6	25.0	
1,2-Dichloroethane-d4	0.320	0.286	0.010	-10.4	25.0	
Benzene-d6	1.165	1.150	0.010	-1.3	25.0	
1,2-Dichloropropane-d6	0.651	0.636	0.010	-2.4	40.0	
Toluene-d8	1.158	1.142	0.010	-1.4	25.0	
trans-1,3-Dichloropropene-d4	0.637	0.598	0.010	-6.1	25.0	
2-Hexanone-d5	0.148	0.138	0.010	-6.4	40.0	
1,4-Dioxane-d8	0.003	0.002	0.005	-50.7	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.791	0.748	0.010	-5.5	25.0	
1,2-Dichlorobenzene-d4	1.012	1.016	0.010	0.4	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 1426

Lab File ID: MUB50C3 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M3 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.340	0.296	0.010	-13.2	50.0	
Chloromethane	0.259	0.219	0.010	-15.6	50.0	
Vinyl chloride	0.286	0.260	0.010	-9.0	50.0	
Bromomethane	0.198	0.199	0.010	0.6	50.0	
Chloroethane	0.136	0.147	0.010	8.1	50.0	
Trichlorofluoromethane	0.463	0.524	0.010	13.1	50.0	
1,1-Dichloroethene	0.325	0.288	0.010	-11.4	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.623	0.558	0.010	-10.5	50.0	
Acetone	0.055	0.026	0.010	-53.4	50.0	<-
Carbon disulfide	0.885	0.806	0.010	-8.9	50.0	
Methyl acetate	0.178	0.131	0.010	-26.4	50.0	
Methylene chloride	0.329	0.292	0.010	-11.3	50.0	
trans-1,2-Dichloroethene	0.338	0.317	0.010	-6.2	50.0	
Methyl tert-butyl ether	0.607	0.559	0.010	-7.9	50.0	
1,1-Dichloroethane	0.650	0.576	0.010	-11.4	50.0	
cis-1,2-Dichloroethene	0.356	0.334	0.010	-6.3	50.0	
2-Butanone	0.104	0.066	0.010	-36.3	50.0	
Bromochloromethane	0.210	0.211	0.010	0.7	50.0	
Chloroform	0.668	0.613	0.010	-8.3	50.0	
1,1,1-Trichloroethane	0.626	0.568	0.010	-9.2	50.0	
Cyclohexane	0.578	0.526	0.010	-9.1	50.0	
Carbon tetrachloride	0.583	0.548	0.010	-6.0	50.0	
Benzene	1.090	1.022	0.010	-6.2	50.0	
1,2-Dichloroethane	0.360	0.319	0.010	-11.2	50.0	
1,4-Dioxane	0.003	0.001	0.005	-71.2	50.0	<-
Trichloroethene	0.481	0.453	0.010	-5.7	50.0	
Methylcyclohexane	0.470	0.416	0.010	-11.4	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 1426

Lab File ID: MUB50C3 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M3 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.512	0.468	0.010	-8.6	50.0
Bromodichloromethane	0.835	0.758	0.010	-9.2	50.0
cis-1,3-Dichloropropene	0.753	0.715	0.010	-5.1	50.0
4-Methyl-2-pentanone	0.335	0.275	0.010	-18.0	50.0
Toluene	1.216	1.151	0.010	-5.3	50.0
trans-1,3-Dichloropropene	0.655	0.607	0.010	-7.4	50.0
1,1,2-Trichloroethane	0.443	0.420	0.010	-5.1	50.0
Tetrachloroethene	0.353	0.355	0.010	0.6	50.0
2-Hexanone	0.251	0.204	0.010	-18.7	50.0
Dibromochloromethane	0.707	0.690	0.010	-2.4	50.0
1,2-Dibromoethane	0.644	0.623	0.010	-3.2	50.0
Chlorobenzene	1.016	1.028	0.010	1.2	50.0
Ethylbenzene	1.607	1.516	0.010	-5.7	50.0
o-Xylene	0.619	0.611	0.010	-1.3	50.0
m,p-Xylene	0.643	0.641	0.010	-0.4	50.0
Styrene	1.091	1.092	0.010	0.1	50.0
Bromoform	0.846	0.865	0.010	2.2	50.0
Isopropylbenzene	1.813	1.774	0.010	-2.1	50.0
1,1,2,2-Tetrachloroethane	0.776	0.712	0.010	-8.3	50.0
1,3-Dichlorobenzene	1.609	1.625	0.010	1.0	50.0
1,4-Dichlorobenzene	1.797	1.922	0.010	7.0	50.0
1,2-Dichlorobenzene	1.520	1.578	0.010	3.8	50.0
1,2-Dibromo-3-chloropropane	0.275	0.230	0.010	-16.4	50.0
1,2,4-Trichlorobenzene	1.144	1.186	0.010	3.7	50.0
1,2,3-Trichlorobenzene	1.055	0.995	0.010	-5.7	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 09/26/2008 Time: 1426

Lab File ID: MUB50C3 Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M3 Init. Calib. Time(s): 1744 1937

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.278	0.261	0.010	-6.1	50.0	
Chloroethane-d5	0.197	0.198	0.010	0.5	50.0	
1,1-Dichloroethene-d2	0.758	0.661	0.010	-12.8	50.0	
2-Butanone-d5	0.109	0.071	0.010	-35.2	50.0	
Chloroform-d	0.736	0.679	0.010	-7.8	50.0	
1,2-Dichloroethane-d4	0.320	0.285	0.010	-10.7	50.0	
Benzene-d6	1.165	1.105	0.010	-5.2	50.0	
1,2-Dichloropropane-d6	0.651	0.609	0.010	-6.5	50.0	
Toluene-d8	1.158	1.127	0.010	-2.7	50.0	
trans-1,3-Dichloropropene-d4	0.637	0.605	0.010	-4.9	50.0	
2-Hexanone-d5	0.148	0.133	0.010	-9.5	50.0	
1,4-Dioxane-d8	0.003	0.001	0.005	-53.9	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.791	0.726	0.010	-8.2	50.0	
1,2-Dichlorobenzene-d4	1.012	1.033	0.010	2.0	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1104

Lab File ID: MUC50BV Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.321	0.313	0.010	-2.6	40.0	
Chloromethane	0.231	0.223	0.010	-3.5	40.0	
Vinyl chloride	0.280	0.273	0.100	-2.5	25.0	
Bromomethane	0.205	0.175	0.100	-14.4	25.0	
Chloroethane	0.122	0.123	0.010	1.3	40.0	
Trichlorofluoromethane	0.502	0.483	0.010	-3.8	40.0	
1,1-Dichloroethene	0.365	0.364	0.100	-0.1	25.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.739	0.753	0.010	1.8	40.0	
Acetone	0.039	0.033	0.010	-16.1	40.0	
Carbon disulfide	1.061	1.077	0.010	1.5	40.0	
Methyl acetate	0.172	0.180	0.010	4.3	40.0	
Methylene chloride	0.350	0.352	0.010	0.8	40.0	
trans-1,2-Dichloroethene	0.390	0.394	0.010	1.2	40.0	
Methyl tert-butyl ether	0.676	0.710	0.010	4.9	40.0	
1,1-Dichloroethane	0.687	0.691	0.200	0.6	25.0	
cis-1,2-Dichloroethene	0.387	0.396	0.010	2.5	40.0	
2-Butanone	0.085	0.081	0.010	-4.9	40.0	
Bromochloromethane	0.233	0.238	0.050	1.8	25.0	
Chloroform	0.672	0.689	0.200	2.6	25.0	
1,1,1-Trichloroethane	0.684	0.667	0.100	-2.5	25.0	
Cyclohexane	0.665	0.664	0.010	-0.1	40.0	
Carbon tetrachloride	0.651	0.648	0.100	-0.4	25.0	
Benzene	1.211	1.195	0.400	-1.3	25.0	
1,2-Dichloroethane	0.360	0.369	0.100	2.5	25.0	
1,4-Dioxane	0.003	0.003	0.005	3.3	50.0	<-
Trichloroethene	0.526	0.508	0.300	-3.3	25.0	
Methylcyclohexane	0.515	0.515	0.010	-0.1	40.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1104

Lab File ID: MUC50BV Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.523	0.511	0.010	-2.4	40.0
Bromodichloromethane	0.829	0.808	0.200	-2.6	25.0
cis-1,3-Dichloropropene	0.762	0.759	0.200	-0.4	25.0
4-Methyl-2-pentanone	0.293	0.300	0.010	2.3	40.0
Toluene	1.277	1.256	0.400	-1.6	25.0
trans-1,3-Dichloropropene	0.637	0.637	0.100	-0.1	25.0
1,1,2-Trichloroethane	0.440	0.431	0.100	-2.2	25.0
Tetrachloroethene	0.390	0.383	0.100	-1.7	25.0
2-Hexanone	0.211	0.210	0.010	-0.8	40.0
Dibromochloromethane	0.712	0.698	0.100	-2.1	25.0
1,2-Dibromoethane	0.654	0.657	0.010	0.4	40.0
Chlorobenzene	1.041	1.044	0.500	0.3	25.0
Ethylbenzene	1.584	1.568	0.100	-1.0	25.0
o-Xylene	0.621	0.610	0.300	-1.7	25.0
m,p-Xylene	0.661	0.645	0.300	-2.4	25.0
Styrene	1.087	1.074	0.300	-1.2	25.0
Bromoform	0.852	0.875	0.050	2.7	25.0
Isopropylbenzene	1.795	1.767	0.010	-1.6	40.0
1,1,2,2-Tetrachloroethane	0.712	0.729	0.300	2.3	25.0
1,3-Dichlorobenzene	1.590	1.539	0.600	-3.2	25.0
1,4-Dichlorobenzene	1.824	1.861	0.500	2.0	25.0
1,2-Dichlorobenzene	1.524	1.501	0.400	-1.5	25.0
1,2-Dibromo-3-chloropropane	0.243	0.261	0.010	7.2	40.0
1,2,4-Trichlorobenzene	1.120	1.142	0.200	1.9	25.0
1,2,3-Trichlorobenzene	0.981	1.047	0.200	6.7	25.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1104

Lab File ID: MUC50BV Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.287	0.276	0.010	-4.0	25.0	
Chloroethane-d5	0.181	0.172	0.010	-5.2	40.0	
1,1-Dichloroethene-d2	0.757	0.752	0.010	-0.7	25.0	
2-Butanone-d5	0.088	0.085	0.010	-2.6	40.0	
Chloroform-d	0.699	0.720	0.010	2.9	25.0	
1,2-Dichloroethane-d4	0.301	0.309	0.010	2.9	25.0	
Benzene-d6	1.212	1.187	0.010	-2.1	25.0	
1,2-Dichloropropane-d6	0.649	0.642	0.010	-1.1	40.0	
Toluene-d8	1.172	1.155	0.010	-1.5	25.0	
trans-1,3-Dichloropropene-d4	0.600	0.597	0.010	-0.4	25.0	
2-Hexanone-d5	0.134	0.133	0.010	-0.9	40.0	
1,4-Dioxane-d8	0.003	0.003	0.005	-2.6	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.693	0.709	0.010	2.2	25.0	
1,2-Dichlorobenzene-d4	0.950	0.941	0.010	-1.0	40.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1627

Lab File ID: MUC50BC1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B2 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.321	0.310	0.010	-3.6	50.0	
Chloromethane	0.231	0.227	0.010	-1.8	50.0	
Vinyl chloride	0.280	0.268	0.010	-4.2	50.0	
Bromomethane	0.205	0.201	0.010	-1.8	50.0	
Chloroethane	0.122	0.129	0.010	5.5	50.0	
Trichlorofluoromethane	0.502	0.556	0.010	10.7	50.0	
1,1-Dichloroethene	0.365	0.359	0.010	-1.6	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.739	0.739	0.010	-0.1	50.0	
Acetone	0.039	0.028	0.010	-27.9	50.0	
Carbon disulfide	1.061	1.048	0.010	-1.2	50.0	
Methyl acetate	0.172	0.175	0.010	1.3	50.0	
Methylene chloride	0.350	0.349	0.010	-0.0	50.0	
trans-1,2-Dichloroethene	0.390	0.385	0.010	-1.2	50.0	
Methyl tert-butyl ether	0.676	0.700	0.010	3.5	50.0	
1,1-Dichloroethane	0.687	0.681	0.010	-0.8	50.0	
cis-1,2-Dichloroethene	0.387	0.383	0.010	-0.9	50.0	
2-Butanone	0.085	0.072	0.010	-15.1	50.0	
Bromochloromethane	0.233	0.235	0.010	0.7	50.0	
Chloroform	0.672	0.687	0.010	2.2	50.0	
1,1,1-Trichloroethane	0.684	0.680	0.010	-0.6	50.0	
Cyclohexane	0.665	0.663	0.010	-0.3	50.0	
Carbon tetrachloride	0.651	0.654	0.010	0.5	50.0	
Benzene	1.211	1.218	0.010	0.6	50.0	
1,2-Dichloroethane	0.360	0.371	0.010	3.0	50.0	
1,4-Dioxane	0.003	0.002	0.005	-16.9	50.0	<-
Trichloroethene	0.526	0.520	0.010	-1.1	50.0	
Methylcyclohexane	0.515	0.521	0.010	1.1	50.0	

Report 1,4-Dioxane for Low-Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1627

Lab File ID: MUC50BC1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B2 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.523	0.522	0.010	-0.2	50.0
Bromodichloromethane	0.829	0.825	0.010	-0.6	50.0
cis-1,3-Dichloropropene	0.762	0.775	0.010	1.6	50.0
4-Methyl-2-pentanone	0.293	0.286	0.010	-2.6	50.0
Toluene	1.277	1.288	0.010	0.9	50.0
trans-1,3-Dichloropropene	0.637	0.649	0.010	1.7	50.0
1,1,2-Trichloroethane	0.440	0.435	0.010	-1.2	50.0
Tetrachloroethene	0.390	0.390	0.010	0.1	50.0
2-Hexanone	0.211	0.200	0.010	-5.3	50.0
Dibromochloromethane	0.712	0.703	0.010	-1.3	50.0
1,2-Dibromoethane	0.654	0.650	0.010	-0.7	50.0
Chlorobenzene	1.041	1.044	0.010	0.2	50.0
Ethylbenzene	1.584	1.570	0.010	-0.9	50.0
o-Xylene	0.621	0.613	0.010	-1.4	50.0
m,p-Xylene	0.661	0.654	0.010	-1.1	50.0
Styrene	1.087	1.081	0.010	-0.5	50.0
Bromoform	0.852	0.830	0.010	-2.5	50.0
Isopropylbenzene	1.795	1.792	0.010	-0.1	50.0
1,1,2,2-Tetrachloroethane	0.712	0.699	0.010	-1.8	50.0
1,3-Dichlorobenzene	1.590	1.593	0.010	0.2	50.0
1,4-Dichlorobenzene	1.824	1.788	0.010	-2.0	50.0
1,2-Dichlorobenzene	1.524	1.492	0.010	-2.1	50.0
1,2-Dibromo-3-chloropropane	0.243	0.236	0.010	-2.9	50.0
1,2,4-Trichlorobenzene	1.120	1.117	0.010	-0.3	50.0
1,2,3-Trichlorobenzene	0.981	1.029	0.010	4.9	50.0

SOM01.2

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

Instrument ID: M.i Calibration Date: 10/01/2008 Time: 1627

Lab File ID: MUC50BC1 Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B2 Init. Calib. Time(s): 0222 0414

Heated Purge: (Y/N)N GC Column: DB-624 ID: 0.53 (mm) Length: 75 (m)

Purge Volume: 5.0 (mL)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Vinyl chloride-d3	0.287	0.279	0.010	-3.0	50.0	
Chloroethane-d5	0.181	0.184	0.010	1.5	50.0	
1,1-Dichloroethene-d2	0.757	0.761	0.010	0.5	50.0	
2-Butanone-d5	0.088	0.073	0.010	-17.2	50.0	
Chloroform-d	0.699	0.715	0.010	2.2	50.0	
1,2-Dichloroethane-d4	0.301	0.315	0.010	4.6	50.0	
Benzene-d6	1.212	1.212	0.010	-0.0	50.0	
1,2-Dichloropropane-d6	0.649	0.647	0.010	-0.3	50.0	
Toluene-d8	1.172	1.179	0.010	0.6	50.0	
trans-1,3-Dichloropropene-d4	0.600	0.602	0.010	0.5	50.0	
2-Hexanone-d5	0.134	0.126	0.010	-6.0	50.0	
1,4-Dioxane-d8	0.003	0.002	0.005	-21.4	50.0	<-
1,1,2,2-Tetrachloroethane-d2	0.693	0.685	0.010	-1.2	50.0	
1,2-Dichlorobenzene-d4	0.950	0.949	0.010	-0.0	50.0	

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050UB Date Analyzed: 09/25/2008

Lab File ID (Standard): MUB050V Time Analyzed: 1841

Instrument ID: M.i Heated Purge: (Y/N) N

		IS1(CBZ)		IS2(DFB)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	2568499	12.92	3059360	9.37	1394860	15.66
	UPPER LIMIT	5136998	13.42	6118720	9.87	2789720	16.16
	LOWER LIMIT	1284250	12.42	1529680	8.87	697430	15.16
	EPA SAMPLE NO.						
01	VBLKJ1	2424542	12.94	2768083	9.37	1280124	15.65
02	A2D	2570853	12.94	3042502	9.37	1427829	15.66
03	A3B	2667101	12.92	3135089	9.35	1446947	15.66
04	A1B	2727253	12.92	3223223	9.35	1409880	15.65
05	C3D	2811181	12.92	3324025	9.37	1419703	15.64
06	B3B	2775933	12.92	3455242	9.35	1468019	15.67
07							
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12							
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15							
16							
17							
18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/25/2008 09/25/2008

EPA Sample No.(VSTD#####): VSTD050M1 Date Analyzed: 09/26/2008

Lab File ID (Standard): MUB50C1 Time Analyzed: 0334

Instrument ID: M.i Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2707910	12.92	3288285	9.35	1408024	15.65
	UPPER LIMIT	5415820	13.42	6576570	9.85	2816048	16.15
	LOWER LIMIT	1353955	12.42	1644142	8.85	704012	15.15
	EPA SAMPLE NO.						
01	VBLKJ4	2812591	12.92	3277013	9.35	1431946	15.63
02	C2C	2707698	12.92	3115080	9.37	1385211	15.65
03	B3BDL	2687486	12.94	3102995	9.35	1421496	15.65
04	B3BMS	2674989	12.92	3194306	9.35	1416857	15.65
05	B3BMSD	2729618	12.92	3267624	9.35	1398975	15.65
06							
07							
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19							
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22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: A71586

Lab Code: STLV Case No.: H2400200 Mod. Ref No.: SDG No.: 127655

GC Column: DB-624 ID: 0.53 (mm) Init. Calib. Date(s): 09/27/2008 09/27/2008

EPA Sample No.(VSTD#####): VSTD050B1 Date Analyzed: 10/01/2008

Lab File ID (Standard): MUC50BV Time Analyzed: 1104

Instrument ID: M.i Heated Purge: (Y/N) N

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2873513	12.93	3357517	9.37	1510554	15.64
	UPPER LIMIT	5747026	13.43	6715034	9.87	3021108	16.14
	LOWER LIMIT	1436756	12.43	1678758	8.87	755277	15.14
	EPA SAMPLE NO.						
01	VBLKK9	2983511	12.93	3533055	9.35	1551873	15.64
02	VHBLKM1	2926999	12.92	3434565	9.37	1550743	15.65
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04							
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IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.50 (Low-Medium Volatiles) and + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.50 (Low-Medium Volatiles) and - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk