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MACTEC

RESULTS OF THE SUPPLEMENTAL GROUNDWATER INVESTIGATION

SWOPE OIL SUPERFUND SITE
PENNSAUKEN, NEW JERSEY

Prepared for:

Swope Oil Superfund Site Consent Decree Signatories

Pennsauken, New Jersey

July 2004

MACTEC

July 2, 2004

John M. Ix, Esquire
Dechert, LLP
4000 Bell Atlantic Tower
1717 Arch Street
Philadelphia, Pennsylvania 19103-2793

Via Federal Express

Subject: **Final Report for Supplemental Ground Water Investigation**
Swope Oil and Chemical Company Site
Pennsauken, New Jersey
MACTEC Project Number 3485-04-0018

Dear Mr. Ix:

MACTEC Engineering and Consulting, Inc. is pleased to submit this report to the Swope Cleanup Committee for the Supplemental Ground-Water Investigation that was completed at the Swope Oil and Chemical Company Site in Pennsauken, New Jersey. The scope of work for this investigation was described in MACTEC's USEPA-approved work plan dated October 17, 2003. The purpose of this investigation was to further assess ground-water quality conditions in the shallow aquifer in the vicinity of the Swope Site.

We appreciate the opportunity to continue to assist the Committee on this interesting project. If you have any questions or need additional information, please call me.

Sincerely,
MACTEC Engineering and Consulting, Inc.

Stephan Cap
Staff Scientist

Douglas J. Newton, C.P.G., P.G.
Sr. Principal Geologist

Enclosures

Cc: John Vidumsky – Dupont (one copy)
John Rhodes – Rhodes Engineering (one copy)

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Plymouth Meeting, Pennsylvania

June 2004

MACTEC Project 3485-04-0018

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1-1
2.0 BACKGROUND 2-1
3.0 FIELD METHODOLOGY 3-1
3.1 Monitoring Well Installation Procedures 3-1
3.2 Survey 3-2
3.3 Ground-Water Sampling Procedures 3-2
3.4 Water Level Measurements 3-2
3.5 Well Evacuation 3-3
3.6 Sample Collection 3-4
4.0 GROUND-WATER FLOW 4-1
5.0 GROUND-WATER QUALITY 5-1
5.1 Results of February 2004 Analyses 5-1
5.2 Volatile Organic Compound Results - Shallow Aquifer 5-2
5.3 Volatile Organic Compounds - Deep Aquifer 5-4
5.4 Biogeochemical Field Measurements 5-5
5.4.1 Shallow Aquifer 5-5
5.4.2 Deep Aquifer 5-6
5.5 Biogeochemical Analyses 5-6
5.5.1 Shallow Aquifer 5-6
5.5.2 Deep Aquifer 5-7
6.0 DISCUSSION OF RESULTS 6-1
6.1 Shallow Aquifer 6-1
6.2 Deep Aquifer 6-3
7.0 CONCLUSIONS 7-1
8.0 REFERENCES 8-1

LIST OF TABLES

1. Summary of Construction Details for Monitoring Wells Installed at and Adjacent to the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

2. Summary of Water Level Elevation Data Collected During March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

3. Results of Final Field Parameter Measurements of Ground-Water Samples Collected during March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

4. Results of Volatile Organic Compound Analyses of Ground-Water Samples Collected at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

5. Results of Biogeochemical Analyses of Ground-Water Samples Collected During March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

6. Results of Light Hydrocarbon and Permanent Gas Analyses of Ground-Water Samples Collected During March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

LIST OF FIGURES

1. Site Location, Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

2. Configuration of the Water Table in the Shallow Aquifer Measured on March 26, 2002, Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

3. Potentiometric Surface in the Deep Aquifer Measured on March 26, 2002, Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

LIST OF APPENDICES

Appendix A: Well Permits, Well Construction Logs, and Gamma Logs.
Appendix B: Water Sampling Logs.
Appendix C: Laboratory Analysis Summary Sheets.

1.0 INTRODUCTION

On behalf of the Swope Site Cleanup Committee (the Committee), MACTEC Engineering & Consulting, Inc. (MACTEC), has prepared this report that summarizes the results of the Supplemental Ground-Water Investigation that was conducted at the Swope Oil and Chemical Company Site (Swope Site) in Pennsauken, New Jersey. The scope of work for this investigation was described in MACTEC's work plan dated October 17, 2003. The purpose of this investigation was to further assess ground-water quality conditions in the shallow aquifer in the vicinity of the Swope Site. The Swope Site is located in an industrial area of Pennsauken Township in Camden County, New Jersey (see Figure 1). The Site is roughly triangular in shape, encompasses about 1.9 acres, and is bounded to the north-northeast and southwest by railroad tracks and warehouses, and to the southeast by National Highway.

This report provides a summary of the project background information, field methodologies, hydrogeology, ground-water quality, and conclusions.

2.0 BACKGROUND

Based on discussions between the Committee and the US Environmental Protection Agency (USEPA) during a February 2003 meeting at the USEPA offices in Edison, New Jersey, it was determined that additional monitoring wells were required to further assess ground-water flow and ground-water quality conditions in the shallow aquifer in the vicinity of the Swope Site. As discussed in previous ground-water monitoring reports, the horizontal component of ground-water flow in the shallow aquifer at and near the Swope Site shifted from being predominately in a southerly direction prior to June 1998 to predominately in a southeasterly direction since that time. The likely reason for the shift in flow direction in the shallow aquifer appears to be related to changes in ground-water pumpage in the area, including the shutdown of the nearby MPWC National Highway Well No.1.

As a result of the shift in ground-water flow, shallow aquifer well GM-5S, which was previously defined as an upgradient well, is now situated at a crossgradient location relative to the Swope Site. The USEPA required the installation of two additional monitoring wells to further assess ground-water conditions. Therefore, in accordance with the USEPA-approved work plan, new ground-water monitoring wells MW-9S and MW-10S were installed in the shallow aquifer at locations offsite from the Swope Site selected by the USEPA. In addition, MACTEC installed new ground-water monitoring well MW-11S at an off-site, generally upgradient location consistent with the USEPA-approved work plan. Monitoring well MW-9S was installed on the adjacent property to the west/southwest of the Swope Site that is owned by Mr. Lionel Flickstein. The well was positioned approximately 150 feet north of Merchantville-Pennsauken Water Company National Highway Well No. 1 (MPWC No. 1) and based on the March 2004 ground-water flow map is downgradient of the northern tip of the Swope Site but cross-gradient to the remainder of the Site. Monitoring well MW-10S was installed on the Pepsi property, and is located downgradient (south) of the Swope Site and onsite monitoring wells, MW-3RS and MW-4. Monitoring well MW-11S was installed on the Heinz property located west of the Swope Site, approximately 675 feet north of MPWC #1 and is considered to be generally upgradient/crossgradient of the Swope Site.

With the addition of the three new monitoring wells, the shallow aquifer and deep aquifer monitoring well network is currently comprised of 23 ground-water wells, including the MPWC-1. The locations of these wells are shown on Figure 2, and the 23-well network is listed below by aquifer.

Shallow - upgradient	**Shallow – downgradient**
GM-2S	GM-1S
GM-6S	GM-3RS
MW-7 (Pennsauken Landfill)	MW-1
MW-11S	MW-2
GM-5S* (crossgradient)	MW-4
	GM-7S
	GM-8S
	MW-9S**
	MW-10S
Deep - upgradient	**Deep – downgradient**
GM-2D	GM-1D
GM-6D	GM-3D
GM-5D* (crossgradient)	GM-4D
	GM-7D
	GM-8D
	MPWC-1

*Formerly upgradient, currently crossgradient

**Downgradient of the northern tip of the Swope site, but crossgradient of the rest of the Site.

3.0 FIELD METHODOLOGY

The field program for the supplemental ground-water investigation included two main tasks: (1) monitoring well installation and (2) ground-water sampling. A summary of the scope of work associated with each task is provided below.

3.1 Monitoring Well Installation Procedures

The three new monitoring wells were installed during the periods of October 27, 2003 through November 5, 2003 and December 22, 2003 through January 7, 2004. MACTEC retained the services of CT&E Environmental Services (CT&E) of Toms River, New Jersey, a New Jersey-licensed driller to install the monitoring wells using the hollow-stem auger drilling method. A MACTEC geologist was present to inspect the drilling and well installation operations, and to prepare a geologic and construction log of each well. The locations of the new monitoring wells are shown in Figures 2 and 3. Copies of the monitoring well permits are provided in Appendix A.

Monitoring wells MW-9S, MW-10S and MW-11S were installed to depths of 130 feet below ground surface (bgs), 133 feet bgs and 127 feet bgs, respectively. Soil samples were collected at 10-foot intervals to total depth using a two-foot long split-spoon sampler. Each sample was examined by the onsite geologist and the lithology recorded on the geologic logs. Soil samples collected during the installation of these wells were not required to be submitted for laboratory analyses, and thus none were submitted for analysis.

Monitoring wells MW-9S, MW-10S, and MW-11S were installed as single-cased (Type II) wells and completed with ten feet of 4-inch polyvinyl chloride (PVC) well screen with solid PVC casing to the surface. The details of the well installation procedures including the installation of the bentonite seal and cement/bentonite grout were provided in the Operations Plan for the Supplemental Remedial Investigation (RI)/Feasibility Study (FS) for the Swope Site (Geraghty & Miller, 1987).

After the borehole was completed to the desired depth, down-hole geophysical logging was performed using a natural gamma log to assist with the identification of clay layers and placement of the well screen. These monitoring wells were installed using the drilling and soil sampling procedures described in the USEPA-approved Operations Plan (Geraghty & Miller, 1987). A summary of the well

construction details for the three new wells and the existing well network is provided in Table 1. Well construction logs and the natural gamma logs are also provided in Appendix A.

Upon completion of the well construction, monitoring wells MW-9S, MW-10S and MW-11S were developed using a submersible pump. The water generated during well development was passed through a granulated activated carbon unit and transported to an on-site holding tank located at the Swope Site pending offsite or onsite disposal.

3.2 Survey

MACTEC retained the services of James Stewart Inc. of Philadelphia, Pennsylvania, a New Jersey-licensed surveyor, to survey the location and elevation of the new three monitoring wells. The ground surface and top-of-casing elevations of the monitoring wells were surveyed to mean sea level to be consistent with the datum of the existing monitoring well network. A measuring point was established on the top of the PVC casing (with cap off) of each well to obtain ground-water elevation data. The survey was completed on February 24, 2004. The elevation data are provided in Table 2.

3.3 Ground-Water Sampling Procedures

Two rounds of ground-water sampling were completed as part of the supplemental ground-water investigation. The first round was completed on February 12, 2004 and consisted of the initial sampling of the three new monitoring wells MW-9S, MW-10S and MW-11S only. Samples collected during this initial round were analyzed for volatile organic compounds (VOCs) only. The second round of ground-water sampling was completed during the week of March 22, 2004 and consisted of sampling all 23 of the Swope Site wells, including the three newly installed wells and MPWC #1. These samples were analyzed for VOCs and other selected biogeochemical parameters. Provided below is a summary of the ground-water sampling procedures.

3.4 Water Level Measurements

Prior to commencing the sampling activities, water levels were measured in the Swope monitoring well network except the municipal well (MPWC-1). The plug from the water-level port at each monitoring well was removed and then a photoionization detector (PID) was used to monitor for the presence of organic vapors in the breathing zone. Water-level measurements were made to the nearest 0.01 foot

using an electronic water-level measuring device (M-scope). To reduce the possibility of cross contamination, the M-scope was cleaned with Micro solution and rinsed with distilled water prior to being lowered into each well. The depth-to-water was measured from a designated measuring point at the top of the well seal and recorded on a form. The depth-to-water value was then subtracted from the appropriate measuring-point elevation to calculate the water-level elevation relative to mean sea level. A summary of the water-level measurements is provided in Table 2.

3.5 Well Evacuation

Low-flow purge and sample collection procedures were performed in general accordance with USEPA Region II Final Ground-Water Sampling Standard Operating Procedures (SOP) (USEPA 1998a) and in general conformance with the Ground-Water Sampling Plan provided in the Final Operation and Maintenance Plan for the Swope Site (Geraghty & Miller, 1996). The dedicated pump assemblies previously installed in each well (except the three new wells) were used to purge the well. These assemblies consist of a submersible stainless steel Grundfos Redi-Flo II pump, Teflon-lined polyethylene tubing, and Teflon-coated stainless steel pump-hanging cable. A similar pump assembly was used to purge the three new wells. However, because the new wells have not been equipped with dedicated pumps, the Grundfos Redi-Flo pumps used to purge and sample these wells were decontaminated between each use prior to use in the wells. The decontamination procedure included scrubbing the pump assembly with an Alconox™ rinse (detergent) followed by a rinse with distilled/deionized water.

During each sampling event, ground-water was purged from the monitoring wells at a flow rate of approximately 200 milliliters per minute (mL/min) to 500 mL/min. Dedicated polyethylene tubing was connected at the surface to an inline flow-through cell for measuring the following parameters: pH, temperature, specific conductance, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity. These field parameters and depth-to-water measurements were recorded at approximately 5-minute intervals and recorded on ground-water sampling logs during purging. The monitoring wells were considered stabilized and ready to sample when field parameters values recorded over three consecutive readings were within approximately the following ranges: pH (+/- 0.1 unit), specific conductance (+/- 3%), ORP (+/- 10 millivolts [mV]), DO (10%), and turbidity (10%).

Water purged from the wells (except MPWC-1) was passed through a carbon filter and stored on-site in a polyethylene tank pending USEPA approval to discharge it to the ground surface on-site. Well

MPWC-1 was purged by operating the existing pump that is installed in the well until approximately three well volumes of water were evacuated from the well. The water purged from this well was discharged to the municipal storm water system.

3.6 Sample Collection

Except for the municipal well, ground-water samples were collected by disconnecting the pump tubing from the flow-through cell, lowering the pumping rate to between 100 ml/min to 250 ml/min, and directing water from the pump tubing directly into pre-labeled bottles prepared by the laboratory. Well MPWC-1 was sampled directly from a sample port at the wellhead. The sample bottles were filled based on the analysis required, in the following order: VOCs and selected biogeochemical parameters. Field parameters are summarized in Table 3. The field parameter measurements were recorded on ground-water sampling logs provided in Appendix B.

All sample bottles were packed on ice in a cooler with a chain-of-custody and shipped via courier on a daily basis to Mitkem Corporation (Mitkem) in Warwick, Rhode Island for analyses of VOCs by using USEPA Method CLP OLC03.2. The biogeochemical analyses were performed by Severn Trent Laboratories (STL) in Pittsburgh, Pennsylvania, and the analyses of light hydrocarbons (ethane and ethylene) and permanent gases (carbon dioxide, oxygen, nitrogen, and methane) were performed by VaporTech Services, Inc. in Valencia, Pennsylvania. Sample bottles were packed on ice in a cooler with a chain-of-custody form and shipped via courier on a daily basis to respective laboratories.

The quality assurance/quality control (QA/QC) samples were analyzed for target compound list (TCL) VOCs by USEPA Method OLC03.2 and selected biogeochemical parameters. One replicate sample and one matrix spike/matrix spike duplicate (MS/MSD) sample were collected and submitted to the laboratory for analysis during each sampling event, and a trip blank for TCL VOCs analysis only was submitted daily to the laboratory. A summary of the laboratory results is provided in Tables 4 through 6. Copies of the laboratory analysis summary sheets are provided in Appendix C.

4.0 GROUND-WATER FLOW

As shown on Figure 2, the configuration of the potentiometric surface of the shallow aquifer in the vicinity of the Swope Site shows that the horizontal component of ground-water flow at and near the Swope Site is generally in a southerly to southeasterly direction, which is consistent with the historic flow direction observed prior to June 1998. From June 1998 through March 2002, the horizontal flow direction was observed to be generally southeasterly.

The configuration of the potentiometric surface in the deep aquifer on March 26, 2002 shows that the horizontal component of flow in this aquifer at and near the Swope Site is generally in a southerly direction in contrast to the south-southeasterly direction observed since about June 1998 (see Figure 3). The southerly flow direction is consistent with historic ground water elevation data.

As part of this supplemental groundwater investigation, two rounds of water levels were measured in monitoring wells at and in the vicinity of the Swope site. The first round was made on March 22, 2004 and the second round was measured on March 26th. Because the water levels measured on March 22 were consistent with the March 26 data, MACTEC used the later data to prepare the ground-water flow map. A summary of the key findings of the ground-water flow analysis is provided below.

- The water levels measured on March 22 and March 26 were nearly identical and showed a similar horizontal hydraulic gradient.
- Water levels in the shallow aquifer monitoring wells (and deep aquifer wells) were about 2 feet higher than the levels measured during March 2002 (last round of water levels). The higher water levels observed during the March 2004 round may reflect the above average precipitation received in the area over the last year (approximately 46 inches versus normal of 42 inches).
- The horizontal hydraulic gradient in the shallow aquifer was significantly flatter than was mapped during previous sampling rounds. The horizontal hydraulic gradient observed in the shallow aquifer across the Swope Site during March 2004 was about 0.0002 ft/ft, whereas during the March 2002 sampling round, the horizontal gradient was approximately 0.001 ft/ft.
- The horizontal hydraulic gradient in the deep aquifer was consistent with data from previous sampling rounds.

The water level elevations in shallow wells GM-1S and MW-9S were anomalously high in comparison to nearby surrounding wells. The anomalously high water levels in these two wells is likely related to local hydrostatic conditions, as evidenced by the running sands that were encountered during the recent drilling of the borehole for Well MW-9S.

During the March 26, 2004 monitoring event, the water level elevations in Wells GM-7S, MW-10S, GM-5S and GM-3RS were identical (-11.38 feet below msl). In fact, there was only a 0.02-foot difference in the elevation of the water levels between these four wells and the nearby well MW-1, and only 0.03 foot difference between another nearby Well MW-4. This small difference in water level elevations in these six wells accounts, in part, for the low (i.e. flat) hydraulic gradient observed during this monitoring period. The flat hydraulic gradient, higher water levels and similar water level elevations in several wells may be related to the higher than average amount of precipitation that fell in the area.

In any event, because the difference in water level elevation among five of these six wells was within the precision error (0.02 feet) for measuring water levels, the water level elevations in wells GM-7S, MW-10S and GM-3RS are considered equivalent to the water level elevation measured in Well MW-01 and were not directly used to prepare the ground-water flow map shown on Figure 2. Therefore, for illustrative purposes, the -11.40-foot contour line was drawn in a manner to reflect that the overall horizontal direction of ground-water flow is generally south-southeasterly, which is consistent with the historic data, and to take into account the negligible differences in water level elevations between the aforementioned wells.

Based on this interpretation, the newly installed Well MW-9S appears to be situated cross-gradient or at the most, downgradient of the northern tip of the Swope Site. Consequently, ground-water quality at this location may be more affected from potential sources upgradient and offsite from the Swope Site.

5.0 GROUND-WATER QUALITY

Two rounds of ground-water sampling were completed as part of the supplemental ground-water investigation. The first round was completed on February 12, 2004 and consisted of the initial sampling of the three new monitoring wells MW-9S, MW-10S and MW-11S only. The second round of ground-water sampling was completed during March 22 through 26, 2004 and consisted of sampling all 23 of the Swope Site wells, including the three newly installed wells and MPWC-1.

Ground-water field parameters measured at the time of sample collection during the February 2004 and March 2004 monitoring events are provided in Tables 3A and 3B, respectively. The VOCs results for February 2004 and March 2004 are presented in Table 4. The biogeochemical analyses and light hydrocarbons/permanent gases results for the March 2004 sampling event are presented in Tables 5 and 6, respectively.

For purposes of completeness, a brief summary of the February 12, 2004 sampling results for the three new wells is provided below, followed by a detailed summary of the March 2004 sampling round, which comprised sampling of the entire 23-well network at the Swope Site.

5.1 Results of February 2004 Analyses

The results of the samples collected on February 12, 2004 from the three new monitoring wells are shown in Table 4. As shown in Table 4, the highest concentration of trichloroethene (41 ug/L) was detected in upgradient well MW-11S. Tetrachloroethene (5.9 ug/L) was also reported in Well MW-11S at a concentration above its GWQC. In Well MW 9S, cis-1,2-dichloroethene (38 ug/L), trichloroethene (20 ug/L), and tetrachloroethene (11 ug/L) also were reported at levels above their respective New Jersey Department of Environmental Protection (NJDEP) Class IIA ground-water quality criteria (GWQC). Chlorobenzene, which is an indicator compound associated with municipal landfills, was reported in Well MW-11S at a concentration of 4.5 ug/L. The Class IIA GWQC for chlorobenzene is 4 ug/L.

Relatively low concentrations of VOCs were reported in Well MW-10S. Only two VOCs were reported at concentrations above their respective GWQC: trichloroethene was reported at a concentration of 2.3 ug/L, which is slightly above the GWQC (1 ug/L); and 1,2-dichloroethane was reported at a

concentration of 7.7 ug/L, which is also above the GWQC (1 ug/L). No other detected VOCs were reported at concentrations above the GWQC in this well.

5.2 Volatile Organic Compound Results - Shallow Aquifer

As shown in Table 4, during the March 2004 sampling round, trichloroethene was reported at the highest concentration in Well MW-11S, a well located upgradient to cross-gradient of the Swope Site. Trichloroethene was reported in upgradient Well MW-11S at concentrations of 41 ug/L and 53 ug/L during the February and March 2004 sampling rounds, respectively. Similarly, trichloroethene was detected at a concentration of 20 ug/L in upgradient Well MW-7. The highest concentration of trichloroethene reported in the onsite monitoring wells was 27 ug/L (Well MW-1). Concentrations of tetrachloroethene in the upgradient wells ranged from 2.3 ug/L in Well GM-2S to 7.1 ug/L in Well MW-11S. Tetrachloroethene was detected at a concentration of 20 ug/L in Well MW-9S during the March 2004 sampling round. As discussed in Section 4.0 and shown on Figure 2, this well may be more cross-gradient than downgradient and thus, may be more affected from upgradient and offsite sources than from the Swope Site.

Of the shallow wells sampled, the highest concentration of tetrachloroethene was reported in the new monitoring well MW-9S and the highest concentration of trichloroethene was detected in new upgradient well MW-11S. With the exception of Well MW-9S, the concentrations of tetrachloroethene and trichloroethene detected in the shallow downgradient wells in March 2004 were less than the concentrations of those compounds detected in off-site, upgradient well MW-7 in March 2002. It should also be noted that concentrations of tetrachloroethene and trichloroethene have increased in upgradient wells GM-2S, GM-5S and GM-6S since the March 2002 sampling round. Tetrachloroethene concentrations reported during March 2004 for these three wells ranged from 2.3 ug/L to 3.9 ug/L, which exceeds the Class IIA GWQC (1 ug/L). Likewise, trichloroethene concentrations in wells GM-2S and GM-6S were 5.9 ug/L and 8.1 ug/L, respectively, which are also above the GWQC (1 ug/L). This trend suggests that a continuing upgradient source of contaminants is present in the shallow aquifer relative to the Swope Site.

In contrast, the common daughter compounds associated with the degradation of tetrachloroethene and trichloroethene, which are 1,2-dichloroethene and vinyl chloride, were detected at the highest concentrations in downgradient monitoring wells. Cis-1,2-dichloroethene was reported at the highest

concentrations in the downgradient shallow wells, ranging in concentration from about 4 ug/L to 89 ug/L, in comparison to the upgradient wells where concentrations ranged from 0.39 ug/L to 38 ug/L. The NJDEP GWQC for cis-1,2-dichloroethene is 10 ug/L. Similarly, vinyl chloride was either not detected or reported at a concentration below the GWQC (1 ug/L) in the upgradient wells; however, in the downgradient wells, vinyl chloride concentrations were as high as 15 ug/L and 20 ug/L (Wells GM-3RS and GM-8S, respectively). The higher concentrations of these daughter products in the downgradient wells than the upgradient wells indicate that natural biodegradation of tetrachloroethene and trichloroethene is occurring as groundwater moves onto and across the Swope Site.

Chlorobenzene was also reported at higher concentrations in the upgradient shallow wells in comparison to the downgradient wells. Chlorobenzene is an indicator compound associated with municipal landfills. Chlorobenzene was reported at the highest concentration in upgradient well GM-6S (9.1 ug/L), which is located about 150 feet downgradient of the Pennsauken Landfill. The only exceedances of the Class IIA GWQC for chlorobenzene occurred in upgradient wells GM-6S and MW-11S. Chlorobenzene was also reported at a concentration above the GWQC (4 ug/L) in upgradient well GM-5S. Chlorobenzene was either not detected or reported at concentrations well below the GWQC in the onsite and downgradient wells.

Monitoring well MW-7 was also included in the groundwater sampling program. This well is located directly downgradient of the Pennsauken Landfill, and is considered to be an "upgradient shallow well" relative to the Swope Site. The March 2004 analytical results showed that the total VOC concentration in Well MW-7 was 77.1 µg/L. The predominant VOCs reported in Well MW-7 are as follows: cis-1,2-dichloroethene (38 ug/L); trichloroethene (20 ug/L); and tetrachloroethene (3.1 ug/L). These three compounds were all reported above their respective GWQC.

In summary, the elevated concentrations of the parent compounds tetrachloroethene and trichloroethene in the upgradient wells suggests the presence of an off-site source of groundwater contaminants flowing onto the Swope Site, most likely the Pennsauken Landfill. In addition, the distribution of compounds observed in the shallow upgradient and shallow downgradient monitoring wells indicate that biodegradation of tetrachloroethene and trichloroethene is occurring as groundwater moves across the Swope Site. This observation is supported, in particular, by the presence of cis-1,2-dichloroethene and vinyl chloride in the shallow downgradient wells at higher concentrations than detected in the shallow

upgradient wells. Vinyl chloride was not reported in the samples collected from the upgradient monitoring wells, and cis-1,2-dichloroethene was reported at relatively low concentrations in comparison to the results in the downgradient wells. Vinyl chloride and cis-1,2-dichloroethene are well known biodegradation products of tetrachloroethene and trichloroethene.

5.3 Volatile Organic Compounds - Deep Aquifer

During the March 2004 sampling round, concentrations of total VOCs reported in the upgradient deep aquifer monitoring wells were generally equivalent to the concentrations reported in the downgradient deep wells, which is consistent with the results of the recently completed five-year ground-water monitoring program. Specifically, the concentrations of total VOCs in the upgradient wells ranged from approximately 24 ug/L to 94 ug/L. Concentrations of total VOCs in the downgradient wells ranged from 37 ug/L to 57 ug/L. In fact, during the March 2004 sampling event, the highest concentration of total VOCs in the deep aquifer was reported in upgradient well GM-2S (94 ug/L).

As shown in Table 4, tetrachloroethene and trichloroethene were the only VOCs reported at concentrations above GWQC in the upgradient deep wells GM-2S, GM-5S, and GM-6S. Concentrations of tetrachloroethene and trichloroethene in these wells ranged from 4.4 ug/L to 40 ug/L and 3.3 ug/L to 28 ug/L, respectively. The highest concentrations of tetrachloroethene and trichloroethene were reported in Well GM-2S. It should be noted that MTBE was detected in upgradient wells GM-2D and GM-6D at concentrations of 18 ug/L and 7.4 ug/L, respectively. The NJDEP's interim specific standard for MTBE is 70 ug/L.

In the downgradient deep aquifer wells tetrachloroethene and trichloroethene were also detected at concentrations above the GWQC. Tetrachloroethene concentrations ranged from 1.8 ug/L (GM-3D) to 9.2 ug/L (MPWC-1). Cis-1,2-dichloroethene was also reported at concentrations above the GWQC in several downgradient deep aquifer wells: GM-1D (19 ug/L), GM-4D (13 ug/L) and GM-7D (11 ug/L). The NJDEP GWQC for cis-1,2-dichloroethene is 10 ug/L. Other VOCs reported at concentrations above their respective GWQC in one or more downgradient deep aquifer wells were: 1,2-dichloroethane, 1,2–dichloropropane, chlorobenzene, and bromoform.

In summary, the distribution and concentrations of VOCs reported in deep aquifer wells are consistent with the results of the March 2002 sampling round, which was the last sampling round performed at the

Swope Site. Tetrachloroethene, trichloroethene and cis-1,2-dichloroethene continue to be the prevalent VOCs reported in both the upgradient and downgradient wells at the Swope Site. Further, the data indicate that tetrachloroethene and trichloroethene are degrading to form cis-1,2-dichloroethene.

5.4 Biogeochemical Field Measurements

Selected biogeochemical measurements were recorded in the field during purging of the monitoring wells for the newly installed wells during the February 2004 sampling event and for all the wells during the March 2004 sampling event. These measurements were evaluated to assess if natural attenuation processes are occurring at the Swope Site (see Tables 3A and 3B). In general, the relative distributions of DO and ORP can be used to divide a site into three general geochemical environments as follows:

- Anaerobic and reducing environments (DO < 1.0 milligrams per liter [mg/L] and ORP < 0 millivolts [mV]);
- Transitional (i.e., DO < 1.0 mg/L and ORP > 0 mV or DO > 1.0 mg/L and ORP < 0 mV); and
- Aerobic and oxidizing (i.e., DO ≥ 1.0 mg/L and ORP ≥ 0 mV).

Provided below is a summary of the field measurements for samples collected from wells completed in the shallow and deep aquifers.

5.4.1 Shallow Aquifer

During the March 2004 sampling round, aerobic and oxidizing conditions were observed at wells MW-10S and GM-3RS, where DO concentrations were greater than 1 mg/L and ORP measurements were greater than 0 mV. An anaerobic and reducing environment was observed at wells MW-1, MW-9S and MW-11S. At these wells, ORP was measured to be –10 mV at MW-11S to -141 mV at MW-9S. The DO concentrations ranged from 0.54 mg/L at MW-1 to 0.65 mg/L at MW-11S. The ORP measurement in Well GM-8S was -75 mV, which is indicative of a reducing environment. However, the DO concentration was 6.77 mg/L, which is likely an erroneous measurement. As discussed below, the relatively high concentration of dissolved iron in these wells, including GM-8S, in comparison to nearby adjacent wells also provides evidence that a reducing environment is present.

The remainder of the shallow aquifer monitoring wells generally exhibited a transitional environment, where DO concentrations were below 1 mg/L and ORP measurements were greater than 0 mV.

5.4.2 Deep Aquifer

Ground-water conditions in the deep aquifer at the Swope Site appear to be transitional with oxidizing ORP conditions in both the upgradient and downgradient wells. In the upgradient wells, DO concentrations ranged from 0.09 mg/L to 2.65 mg/L and the DO concentrations from the downgradient wells ranged 0.20 mg/L to 2.05 mg/L. The ORP measurements ranged from approximately 19 mV to 105 mV in the upgradient wells and from 19 mV to 259 mV in the downgradient wells (see Table 3B).

5.5 Biogeochemical Analyses

Ground-water samples were collected and analyzed for selected biogeochemical parameters including biological oxygen demand (BOD), chloride, nitrate, nitrite, total Kjeldahl nitrogen (TKN), dissolved organic carbon (DOC), total organic carbon (TOC), and sulfate. The distribution of electron acceptors (i.e. nitrate, iron, manganese, sulfate, and carbon dioxide) and their reduced forms provide additional information regarding microbial activity at the site. Electron donors are required in ground water to support the microbial populations required for reductive dechlorination and cometabolic attenuation of the contaminants. Electron donors consist of natural organic carbon or other anthropogenic (introduced) constituents such as BTEX, methanol, and other organic chemicals. The presence of electron donors can be evaluated with TOC and DOC analyses. The results of these analyses are provided in Tables 5 and 6.

Provided below is a discussion of the biogeochemical analyses for samples collected from wells completed in the shallow and deep aquifers.

5.5.1 Shallow Aquifer

As shown in Table 5, TOC concentrations in the shallow aquifer ranged from 0.48 mg/L to 8.4 mg/L and DOC concentrations ranged from 0.74 mg/L to 8.1 mg/L. In the shallow aquifer wells, nitrate was reported at low concentrations in seven of the monitoring wells sampled: GM-2S (0.33 mg/L), GM-5S (0.27 mg/L), MW-7 (1.2 mg/L), MW-11S (0.14 mg/L), GM-1S (0.032 mg/L), MW-2 (0.16 mg/L), MW-4 (0.11 mg/L). These reported low concentrations of nitrate indicate that nitrate is depleted as a result of nitrate reducing conditions present both upgradient and across the Swope Site.

Dissolved iron concentrations measured in the shallow upgradient wells ranged from 22.9 µg/L to 8,170 µg/L. Concentrations of dissolved iron reported on-site and in downgradient wells ranged from 122 µg/L to 75,000 µg/L. The presence of dissolved iron in both upgradient and downgradient wells suggests that iron reducing conditions are present within the shallow aquifer beneath the Swope Site. Iron reducing conditions are known to be favorable for the reductive biodegradation of chlorinated solvents, including tetrachloroethene and trichloroethene.

Sulfate was detected in the ground-water samples collected from the shallow wells at concentrations ranging from 1.0 mg/L to 54.8 mg/L (see Table 5). In the upgradient shallow wells, sulfate concentrations ranged from 1.0 mg/L to 39.3 mg/L. In the downgradient shallow wells the sulfate concentrations ranged from approximately 5.9 mg/L to 54.8 mg/L. Sulfide was also analyzed for and was not detected in the wells sampled except in well MW-7 (1.3 mg/L). The presence of significant concentrations of sulfate in the shallow aquifer wells, coupled with the absence of detectable sulfide suggests that sulfate reduction is not occurring in the shallow aquifer beneath the Swope Site, with the exception of upgradient Well MW-7. The presence of sulfide in Well MW-7 and low sulfate concentration (1 mg/L) clearly indicates that sulfate reduction is occurring in this upgradient area. This apparent transition from highly reduced (sulfate reducing) conditions near the Pennsauken Landfill to less highly reduced (iron reducing) conditions closer to the Swope Site is likely the result of the depletion of the organic carbon supply from the Pennsauken Landfill and the introduction of oxidized water through infiltration near the Swope Site. The DO and ORP field measurements generally support this conclusion.

The chlorinated VOCs reported in wells at and in the vicinity of the Swope Site, specifically tetrachloroethene and trichloroethene, degrade sequentially to cis-1,2-dichloroethene and vinyl chloride. 1,1,1-trichloroethane degrades to dichloroethane and chloroethane. Vinyl chloride and chloroethane degrade to ethene and ethane, the final end products of degradation (dechlorination). As shown in Table 6, the highest concentrations of ethene and ethane were reported in wells GM-3RS and GM-8S. These wells had the highest concentration of vinyl chloride reported during the March 2004 sampling round. These results suggest that dechlorination is occurring within areas of the shallow aquifer beneath the Swope Site.

5.5.2 Deep Aquifer

In the deep aquifer, TOC and DOC concentrations ranged from 0.77 mg/L to 1.6 mg/L and 0.94 mg/L to 1.7 mg/L, respectively. As shown in Table 5, nitrate concentrations in the deep upgradient wells were reported

at low levels similar to the concentrations in the deep downgradient wells. In the deep upgradient wells, nitrate concentrations were reported in wells GM-2D (0.93 mg/L), GM-5D (0.66 mg/L) and GM-6D (0.059 mg/L). In addition, nitrate was detected in wells GM-1D at 0.31 mg/L, GM-4D at 0.084 mg/L, GM-7D at 0.22 mg/L and GM-8D at 0.092 mg/L, and was non-detect in the remaining deep downgradient wells that were sampled. These low concentrations of nitrate in both downgradient and upgradient wells in the deep aquifer suggest that nitrate has been depleted via nitrate reduction in the deep aquifer beneath the Swope Site.

Dissolved iron concentrations reported in the upgradient deep aquifer wells ranged from 26.4 ug/L to 633 µg/L. Similarly, concentrations of dissolved iron measured in on-site and downgradient deep aquifer wells ranged from 34 µg/L to 582 µg/L. The presence of dissolved iron in both the upgradient and downgradient deep aquifer wells suggests that iron reducing conditions are present within the deep aquifer beneath the Swope Site.

As shown in Table 5, sulfate was detected in the ground-water samples collected from the deep aquifer wells at concentrations ranging from approximately 18.8 mg/L to 29.8 mg/L. In general, the concentrations of sulfate were similar in both the upgradient and downgradient deep aquifer monitoring wells. The presence of significant concentrations of sulfate in these wells suggests that sulfate reduction is not occurring in the deep aquifer.

Similar concentrations of ethene and ethane were reported in upgradient and downgradient deep aquifer wells. No conclusions can be made regarding dechlorination processes in the deep aquifer at this time.

The relatively low concentrations of methane in the deep aquifer wells suggest that methanogenesis is not occurring within the deep aquifer.

6.0 DISCUSSION OF RESULTS

6.1 Shallow Aquifer

An objective of the supplemental ground-water investigation was to further refine ground-water quality conditions in the vicinity of the Swope Site. Specifically, due to the shift in the horizontal component of ground-water flow in the shallow aquifer that was observed from about June 1998 to March 2002, the USEPA required that a new downgradient monitoring well was needed to assess ground-water quality southeast of the Swope Site (i.e. Well MW-10S on the adjacent Pepsi property). The water level elevation data obtained from Well MW-10S shows that this well is generally downgradient of the Swope Site.

Relatively low concentrations of VOCs were reported in this well during the March 2004 sampling round. Tetrachloroethene (0.99 ug/L) was detected at a concentration below its GWQC (1 ug/L) during the February 2004 sampling round and only slightly above the GWQC during March 2004 (1.2 ug/L). Similarly, trichloroethene was detected at concentrations only slightly above the GWQC (1 ug/L) during both rounds (2.3 ug/L and 2.7 ug/L during February and March, respectively). Concentrations of 1,2-dichloroethane ranged from about 8 to 10 ug/L in Well MW-10S; the GWQC for this compound is 1 ug/L. No other VOCs were reported at concentrations above the GWQC in this well. Based on these results, the downgradient and easterly extent of ground-water quality in the shallow aquifer has been sufficiently delineated. Well MW-10S will serve as one of the downgradient sentinel wells for the Swope Site.

Well MW-9S was installed to the west/southwest of the Swope Site to attempt to delineate the westerly edge of the ground-water impacts in the shallow aquifer. The concentrations of total VOCs in Well MW 9S reported during the February and March sampling rounds were 107.6 ug/L and 188.5 ug/L, respectively. As discussed in previous ground-water monitoring reports and in Section 2.0 above, prior to 1998 the horizontal component of ground-water flow was southerly. Since 1998 (with the exception of the March 2004 data), ground-water flow was observed to be more southeasterly than southerly. With a southerly flow direction, Well MW-9S is downgradient of the northern tip of the Swope Site. With a southeasterly flow direction, Well MW-9S is crossgradient of the Swope Site. The elevated concentrations of VOCs reported in Well MW-9S may be related to the historic ground-water flow direction or other upgradient sources. In fact, wells MW-7, GM-6S and MW-11S appear to be upgradient of Well MW-9S and may be contributing significantly to the impacts observed in this well. Of note, the highest concentration of trichloroethene in March 2004 was detected in monitoring well MW-11S, which is downgradient of the Pennsauken Landfill.

In summary, the results of the VOC analyses of ground-water samples collected from the shallow aquifer wells showed the following:

- There is a continuing upgradient source of contaminants, likely the Pennsauken Landfill, which is impacting ground-water quality at the Swope Site as evidenced by the persistent and increasing concentrations of tetrachloroethene and trichloroethene in the shallow wells upgradient of the Swope Site. The "parent" compounds tetrachloroethene and trichloroethene, and their biological daughter product cis-1,2-dichloroethene are the dominant contaminants in the Swope groundwater system.

- Biodegradation of tetrachloroethene and trichloroethene is occurring in the shallow aquifer as evidenced by the higher concentrations of the biological daughter products cis-1,2-dichloroethene and vinyl chloride detected in downgradient wells relative to upgradient wells.

Specifically, with the exception of Well MW-9S (which, depending upon flow direction, is either crossgradient of the Swope Site or downgradient of only the northern tip of the Swope Site), the concentrations of tetrachloroethene and trichloroethene detected in the downgradient shallow wells in March 2004, were less than the concentrations detected in the upgradient offsite upgradient Well MW-7 in March 2002. These results suggest that ground-water conditions beneath and downgradient of the Swope Site are affected by an upgradient offsite source.

As discussed above and in previous ground-water monitoring reports, cis-1,2-dichloroethene is the predominant VOC detected in onsite ground-water monitoring wells. Cis-1,2-dichloroethene is produced via the biological reductive dechlorination of tetrachloroethene and trichloroethene. As shown in Table 4, cis-1,2-dichloroethene comprises nearly 50 percent of the total concentration of VOCs reported in nearly all the downgradient monitoring wells. In Well MW-11S, which is downgradient of the Pennsauken Landfill, cis-1,2-dichloroethene was reported at a concentration of about 6 ug/L; trichloroethene, however, was reported in this well at 53 ug/L (41 ug/L during February 2004). In addition, cis-1,2-dichloroethene (24 ug/L) and MTBE (24 ug/L (not a site-related contaminant) were the predominant compounds detected in upgradient Well GM-6S. The elevated levels of trichloroethene reported in wells MW-7 and MW-11S, and the elevated concentration of cis-1,2-dichloroethene (and MTBE) detected in Well GM-6S indicate the presence of an upgradient source that is contributing to ground-water impacts observed at and in the vicinity of the Swope Site. Further, the high concentration of cis-1,2-dichloroethene in Well GM-6S suggests that an upgradient source(s) may be contributing to the elevated concentrations of this compound detected in monitoring onsite and downgradient of the Swope Site.

Wells GM-7S and MW-10S, which are the closest offsite downgradient wells to the Swope Site, generally had the lowest concentrations of total VOCs, including low concentrations of tetrachloroethene and trichloroethene, reported in the downgradient wells. The concentrations of total VOCs in wells MW-10S and GM-7S were about 33 ug/L (24 ug/L during the February 2004 sampling round) and 50 ug/L, respectively. These results along with the elevated levels of VOCs reported in wells MW-11S and MW-7, suggest that impacts to the shallow aquifer attributable to the Swope Site are limited in extent and that there is an upgradient source(s) that may be contributing to the impacted water quality conditions of the shallow aquifer at the Swope Site.

Further, the results of the biogeochemical analyses show that sulfate reduction is occurring in the area downgradient of the Pennsauken Landfill due to organic carbon loading at the Pennsauken Landfill but the reducing conditions become somewhat less closer to the Swope Site. Similarly, nitrate and iron reduction is also occurring near the Swope Site. As discussed above, the DO and ORP field measurements generally support this conclusion. This suggests that the ground water geochemistry at and near the Swope Site is strongly influenced by the geochemistry of ground water originating and migrating from the Pennsauken Landfill.

6.2 Deep Aquifer

The analytical results of the ground-water samples collected during March 2004 from the deep aquifer wells were generally consistent with the results from previous monitoring events. Elevated levels of VOCs continue to be present in the upgradient deep aquifer wells. Similar types and concentrations of VOCs were reported in the downgradient wells. As discussed in the previous ground-water monitoring reports, these results continue to indicate the presence of an upgradient source responsible for the impacts observed in the deep aquifer.

7.0 CONCLUSIONS

1. There is a continuing upgradient source of contaminants, likely the Pennsauken Landfill, which is impacting ground-water quality at the Swope Site. The highest concentrations of tetrachloroethene and trichloroethene were detected in wells MW-7, GM-6S, and MW-11S. These wells are situated at locations downgradient of the Pennsauken Landfill and are considered to be generally upgradient of the Swope Site.

2. Results of the March 2004 sampling round showed that concentrations of tetrachloroethene and trichloroethene have increased in upgradient wells GM-2S and GM-6S from the March 2002 sampling round.

3. The concentrations of tetrachloroethene and trichloroethene reported in upgradient offsite Well MW-7 during the March 2002 sampling round were higher than those detected in shallow downgradient wells in March 2004, except in Well MW-9S, which appears to be downgradient of wells MW-7, GM-6S, and MW-11S.

4. Chlorobenzene was reported at higher concentrations in the upgradient shallow wells in comparison to the downgradient wells. Chlorobenzene is an indicator compound associated with municipal landfills. The presence of chlorobenzene as well as MTBE in wells GM-2S and GM-6S indicates the presence of an upgradient offsite source. MTBE is not a site-related constituent.

5. Biodegradation of tetrachloroethene and trichloroethene is occurring as evidenced by the higher concentrations of daughter products (cis-1,2-dichloroethene and vinyl chloride) detected in downgradient wells than in upgradient wells, and likewise, higher concentrations of the parent compounds (tetrachloroethene and trichloroethene) are detected in the upgradient wells than the downgradient wells.

6. Ground water geochemistry at and near the Swope Site is strongly influenced by the geochemistry of ground water originating and migrating from the Pennsauken Landfill. This conclusion is supported in part, by the apparent transition from highly reduced (sulfate reducing) conditions in upgradient ground water near the Pennsauken Landfill to less highly reduced (iron reducing) conditions closer to the Swope Site. This transition is likely the result of the depletion of the organic carbon supply from the Pennsauken Landfill as ground water flows downgradient toward and across the Swope Site.

7. The downgradient and easterly extent of impacts in the shallow aquifer have been sufficiently delineated at the present time with the addition of Well MW-10S, which will serve as one of the downgradient sentinel wells for the Swope Site.

8. The analytical results of the ground-water samples collected during March 2004 from the deep aquifer wells were generally consistent with the results from previous monitoring events. Elevated levels of VOCs continue to be present in the upgradient deep aquifer wells, which indicate the presence of an upgradient source of the impacts observed in the deep aquifer at the Swope Site.

8.0 REFERENCES

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TABLES

Table 1. Summary of Constuction Details for Monitoring Wells Installed at and Adjacent to the Swope Oil and Chemical Company Site
Pennsauken, New Jersey

Well Designation	Well Diameter (inches)	Total Well Depth (ft below land surface)	Depth of 10-inch Steel Casing (ft below land surface)	Screen Setting (ft below land surface*)	Gravel Pack Interval (ft below land surface*)	Bentonite Slurry Interval (ft below land surface*)	Cement/Bentonite Grout Interval (ft. below land surface*)	Height of Measuring Point (ft above land surface*)	Elevation of Measuring Point** (ft above mean sea level)
MW-1	4	130	--	110-130	96-133	94-96	0-94	1.74	65.08
MW-2	4	102	--	77-102	64-106	62-64	0-62	2.11	65.56
MW-3	Abandoned								
MW-4	4	130	--	110-130	88-133	86-88	0-86	1.91	61.74
MW-5	Abandoned								
GM-1S	4	130	--	110-130	105-130	103-105	0-103	2.15	68.03
GM-1D	4	195	144	175-195	170-203	168-170	0-168	1.93	67.99
GM-2S	4	130	--	110-130	103-134	101-103	0-101	-0.87	60.57
GM-2D	4	197	148.5	177-197	172-207	170-172	0-170	-0.62	60.86
GM-3RS	4	130	--	110-130	104-132	102-104	0-102	1.59	66.35
GM-3D	4	195	144	175-195	170-212	168-170	0-168	1.96	66.71
GM-4D	4	190	142	170-190	165-192	163-165	0-163	2.87	62.53
GM-5S	4	127	--	107-127	102-130	100-102	0-100	-0.38	52.97
GM-5D	4	195	162	175-195	170-197	167-170	0-167	-0.21	53.75
GM-6S	4	130	--	110-130	105-132	103-105	0-103	1.37	61.66***
GM-6D	4	200	138	180-200	175-203	172-175	0-172	1.78	61.31***
GM-7S	4	130	--	110-130	104-135	101-104	0-101	1.68	66.84
GM-7D	4	200	157	180-200	175-202	173-175	0-173	1.46	66.42
GM-8S	4	130	--	110-130	105-135	102-105	0-102	2.25	71.11
GM-8D	4	205	156	185-205	176-227	174-176	0-174	2.31	70.12
MW-9S	4	130	--	120-130	115-130	112-115	0-112	-0.49	70.54
MW-10S	4	133	--	123-133	121-133	115-121	0-115	1.88	72.28
MW-11S	4	127	--	117-127	114-127	112-114	0-112	-0.25	71.03

-- Not Applicable.
* Prior to the Phase II surficial soil excavation.
** The measuring point is defined as an indelible black mark located on the top of the 4-in. stainless-steel casing, except for wells MW-9S, MW-10S and MW-11S, where the measuring point is the top of the 4-in. PVC casing.
*** Measuring point is a black mark on the PVC coupling that is attached to the 4-in. stainless-steel casing.

Prepared By: CC
Checked By: DJN

Table 2
Summary of Ground-Water Elevations at the Swope Oil and Chemical Company
Pennsauken, New Jersey
MACTEC Project Number 3485-04-0018
March 26, 2004

Well ID	Measuring Point Elevation (feet msl)	Measured Depth to Water (feet)	Ground-Water Elevation (feet msl)
Shallow Aquifer			
MW-1	65.08	76.48	-11.40
MW-2	65.56	76.75	-11.19
GM-1S	68.03	79.32	-11.29
GM-2S	60.57	71.91	-11.34
GM-3RS	66.35	77.73	-11.38
MW-4	61.74	73.15	-11.41
GM-5S	52.97	64.35	-11.38
GM-6S	61.66	72.99	-11.33
GM-7S	66.84	78.22	-11.38
GM-8S	71.11	82.56	-11.45
MW-7	71.11	82.60	-11.49
MW-9S	70.54	81.85	-11.31
MW-10S	72.28	83.66	-11.38
MW-11S	71.03	81.84	-10.81
Deep Aquifer			
GM-1D	67.99	79.92	-11.93
GM-2D	60.86	72.59	-11.73
GM-3D	66.71	78.98	-12.27
GM-4D	62.53	74.48	-11.95
GM-5D	53.75	65.16	-11.41
GM-6D	61.31	73.14	-11.83
GM-7D	66.42	78.74	-12.32
GM-8D	70.12	82.71	-12.59

Notes:
msl mean sea level

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Prepared/Date: SJO 4/27/04
Checked/Date: CC 5/5/04
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Table 3A
Results of Final Field Parameter Measurements of Ground-Water Samples Collected February 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

Well ID	Temperature (°C)	pH	Specific Conductance (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)
Shallow Aquifer						
MW-9S	15.00	6.38	0.306	33	AM	149.0
MW-10S	12.05	5.87	0.368	133	AM	39.5
MW-11S	16.40	6.35	0.200	-5	AM	178.0

Field parameter readings measured at time of sample collection

°C	Degrees centigrade.	mg/L	Milligrams per liter.
uS/cm	Microsiemens per centimeter.	NTU	Nephelometric turbidity units.
ORP	Oxidation-reduction potential.	NC	Not collected.
mV	Millivolts.	AM	Anomalous Result
DO	Dissolved Oxygen.		

SJO
Prepared/Date: SJO 4/27/04
Checked/Date: CC 5/5/04
CL

Table 3B
Results of Final Field Parameter Measurements of Ground-Water Samples Collected March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

Well ID	Temperature (°C)	pH	Specific Conductance (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)
Shallow Aquifer						
MW-1	14.87	5.61	0.144	-83	0.54	5.8
MW-2	16.97	5.17	0.152	145	0.16	11.3
GM-1S	14.85	5.27	0.072	158	0.54	0.8
GM-2S	15.45	5.22	0.667	209	0.00	1.2
GM-3RS	17.72	4.89	0.158	143	1.41	0.0
MW-4	14.61	5.31	0.231	184	0.20	0.0
GM-5S	14.50	5.03	0.299	267	1.50	0.0
GM-6S	15.00	5.85	0.487	98	0.90	0.0
GM-7S	11.87	5.16	0.152	145	0.24	1.2
GM-8S	13.40	6.20	0.331	-75	6.77	87.6
MW-7	17.30	4.97	0.040	269	3.92	53.0
MW-9S	16.02	6.07	0.229	-141	0.57	43.8
MW-10S	15.40	5.58	0.364	98	1.99	0.4
MW-11S	17.38	6.19	0.172	-10	0.65	80.3
Deep Aquifer						
GM-1D	14.39	6.68	0.312	25	0.20	6.6
GM-2D	14.70	6.94	0.372	19	2.65	0.0
GM-3D	14.58	5.18	0.200	160	0.99	2.5
GM-4D	13.70	5.13	0.191	19	1.37	10.8
GM-5D	14.51	6.47	0.279	95	1.01	3.3
GM-6D	10.89	5.68	0.287	105	0.09	0.0
GM-7D	12.80	4.75	0.178	259	2.05	0.0
GM-8D	13.14	4.85	0.226	219.0	0.26	6.2
MPWC-1	13.78	4.53	0.211	NC	NC	NC

Field parameter readings measured at time of sample collection

°C	Degrees centigrade.	DO	Dissolved Oxygen.	PSL Pennsauken Landfill
uS/cm	Microsiemens per centimeter.	mg/L	Milligrams per liter.	
ORP	Oxidation-reduction potential.	NTU	Nephelometric turbidity units.	
mV	Millivolts.	NC	Not collected.	

Prepared/Date: SJO 4/27/04
Checked/Date: CC 5/5/04

Table 4. Results of Volatile Organic Compound Analyses of Ground-Water Samples Collected at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.
March 2004

	Shallow Aquifer Upgradient Wells						
Sample Location:	GM-2S	GM-5S	GM-6S	MW-7	MW-11S	MW-11S	NJDEP
Sample Date:	03/23/2004	03/24/2004	03/23/2004	03/22/2004	02/12/2004	03/26/2004	GWQC
Parameter Units in ug/L.							
1,1,1-Trichloroethane	0.61	1.1	0.50 U	0.94	1.3	1.6	30
1,1,2,2-Tetrachloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,1,2-Trichloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	3
1,1-Dichloroethane	0.73	1.1	5.2	6.6	2.4	3.3	70
1,1-Dichloroethene	0.50 U	0.83	0.40 J	0.50 U	0.96	1.2	2
1,2,3-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2,4-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dibromo-3-chloropropane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
1,2-Dibromoethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dichlorobenzene	0.76	1.2	3.0	0.50 U	0.84	0.79	600
1,2-Dichloroethane	0.50 U	0.52	0.50 U	3.9	0.50 U	0.50 U	1
cis-1,2-Dichloroethene	0.39 J	1.9	24	38 E	6.6	6.7	10
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U	1.7	0.50 U	0.50 U	100
1,2-Dichloropropane	0.50 U	0.62	0.50 U	0.50 U	0.50 U	0.50 U	0.5
1,3-Dichlorobenzene	0.50 U	0.50 U	0.45 J	0.50 U	0.50 U	0.50 U	600
1,4-Dichlorobenzene	1.5	2.4	8.9	0.50 U	3.6	3.4	75
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	300
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100
4-Methyl-2-pentanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	400
Acetone	5.0 U	5	5.0 U	5.0 U	5.0 U	5.0 U	700
Benzene	0.50 U	0.43 J	0.59	0.50 U	0.57	0.52	1
Bromochloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Bromodichloromethane	0.50 U	0.52	0.50 U	0.50 U	0.50 U	0.50 U	1
Bromoform	0.50 U	4.2	1.2	2.2	0.50 U	2.0	4
Bromomethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10
Carbon disulfide	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	800
Carbon tetrachloride	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
Chlorobenzene	1.7	5.9	9.1	0.50 U	4.5	3.7	4
Chloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Chloroform	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	6
Chloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
cis-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5
Cyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Dibromochloromethane	0.79	2.1	0.84	0.50 U	0.52	0.78	10
Dichlorodifluoromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Ethylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	700
Isopropylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl acetate	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl tert-butyl ether	7.2	3.9	24	0.50 U	1.5	1.7	-
Methylcyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methylene chloride	0.50 U	0.50 U	0.50 U	0.66	0.42 J	0.50 U	2
Styrene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Tetrachloroethene	2.3	3.9	3.3	3.1	5.9	7.1	1
Toluene	0.50 U	0.50 U	0.50 U	0.50 U	2.0	0.50 U	1000
trans-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	7
Trichloroethene	5.9	0.63	8.1	20	41 E	53 E	1
Trichlorofluoromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.51	0.50 U	-
Vinyl chloride	0.50 U	0.50 U	0.81	0.50 U	0.50 U	0.50 U	5
Xylenes (Total)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
Total Volatile Organic Compounds	21.88	36.25	89.89	77.1	72.62	85.79	

Notes:
- ug/L Micrograms per liter.
- REP Replicate.
- J Estimated value and/or concentration less than the CRQL, but greater than the MDL.
- D Compound was Diluted.
- E Compound was over the Calibration Range.
- U Not detected.

Table 4. Results of Volatile Organic Compound Analyses of Ground-Water Samples Collected at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.
March 2004

	Shallow Aquifer Downgradient Wells					
Sample Location:	GM-1S	GM-1S REP	GM-3RS	MW-1	MW-2	NJDEP
Sample Date:	03/25/2004	03/25/2004	03/24/2004	03/24/2004	03/24/2004	GWQC
Parameter Units in ug/L.						
1,1,1-Trichloroethane	3.5	3.4	1.1	1.5	0.34 J	30
1,1,2,2-Tetrachloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,1,2-Trichloroethane	0.50 U	0.50 U	0.83	0.50 U	0.73	3
1,1-Dichloroethane	16	15	32 E	19	22	70
1,1-Dichloroethene	1.9	1.8	1.6	2.1	1.3	2
1,2,3-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.37 J	-
1,2,4-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dibromo-3-chloropropane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
1,2-Dibromoethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dichlorobenzene	0.50 U	0.50 U	0.50 U	0.93	0.50 U	600
1,2-Dichloroethane	1.6	1.5	23	1.4	11	1
cis-1,2-Dichloroethene	76 E	71 E	75 E	76 E	72 E	10
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.45 J	0.50 U	0.50 U	100
1,2-Dichloropropane	0.50 U	0.50 U	0.55	0.50 U	0.50 U	0.5
1,3-Dichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	600
1,4-Dichlorobenzene	0.39 J	0.36 J	0.54	3.0	0.50 U	75
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	300
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100
4-Methyl-2-pentanone	5.0 U	5.0 U	0.50 U	5.0 U	5.0 U	400
Acetone	5.0 U	4.3 J	5.0 U	5.0 U	5.0 U	700
Benzene	0.50 U	0.50 U	0.78	0.44 J	0.50 U	1
Bromochloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Bromodichloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1
Bromoform	0.50 U	0.50 U	0.50 U	1.2	0.50 U	4
Bromomethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10
Carbon disulfide	0.50 U	0.50 U	0.50 U	0.88	0.50 U	800
Carbon tetrachloride	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
Chlorobenzene	0.50 U	0.50 U	1.1	2.7	0.50 U	4
Chloroethane	0.50 U	0.50 U	1.5	0.50 U	0.50 U	100
Chloroform	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	6
Chloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
cis-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5
Cyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Dibromochloromethane	0.50 U	0.50 U	0.50 U	1	0.50 U	10
Dichlorodifluoromethane	0.50 U	0.50 U	0.82	0.50 U	0.50 U	-
Ethylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	700
Isopropylbenzene	0.50 U	0.50 U	0.45 J	0.50 U	0.50 U	-
Methyl acetate	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl tert-butyl ether	0.50 U	0.50 U	0.46 J	8.3	0.50 U	-
Methylcyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methylene chloride	0.50 U	0.50 U	0.39 J	0.50 U	0.50 U	2
Styrene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Tetrachloroethene	14	14	6.8	16	13	1
Toluene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1000
trans-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	7
Trichloroethene	22	21	22	27 E	21	1
Trichlorofluoromethane	0.50 U	0.50 U	0.50 U	0.5	0.50 U	-
Vinyl chloride	0.50 U	0.50 U	15	0.88	5.3	5
Xylenes (Total)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
Total Volatile Organic Compounds	135.39	132.36	184.37	162.83	147.04	

Notes:
- ug/L Micrograms per liter.
- REP Replicate.
- J Estimated value and/or concentration less than the CRQL, but greater than the MDL.
- D Compound was Diluted.
- E Compound was over the Calibration Range.
- U Not detected.
- GM-1SREP is listed on Mitkem analytical report as GM-9.

Table 4. Results of Volatile Organic Compound Analyses of Ground-Water Samples Collected at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.
March 2004

	Shallow Aquifer Downgradient Wells							
Sample Location:	MW-4	GM-7S	GM-8S	MW-9S	MW-9S	MW-10S	MW-10S	NJDEP
Sample Date:	03/23/2004	03/23/2004	03/22/2004	02/12/2004	03/25/2004	02/12/2004	03/25/2004	GWQC
Parameter Units in ug/L.								
1,1,1-Trichloroethane	2.6	0.50 U	0.50 U	1.8	1.7	0.9	0.86	30
1,1,2,2-Tetrachloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,1,2-Trichloroethane	0.50 U	0.51	0.50 U	0.50 U	0.50 U	0.50 U	0.57	3
1,1-Dichloroethane	7.6	14	20	12	24	4.7	6.1	70
1,1-Dichloroethene	1.4	0.50 U	0.50 U	1.3	2.5	0.75	0.89	2
1,2,3-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2,4-Trichlorobenzene	0.33 J	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dibromo-3-chloropropane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
1,2-Dibromoethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dichlorobenzene	0.69	0.50 U	0.50 U	1.2	0.37 J	0.50 U	0.50 U	600
1,2-Dichloroethane	8.1	9.3	2.4	0.50 U	0.50 U	7.7	10	1
cis-1,2-Dichloroethene	58 E	12	30 E	38 E	89 E	3.9	7.1	10
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
1,2-Dichloropropane	0.85	0.50 U	0.50 U	0.50 U	0.50 U	0.36 J	0.46 J	0.5
1,3-Dichlorobenzene	0.50 U	0.31 J	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	600
1,4-Dichlorobenzene	0.88	0.50 U	1.2	3.5	1.2	0.50 U	0.50 U	75
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	300
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100
4-Methyl-2-pentanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	400
Acetone	4.2 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	700
Benzene	0.44 J	0.44 J	0.76	0.50 U	0.33 J	0.50 U	0.50 U	1
Bromochloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Bromodichloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1
Bromoform	0.50 U	0.50 U	0.78	2.0	0.50 U	1.3	0.50 U	4
Bromomethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10
Carbon disulfide	0.50 U	0.50 U	0.50 U	0.50 U	1.7	0.50 U	0.50 U	800
Carbon tetrachloride	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
Chlorobenzene	3.2	0.62	1.9	3.6	1.2	0.50 U	0.34 J	4
Chloroethane	0.50 U	0.97	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Chloroform	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	6
Chloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
cis-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5
Cyclohexane	3.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Dibromochloromethane	0.50 U	0.79	0.54	1.3	0.50 U	0.8	0.50 U	10
Dichlorodifluoromethane	0.50 U	0.50 U	0.68	0.50 U	0.50 U	0.50 U	0.63	-
Ethylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	700
Isopropylbenzene	0.50 U	0.50 U	0.34	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl acetate	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl tert-butyl ether	0.49 J	0.50 U	0.31 J	8.5	2.0	0.50 U	0.50 U	-
Methylcyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methylene chloride	1	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
Styrene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Tetrachloroethene	5.3	1.1	0.50 U	11	20	0.99	1.2	1
Toluene	0.50 U	0.50 U	0.50 U	3.4	0.50 U	0.50 U	0.50 U	1000
trans-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	7
Trichloroethene	9.2	6.1	20	20	43 E	2.3	2.7	1
Trichlorofluoromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Vinyl chloride	0.32 J	3.9	20	0.50 U	1.5	0.99	1.7	5
Xylenes (Total)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
Total Volatile Organic Compounds	108.3	50.04	98.91	107.6	188.5	24.69	32.55	

Notes:

ug/L	Micrograms per liter.
REP	Replicate.
J	Estimated value and/or concentration less than the CRQL, but greater than the MDL.
D	Compound was Diluted.
E	Compound was over the Calibration Range.
U	Not detected.

Table 4. Results of Volatile Organic Compound Analyses of Ground-Water Samples Collected at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.
March 2004

	Deep Aquifer Upgradient Wells			Deep Aquifer Downgradient Wells			
Sample Location:	GM-2D	GM-5D	GM-6D	GM-1D	GM-3D	GM-4D	NJDEP
Sample Date:	03/23/2004	03/24/2004	03/23/2004	03/25/2004	03/24/2004	03/23/2004	GWQC
Parameter Units in ug/L.							
1,1,1-Trichloroethane	0.50 U	0.54	0.50 U	0.77	0.51	0.70	30
1,1,2,2-Tetrachloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,1,2-Trichloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	3
1,1-Dichloroethane	0.55	1.7	0.78	3.9	1.6	3.1	70
1,1-Dichloroethene	0.36 J	1.1	0.5	2.2	0.55	1.3	2
1,2,3-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2,4-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.43 J	0.50 U	0.48 J	-
1,2-Dibromo-3-chloropropane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
1,2-Dibromoethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dichlorobenzene	0.50 U	0.50 U	0.50 U	0.53	1.1	1.3	600
1,2-Dichloroethane	0.50 U	2.2	1.3	4.0	1.1	2.9	1
cis-1,2-Dichloroethene	4.9	8.1	2.5	19	5.2	13	10
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
1,2-Dichloropropane	0.47 J	0.83	0.73	1.9	0.67	2.2	0.5
1,3-Dichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	600
1,4-Dichlorobenzene	0.50 U	0.50 U	0.50 U	0.52	2.5	1.8	75
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	300
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100
4-Methyl-2-pentanone	0.50 U	5.0 U	5.0 U	5.0 U	5.0	5.0 U	400
Acetone	5.0 U	2.4	5.0 U	5.0 U	3.1 J	5.0 U	700
Benzene	0.50 U	0.50 U	0.34 J	0.96	0.71	0.88	1
Bromochloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Bromodichloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1
Bromoform	1.3	0.50 U	1.1	0.50 U	0.50 U	0.50 U	4
Bromomethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10
Carbon disulfide	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.3 J	800
Carbon tetrachloride	0.50 U	0.86	0.50 U	1.5	0.50 U	0.84	2
Chlorobenzene	0.50 U	0.32 J	0.75	3.9	5.0	5.8	4
Chloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Chloroform	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	6
Chloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
cis-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5
Cyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Dibromochloromethane	0.5	0.50 U	0.74	0.50 U	0.50 U	0.44	10
Dichlorodifluoromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Ethylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	700
Isopropylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl acetate	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl tert-butyl ether	18	0.34 J	7.4	1.6	7.1	1.5	-
Methylcyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methylene chloride	0.50 U	0.38 J	0.50 U	0.50 U	0.89	0.50 U	2
Styrene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Tetrachloroethene	40 E	4.4	6.5	7.6	1.8	2.3	1
Toluene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1000
trans-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	7
Trichloroethene	28 E	4.1	3.3	7.9	1.6	3.4	1
Trichlorofluoromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.73	0.50 U	-
Vinyl chloride	0.50 U	0.50 U	0.50 U	0.90	0.68	0.50 U	5
Xylenes (Total)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
Total Volatile Organic Compounds	93.72	23.93	25.94	50.31	37.18	36.66	

Notes:
- ug/L Micrograms per liter.
- REP Replicate.
- J Estimated value and/or concentration less than the CRQL, but greater than the MDL.
- D Compound was Diluted.
- E Compound was over the Calibration Range.
- U Not detected.

Table 4. Results of Volatile Organic Compound Analyses of Ground-Water Samples Collected at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.
March 2004

	Deep Aquifer Downgradient Wells			Field & Trip Blanks			
Sample Location:	MPWC#1	GM-7D	GM-8D	FIELDBLANK	FB-032604	TB-032604	NJDEP
Sample Date:	03/25/2004	03/23/2004	03/22/2004	02/12/2004	03/26/2004	03/26/2004	GWQC
Parameter Units in ug/L							
1,1,1-Trichloroethane	0.50 U	0.9	0.47 J	0.50 U	0.50 U	0.50 U	30
1,1,2,2-Tetrachloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,1,2-Trichloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	3
1,1-Dichloroethane	1	2.9	2.0	0.50 U	0.50 U	0.50 U	70
1,1-Dichloroethene	0.55	1.4	0.55	0.50 U	0.50 U	0.50 U	2
1,2,3-Trichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2,4-Trichlorobenzene	0.50 U	0.46 j	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dibromo-3-chloropropane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA
1,2-Dibromoethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
1,2-Dichlorobenzene	0.72	0.84	1.1	0.50 U	0.50 U	0.50 U	600
1,2-Dichloroethane	1.1	2.6	0.96	0.50 U	0.50 U	0.50 U	1
cis-1,2-Dichloroethene	5.2	11	8.0	0.50 U	0.50 U	0.50 U	10
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
1,2-Dichloropropane	0.50 U	2.2	0.68	0.50 U	0.50 U	0.50 U	0.5
1,3-Dichlorobenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	600
1,4-Dichlorobenzene	1.3	0.81	2.5	0.50 U	0.50 U	0.50 U	75
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	300
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100
4-Methyl-2-pentanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	400
Acetone	5.0 U	2.7	5.0 U	5.0 U	5.0 U	5.0 U	700
Benzene	0.47 J	0.88	0.9	0.50 U	0.50 U	0.50 U	1
Bromochloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Bromodichloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1
Bromoform	0.50 U	1.6	1.3	1	0.50 U	0.50 U	4
Bromomethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10
Carbon disulfide	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	800
Carbon tetrachloride	0.46 J	0.65	0.50 U	0.50 U	0.50 U	0.50 U	2
Chlorobenzene	1.7	4.4	3.5	0.50 U	0.50 U	0.50 U	4
Chloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Chloroform	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	6
Chloromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
cis-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5
Cyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Dibromochloromethane	0.50 U	1.3	0.80	0.69	0.50 U	0.50 U	10
Dichlorodifluoromethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Ethylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	700
Isopropylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl acetate	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methyl tert-butyl ether	18	6.3	10	0.50 U	0.50 U	0.50 U	-
Methylcyclohexane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	-
Methylene chloride	0.50 U	0.50 U	0.50 U	0.81	0.92	0.84	2
Styrene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	100
Tetrachloroethene	9.2	7.9	4.5	0.50 U	0.50 U	0.50 U	1
Toluene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1000
trans-1,3-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	7
Trichloroethene	6.2	6.7	4.8	0.50 U	0.50 U	0.50 U	1
Trichlorofluoromethane	0.50 U	1.0	2.3	0.50 U	0.50 U	0.50 U	-
Vinyl chloride	0.50 U	0.87	1.0	0.50 U	0.50 U	0.50 U	5
Xylenes (Total)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	30
Total Volatile Organic Compounds	45.43	57.41	45.36	2.5	0.92	0.84	

Notes:
- ug/L Micrograms per liter.
- REP Replicate.
- J Estimated value and/or concentration less than the CRQL, but greater than the MDL.
- D Compound was Diluted.
- E Compound was over the Calibration Range.
- U Not detected.

SJO
Prepared/Date: SJO 4/27/04
Checked/Date: CC 5/5/04
CC

Table 5. Results of Classical Chemistry Analyses of Ground-Water Samples Collected During March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

	Shallow Aquifer Upgradient Wells					Shallow Aquifer Downgradient Wells						
Sample Location: / Parameter	GM-02S	GM-05S*	GM-06S	MW-7	MW-11S	GM-01S	GM-01S REP	GM-03RS	MW-01	MW-02	MW-04	GM-07S
Biological Oxygen Demand	2.0 U	2 U	2.0 U	2 U	2 U	2 U	2 U	2.1	1 U	2 U	2 U	2.7
Chloride	153	21.5	45.7	2.5	10.8	3.8	3.8	9.7	10.2	9.2	16.2	10.0
Dissoved Organic Carbon	1.2	1.7	3.1	0.74 B	1.6	0.82 B	1.1	1.8	2.1	4.4	1.3	3.2
Nitrate	0.33	0.27	0.050 U	1.2	0.14	0.032 B	0.032 B	0.05 U	0.05 U	0.16	0.11	0.050 U
Nitrite	0.050 U	0.05 U	0.050 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.050 U
Sulfate	13.2	39.3	31.1	1	5.2	5.9	5.9	13.6	15.3	10.6	22.9	9.3
Total Kjeldahl Nitrogen	1.7 B	2.3 B	3.0 U	3 U	2.3 BJ	3 U	1.2 B	3 U	3 U	3 U	3 U	1.2 B
Total Organic Carbon	1.0	1.5	3.0	0.48 B	1.2	0.87 B	0.96 B	1.5	1.3	1.2	1.3	2.3
Total Iron (ug/L)	119	30 B	64.2 B	69.9 BJ	9880	520	515	660	3330	1280	122	3880
Total Manganese (ug/L)	63.7	248 J	5610	77.7 J	883 J	60.5 J	61.4 J	723 J	646 J	462 J	328 J	1770
Dissolved Iron (ug/L)	105	28.6 B	60.8 B	22.9 B	8170	466	461	597	3410	3460	124	4550
Dissolved Manganese (ug/L)	65.1 J	268 J	5360 J	80.6 J	767 J	61.4 J	60.7 J	740 J	677 J	484 J	349 J	1860 J
Sufide	1.0 U	1 U	1.0 U	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U
Ferrous Iron	0.1 U	0.1 U	0.1 U	1 U	6.8	0.18	0.2	0.59	3.0	2.7	0.1 U	4.0

All concentrations in milligrams per liter, unless otherwise noted.

*	Formerly upgradient, currently side-gradient
ug/L	Micrograms per liter
U	Not detected.
ND	Not detected.
J	Estimated value and/or concentration less than the CRQL, but greater than the MDL.
B	Concentration less than the CRDL, but greater than the IDL.
REP	Replicate.

GM-01SREP is listed on STL analytical report as GM-9.

SJO

Prepared/Date: SJO 4/27/04
Checked/Date: CC 67/1/04
CC

Table 5. Results of Classical Chemistry Analyses of Ground-Water Samples Collected During March 2004 at the Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

	Shallow Aquifer Downgradient Wells			Deep Aquifer Upgradient Wells			Deep Aquifer Downgradient Wells				
Sample Location: / Parameter	GM-08S	MW-09S	MW-10S	GM-02D	GM-05D*	GM-06D	GM-01D	GM-03D	GM-04D	GM-07D	GM-08D
Biological Oxygen Demand	4.0 U	18.5	2.4	2.0 U	2 U	2.0 U	2 U	2 U	2 U	2.0 U	2.0 U
Chloride	8.3	6.3	47.7	18.3	24.1	14.8	23.7	20.2	22.4	21.4	24.1
Dissoved Organic Carbon	2.1	8.1	3	0.94 B	1.1	1.2	1.1	1.6	1.7	1.3	1.6
Nitrate	0.050 U	0.05 U	0.05 U	0.93	0.66	0.059	0.31	0.05 U	0.084	0.22	0.092
Nitrite	0.050 U	0.05 U	0.05 U	0.034 B	0.05 U	0.050 U	0.018 B	0.05 U	0.05 U	0.050 U	0.050 U
Sulfate	8.0	6.8	54.8	27.9	18.8	29.8	20.2	28.2	26.2	25.2	28.9
Total Kjeldahl Nitrogen	1.7 B	3 U	1.2 B	3.0 U	3 U	3.0 U	1.7 B	1.7 B	1.2 B	3.0 U	3.0 U
Total Organic Carbon	1.4	8.4	3.1	0.77 B	0.85 B	0.98 B	1.1	1.4	1.6	1.2	1.6
Total Iron (ug/L)	75000	15700	1430	153	86.6 B	633	32.2 B	65.9 B	819	136	228
Total Manganese (ug/L)	1860	220 J	459 J	747	48.1 J	195	32.2 J	188 J	392 J	363	1210
Dissolved Iron (ug/L)	63400	14800	1370	26.4 B	50 B	361	34 B	43.9 B	582	99.9 B	86.8 B
Dissolved Manganese (ug/L)	1690 J	213 J	475 J	624 J	47.3 J	188 J	33.4 J	189 J	392 J	352 J	1150 J
**Sulfide	1.0 U	1 U	1 U	1.0 U	1 U	1.0 U	1 U	1 U	1 U	1.0 U	1.0 U
**Ferrous Iron	16.3	12.0	1.2	0.1 U	0.1 U	0.36	0.1 U	0.1 U	0.57	0.18	0.1 U

SJO
Prepared/Date: SJO 4/27/04
Checked/Date: CC 67/1/04
CC

Table 6. Results of Light Hydrocarbon and Permanent Gas Analyses of Ground-Water Samples Collected During March 2004 Ground-Water Sampling Event, Swope Oil and Chemical Company Site, Pennsauken, New Jersey.

	Shallow Aquifer Upgradient Wells					Shallow Aquifer Downgradient Wells						
Sample Location:	GM-02S	GM-05S*	GM-06S	MW-7	GM-11S	GM-01S	GM-01S REP**	GM-03RS	MW-01	MW-02	MW-04	GM-07S
Permanent Gases												
Carbon Dioxide (mg/L)	120.0	149.8	207.1	51.1	102.0	103.3	94.4	181.1	153.2	80	126.6	117.3
Oxygen (mg/L)	0.92	0.96	0.62	0.91	1.82	0.67	0.63	1.14	1.15	0.94	1.30	1.79
Nitrogen (mg/L)	10.9	6.2	7.1	8.1	12.9	9.6	8.6	10.0	9.7	10.6	7.2	11.2
Methane (ug/L)	37.4	13.3	363.7	<0.2	224.6	6.4	6.4	1,188.7	302.7	121.2	<0.2	793.3
Light Hydrocarbons												
Ethane (ug/L)	0.03	0.03	0.16	<0.01	0.12	<0.01	<0.01	0.17	0.07	0.05	<0.01	0.08
Ethene (ug/L)	0.01	<0.01	0.04	<0.01	0.13	<0.01	<0.01	4.69	0.04	3.34	<0.01	1.67

* Formerly upgradient, currently side-gradient
** GM-01SREP is listed on Vaportech analytical report as GM-9.
mg/L Milligrams per liter.
ug/L Micrograms per liter.
< Not detected, method detection limit reported.

SJO
Prepared/Date: SJO 4/27/04
Checked/Date: CC 5/5/04
CC

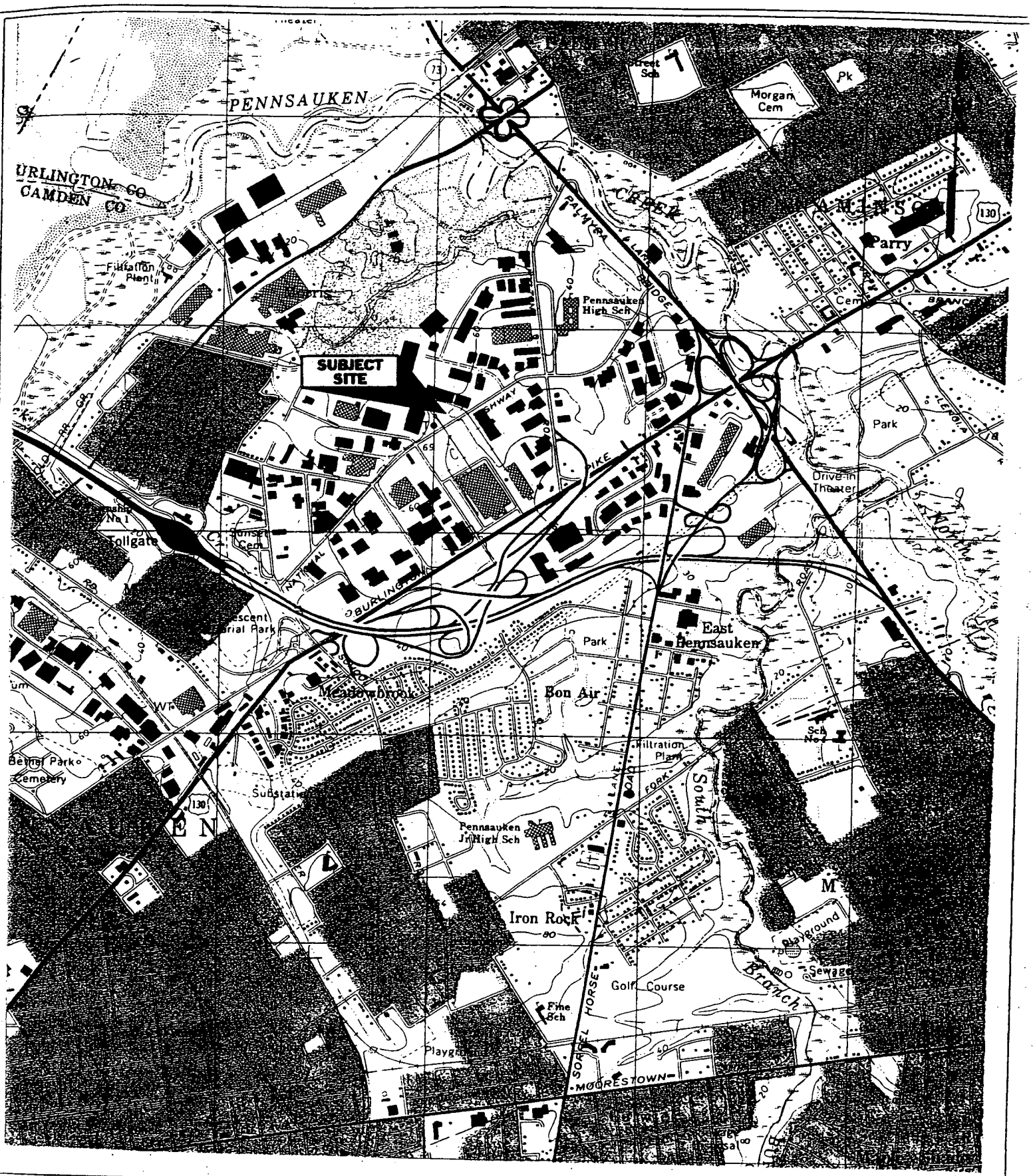
Table 6. Results of Light Hydrocarbon and Permanent Gas Analyses of Ground-Water Samples Collected During March 2004 Ground-Water Sampling Event, Swope Oil and Chemical Company Site Site, Pennsauken, New Jersey.

	Shallow Aquifer Downgradient Wells			Deep Aquifer Upgradient Wells			Deep Aquifer Downgradient Wells				
Sample Location:	GM-08S	MW-09S	MW-10S	GM-02D	GM-05D*	GM-06D	GM-01D	GM-03D	GM-4D	GM-07D	GM-08D
Permanent Gases											
Carbon Dioxide (mg/L)	103.4	96.8	104.4	21.6	18.2	57.7	19.6	161.4	149.8	133.0	149.8
Oxygen (mg/L)	0.34	0.73	0.59	1.10	1.2	1.29	0.96	0.95	0.92	0.7	0.50
Nitrogen (mg/L)	7.9	8.0	8.4	10.2	8.0	9.6	10.4	7.2	8.2	8.1	6.5
Methane (ug/L)	693.2	136.7	310.0	7.5	3.2	49.3	163.5	290.5	256.3	253.8	488.2
Light Hydrocarbons											
Ethane (ug/L)	0.30	0.08	0.28	0.02	<0.01	0.03	0.10	0.05	0.03	0.06	0.14
Ethene (ug/L)	3.43	0.26	0.74	0.02	<0.01	<0.01	0.07	0.02	0.05	0.01	0.01

* Formerly upgradient, currently side-gradient
mg/L Milligrams per liter.
ug/L Micrograms per liter.
< Not detected, method detection limit reported.

SJO
Prepared/Date: SJO 4/27/04
Checked/Date: CC 5/5/04
CC

FIGURES



SOURCE: USGS 7.5 QUADRANGLE (TOPOGRAPHIC) – CAMDEN, NJ

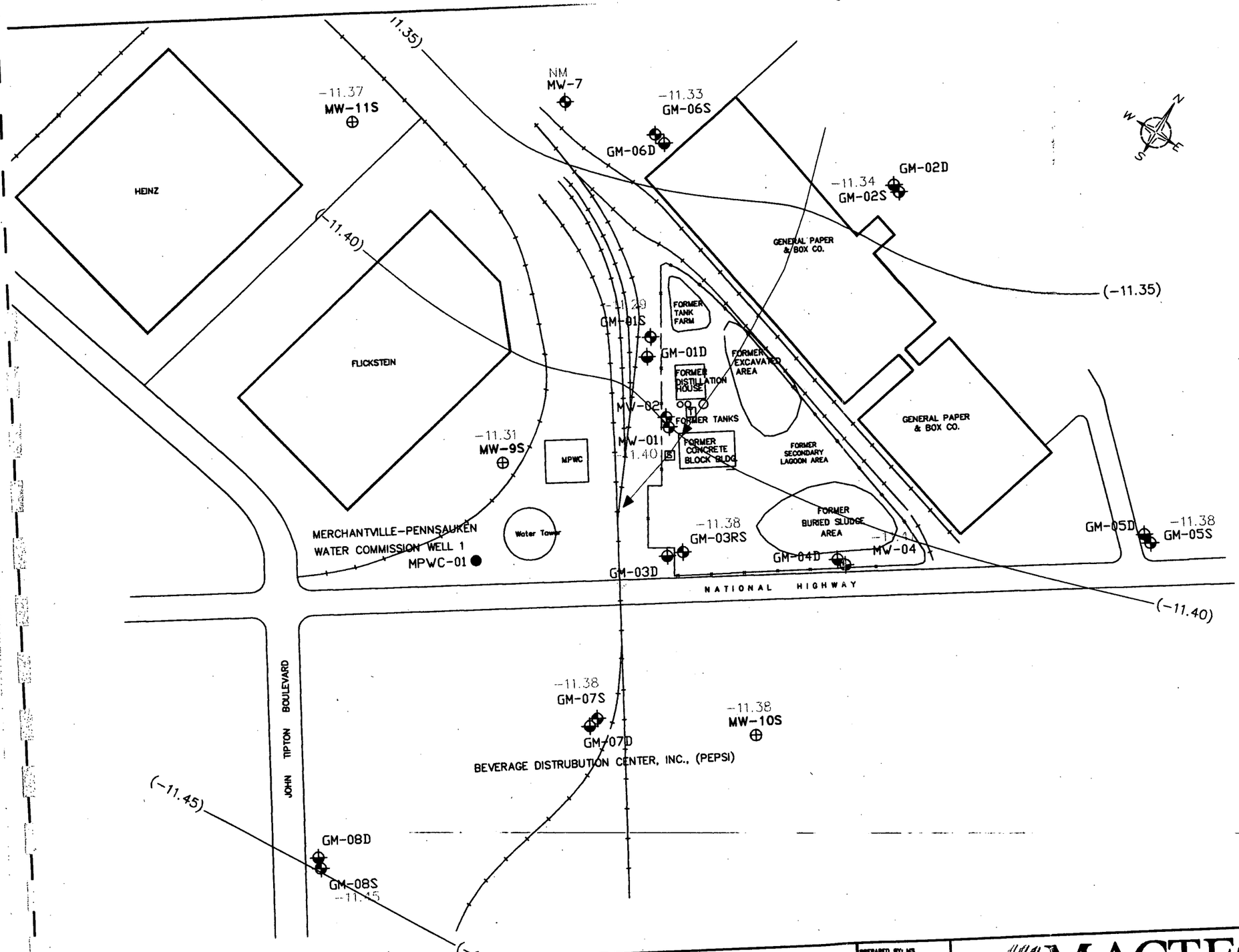
0 2000 4000
SCALE 1" = 2000'

SWOPE OIL & CHEMICAL COMPANY
PENNSAUKEN, NEW JERSEY

LAW
ENVIRONMENTAL SERVICES, INC.
PHILADELPHIA, PENNSYLVANIA

SITE LOCATION AND TOPOGRAPHIC MAP

PROJECT: 22000-0-0028
PREPARED: SH
CHECKED: DJN
FIGURE 1
DATE: 1/4/91



KEY

GM-07S — LOCATION AND DESIGNATION OF MONITORING WELL SCREENED IN THE SHALLOW AQUIFER

GM-07D — LOCATION AND DESIGNATION OF MONITORING WELL SCREENED IN THE DEEP AQUIFER

● PRODUCTION WELL SCREENED IN THE DEEP AQUIFER

T — APPROXIMATE LOCATION OF FORMER UNDERGROUND STORAGE TANK

S — APPROXIMATE LOCATION OF FORMER SEPTIC TANK

⊕ PROPOSED SHALLOW AQUIFER MONITORING WELL

(-14.10) — LINE OF EQUAL WATER-TABLE ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (DASHED WHERE INFERRED)

DIRECTION OF HORIZONTAL COMPONENT OF GROUND-WATER FLOW

CONTOUR INTERVAL SHOWN

* MEASURED ON MARCH 22, 2004

NOTE: Anomolous measurement collected on March 26, 2004; however, water level elevation measured on March 22, 2004 was consistent with historical data

0 SCALE: 150 FT

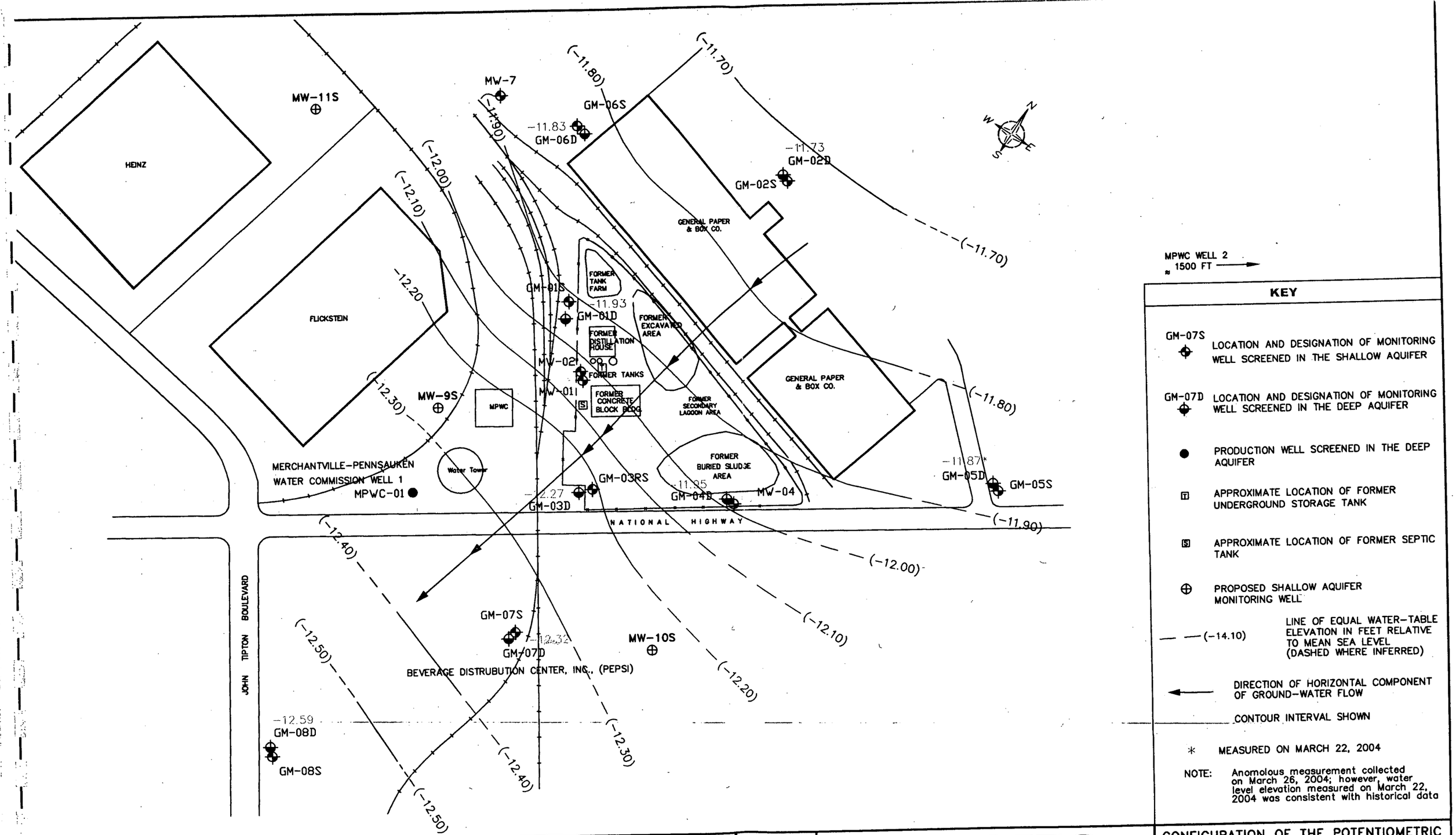
SWOPE OIL & CHEMICAL COMPANY
PENNSAUKEN, NEW JERSEY

PREPARED BY: MS
DRAWN BY: MS
CHECKED BY: DJN
DATE: 04/04

MACTEC
MACTEC Engineering and Consulting, Inc.
14 Washington Road, Building 1
Princeton Junction, NJ

CONFIGURATION OF THE POTENTIOMETRIC SURFACE IN THE SHALLOW AQUIFER MEASURED MARCH 26, 2004

PROJECT NO. 22000-0-0028 FIGURE 2



KEY

GM-07S — LOCATION AND DESIGNATION OF MONITORING WELL SCREENED IN THE SHALLOW AQUIFER

GM-07D — LOCATION AND DESIGNATION OF MONITORING WELL SCREENED IN THE DEEP AQUIFER

● PRODUCTION WELL SCREENED IN THE DEEP AQUIFER

APPROXIMATE LOCATION OF FORMER UNDERGROUND STORAGE TANK

APPROXIMATE LOCATION OF FORMER SEPTIC TANK

⊕ PROPOSED SHALLOW AQUIFER MONITORING WELL

(-14.10) — LINE OF EQUAL WATER-TABLE ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (DASHED WHERE INFERRED)

DIRECTION OF HORIZONTAL COMPONENT OF GROUND-WATER FLOW

CONTOUR INTERVAL SHOWN

* MEASURED ON MARCH 22, 2004

NOTE: Anomolous measurement collected on March 26, 2004; however, water level elevation measured on March 22, 2004 was consistent with historical data

0 150 FT
SCALE:

SWOPE OIL & CHEMICAL COMPANY
PENNSAUKEN, NEW JERSEY

PREPARED BY: MS
DRAWN BY: MS
CHECKED BY: DJN
DATE: 04/04

MACTEC
MACTEC Engineering and Consulting, Inc.
14 Washington Road, Building 1
Princeton Junction, NJ

CONFIGURATION OF THE POTENTIOMETRIC SURFACE IN THE DEEP AQUIFER MEASURED MARCH 26, 2004

PROJECT NO. 22000-0-0028 DJN FIGURE 3

APPENDIX A

WELL PERMITS AND WELL CONSTRUCTION LOGS

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

27 3100065619

Permit No.

VALID ONLY AFTER APPROVAL BY THE D.E.P.

JDEP
UREAU OF WATER ALLOCATION
O BOX 426
RENTON, NJ 08625-0426

COORD #: 31.62.5 35

vner Ashbourne Corporation

ldress 8281 National Hwy.
Pennsauken, NJ 08110

Driller CT&E Environmental Services Inc.

Address PO. Box 423
West Creek, NJ 08072

ame of Facility Beverage Distribution Center Inc.

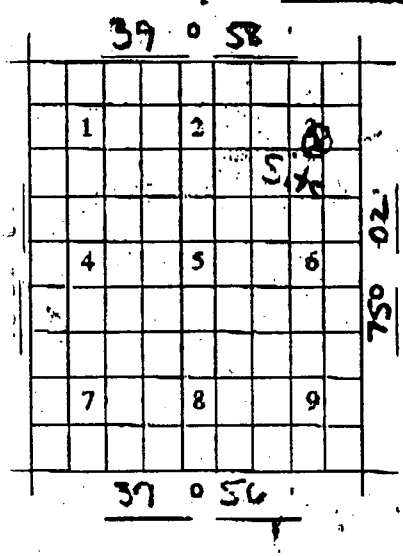
ldress 8275 US 130
Pennsauken, NJ 08110

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	130 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	NA cumulative GPM

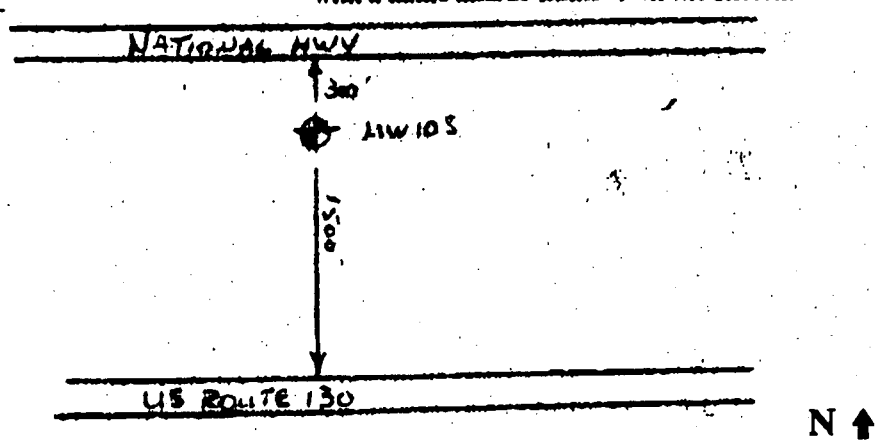
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	2107	Pennsauken	Camden

tate Atlas Map No. 31



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ OR EASTING: _____
LATITUDE: _____ LONGITUDE: _____

R MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY
E APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____
- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site

CASE I.D. Number
NJDOV17943200
EPA ID

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J.D.E.P.
APR 2 2003
BUREAU OF WATER ALLOC

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached. (see next page) ☒ For monitoring purposes only
☐ _____

E REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

ate 3/25/03 Signature of Driller [signature] Registration No. J1526

Signature of Property Owner [signature]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 31C0011553

VALID ONLY AFTER APPROVAL BY THE D.E.P.

...WATER ALLOCATION
...
TRENTON, NJ 08625-0426 Ashbourne

COORD #: 31.02.535

...yner Ashbourne Corp

Driller SGS / CASE Environmental Services Inc

...dress 8281 National Hwy
Pennsauken NJ 08110

Address PO Box 423
West Creek N.J. 08092

...me of Facility Flickstein Warehouse

...dress 1600 Jolly Tipton Blvd
Pennsauken NJ 08110

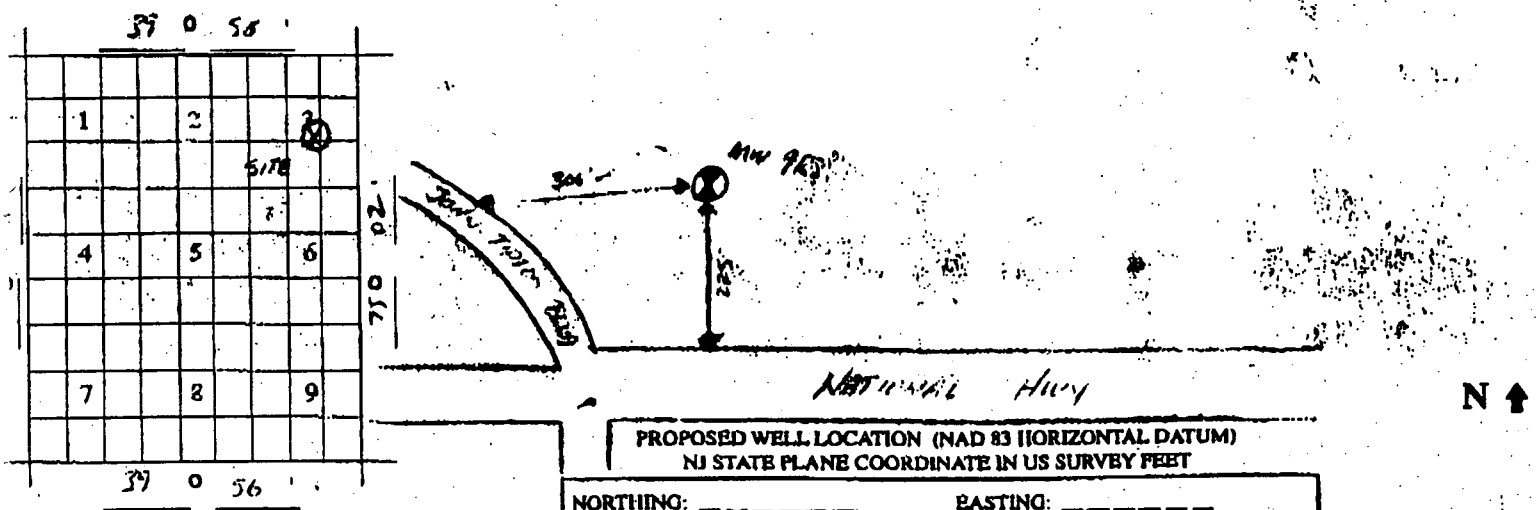
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	130 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	N/A cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	1901	Pennsauken	Camden

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.

...tate Atlas Map No. 31



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__" LONGITUDE: __°__'__"

...R MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY ...E APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____
- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site

CASE I.D. Number
NJD 04[illegible]

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J.D.E.P.
NOV 13 2003
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached. (see next page) ☒ For monitoring purposes only

...E REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
...compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

...ate 11/06/03 Signature of Driller [signature] Registration No. [illegible]

Signature of Property Owner [signature]

3M

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 3100065910

Mail To:
JDEP
UREAU OF WATER ALLOCATION
O BOX 426
RENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 31.02.535

vner Ashbourne Corp.
ldress 8281 National Hwy
Pennsauken, NJ 08110

Driller CT+E Environmental Services Inc
Address P.O. Box 423
West Creek, NJ 08092

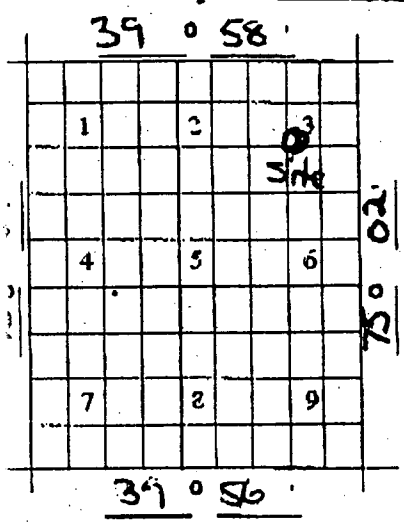
me of Facility H. J Heinz
ldress 1550 John Tipton Blvd
Pennsauken, NJ 08110

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	130 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	NA cumulative GPM

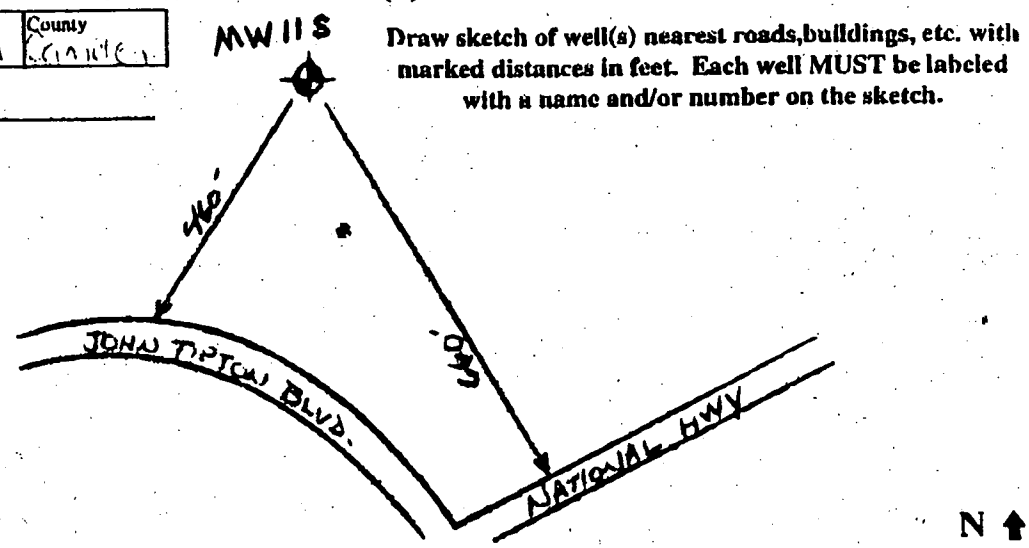
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
2	1901	Pennsauken	Camden

tate Atlas Map No. _____



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ " __ ' __ __ " LONGITUDE: __ " __ ' __ __ "

R MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY
E APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____
- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site

EP + ISR
CASE I.D. Number
NJ 04 TD 4 3100

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
MAY 22 2003
BUREAU OF WATER ALLOCATI

2003 MAY 19 AM 5:38

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐ _____

RECEIVED

E REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 5/15/03 Signature of Driller [signature] Registration No. J1520

Signature of Property Owner Scott Horsnell [illegible]

FILE COPY

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit Number 3100066953

Atlas Sheet Coordinates 3102535

OWNER IDENTIFICATION ASHBOURNE CORP.

Address 8281 NATIONAL HWY.

City Pennsauken State New Jersey Zip Code 08110

WELL LOCATION - If not the same as owner please give address Owner's Well No. MW 9R S

County Camden Municipality Pennsauken Twp Lot No. 1 Block No. 1901

Address 1600 JOHN TIPTON BLVD.

WELL USE Monitoring

DATE WELL STARTED 12/23/03

DATE WELL COMPLETED 12/24/04

WELL CONSTRUCTION

Total Depth Drilled 130 ft.

Finished Well Depth 130 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Steel protective casing installed? ☐ Yes ☒ No

Static Water Level after drilling 85 ft.

Water Level was Measured Using M-Scope

Well was developed for 1 hours

at 15 gpm

Method of development Submersible pump

Pump Capacity ____ gpm

Pump Type ____

Drilling Fluid ____ Type of Rig CME 1050

Health and Safety Plan Submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	120	4"	pvc	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	120	130	4"	pvc	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	115	130	6	#1 morie	
Grout	0	113	6	Neat Cement Bentonite	4548 lbs 252 lbs

Grouting Method TREMIE

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-95 Brown Sand med to fine trace of clay seams

95-125 White Sand med to fine

125-130 white Sand with Clay trace of gravel

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company C T & E ENVIRONMENTAL SERVICES

Well Driller (Print) William Petley

Driller's Signature [signature]

Registration No. J13761 Date 3/21/04

NJ 3534

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

FILE COPY

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit Number
3100065619

Atlas Sheet Coordinates
3102535

OWNER IDENTIFICATION ASHBOURNE CORP

Address 8281 NATIONAL HWY

City Pennsauken State New Jersey Zip Code 08110

WELL LOCATION - If not the same as owner please give address Owner's Well No. MW 10 S

County Camden Municipality Pennsauken Twp Lot No. 1 Block No. 2107

Address 8275 US 130

WELL USE Monitoring **DATE WELL STARTED** 12/30/03

DATE WELL COMPLETED

WELL CONSTRUCTION

Total Depth Drilled 133 ft.

Finished Well Depth 133 ft.

Borehole Diameter:

Top 11 in.

Bottom 11 in.

Well was finished: [X] above grade [ ] flush mounted

If finished above grade, casing height (stick up) above land surface 3 ft.

Steel protective casing installed? [X] Yes [ ] No

Static Water Level after drilling 84 ft.

Water Level was Measured Using M Scope

Well was developed for 2 hours at 15 gpm

Method of development submersible

Pump Capacity gpm

Pump Type

Drilling Fluid Quick Gel Type of Rig CME 1050

Health and Safety Plan Submitted? [X] Yes [ ] No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+3	123	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .020)	123	133	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	121	133	11	Type 1 morie	
Grout	0	121	11	Neat Cement Bentonite	6090 lbs 340 lbs

Grouting Method TREMIE

Drilling Method HSA with mud Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-1	Top Soil
1-14	Layers of sand and silt
14-22	mottles clay
22-34	varved clay
34-49	layered sand, iron encrusted
49-55	varve clay
55-66	tight silt
66-84	coarse fine sand, trace silt
84-135	Running sands occasional layers of clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company C T & E ENVIRONMENTAL SERVICES

Well Driller (Print) James T Lewis

Driller's Signature James T Lewis

Registration No. J1617 Date 1/20/04

NJ 3534

ORIGINAL: DEP **COPIES: DRILLER** **OWNER** **HEALTH DEPARTMENT**

FILE COPY

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit Number 3100065910

Atlas Sheet Coordinates 3102535

OWNER IDENTIFICATION ASHBOURNE CORP.

Address 8281 NATIONAL HWY

City Pennsauken State New Jersey Zip Code 08110

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** 11S

County Camden Municipality Pennsauken Twp Lot No. 2 Block No. 1901

Address 1550 JOHN TIPTON BLVD.

WELL USE Monitoring

DATE WELL STARTED 12/29/03

DATE WELL COMPLETED 12/29/03

WELL CONSTRUCTION

Total Depth Drilled 130 ft.

Finished Well Depth 130 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Steel protective casing installed? ☐ Yes ☒ No

Static Water Level after drilling 85 ft.

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	120	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	120	130	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	115	130		MORIE #1	
Grout	0	113		Neat Cement Bentonite	____ lbs ____ lbs

Water Level was Measured Using m-Scope

Well was developed for 1 hours at 15 gpm

Method of development Submersible pump

Pump Capacity ____ gpm

Pump Type ____

Drilling Fluid ____ Type of Rig CME 1050

Health and Safety Plan Submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Grouting Method TREMIE

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-95 Brown SAND MED to fine trace of clay SEAMS

95-125 white SAND MED to fine

125-130 white SAND with Clay AND A trace of GRAVEL.

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company C T & E ENVIRONMENTAL SERVICES

Well Driller (Print) William G. Pettey

Driller's Signature William G. Pettey

Registration No. J13761 Date 3/21/04

NJ 3534

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MACTEC

Well ID: MW-9S

Project No: 2200000028
Client: SWOPE
Location: Pennsauken, NJ
Drilled By: CT&E Environmental
Drill Method: H-S Auger

Drill Date: 12/28/2003
Sampling Type: Split Spoon
Logged By: Mark Hawkins
Page: 1 of 1

Screened Interval:	120'-130'	Bentonite Seal:	112'-115'	Cement:	0'-1'
Sand Pack:	115'-130'	Bentonite Grout:	1'-112'	Well Screen:	4" PVC, 0.020 Slot

Depth (feet)	Sample Interval (feet)	Blow Counts	Recovery (feet)	Gamma Logs	Well Construction	Sample Description
0						SILTY SAND: some clay, Orangish Brown
-5						
-10	10'-12'	10, 15, 20, 25	2'			SILTY SAND: Some clay, Orangish Brown
-15						
-20	20'-22'	3, 8, 11, 10	2'			SAND: 1' Clay, Sand with silt and trace clay, Orangish Brown
-25						
-30	30'-32'	9, 11, 13, 13	2'			SAND: Fine to Medium sand, 6" clay layer, Orangish Brown
-35						
-40	40'-42'	15, 100/3	2'			SAND: Fine sand, White, some clay and silt
-45						
-50	50'-52'	20, 20, 45, 50/1	2'			CLAY: Some silt, White to Gray, Stiff
-55						
-60	60'-62'	15, 20, 20, 25	1.5'			SAND: Fine to Coarse sand, White/Tan
-65						
-70	70'-72'	22, 55, 50/3	1.8'			SAND: Medium to Coarse sand, Granules, 6" clay layer, White/Tan
-75						
-80	80'-82'	9, 12, 20, 40	1.8'			SAND: Fine to Coarse sand, White/Tan, Saturated
-85						
-90	90'-92'	3, 5, 9, 28	1.5'			SAND: Fine to Coarse sand, White/Tan
-95						
-100	100'-102'	15, 30, 100/6, 50/1	2'			SAND: Coarse sand to granules, White/Tan, Trace Silt
-105						
-110	110'-112'	50, 100/5	2'			SAND: Fine to Coarse sand, White/Tan
-115						
-120	120'-122'	55, 50/1	2'			SAND: Coarse sand, 6" clay layer (Stiff, White)
-125						
-130	130'-132'	20, 50, 50/2	2'			

Drawn By: CC Checked By: DSW

MACTEC

Well ID: MW-10S

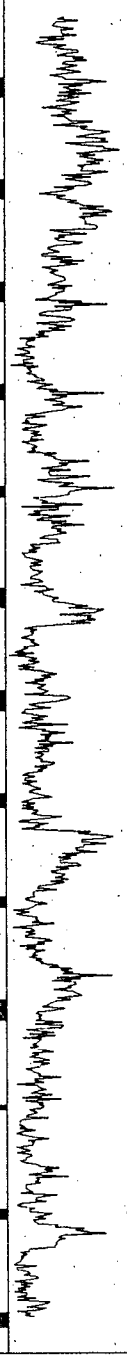
Project No: 2200000028
Client: SWOPE
Location: Pennsauken, NJ
Drilled By: CT&E Environmental
Drill Method: Hollow-Stem Auger

Drill Date: 12/30/03
Sampling Type: Split Spoon
Logged By: Mark Hawkins
Page: 1 of 1

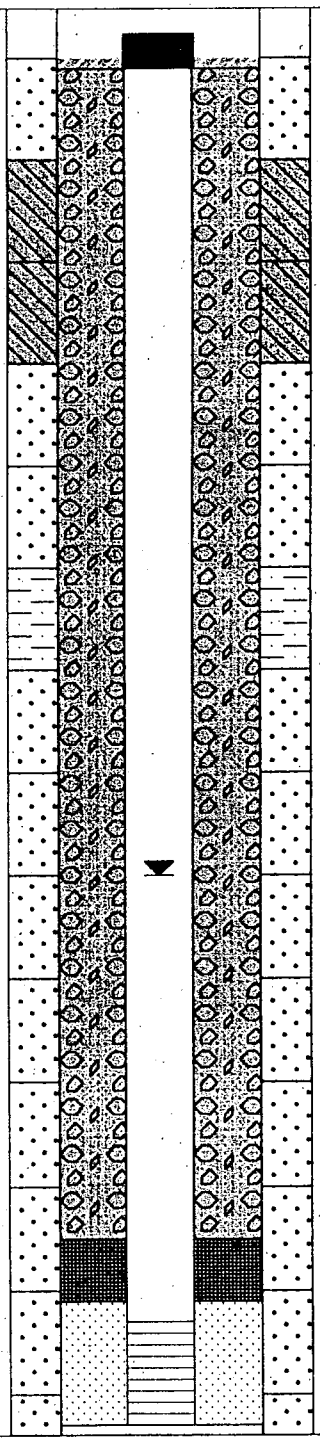
Screened Interval:	123'-133'	Bentonite Seal:	115'-121'	Cement:	0'-1'
Sand Pack:	121'-133'	Bentonite Grout:	1'-115'	Well Screen:	4" PVC, 0.020 Slot

Depth (feet)	Sample Interval (feet)	Blow Counts	Recovery (feet)	Sample Description
5				
0				SAND: Medium sand, Orange, Moist
-5				
-10	10'-12'	11, 12, 11, 11	2'	CLAY: Trace silt, Orange, Dry
-15				
-20	20'-22'	5, 6, 8, 10	2'	CLAY: Some fine sand, Orange, Dry, Trace pebbles
-25				
-30	30'-32'	0, 5, 7, 18	2'	SAND: Fine to Coarse sand, Yellowish Orange, Moist
-35				
-40	40'-42'	4, 19, 42, 90	1.6'	SAND: Fine to Coarse sand, Light Brown/White, Moist, Thin Clay layers
-45				
-50	50'-52'	17/3, 42, 18	1.2'	SILT: Trace clay and sand, Light Gray, Stiff, Dry
-55				
-60	60'-62'	10, 29, 33, 100/4	2'	SAND: Fine to Medium sand, White, Dry
-65				
-70	70'-72'	23, 58, 70, 67	2'	SAND: Fine to Medium sand, White, Wet
-75				
-80	80'-82'	15, 41, 34, 38	1.5'	SAND: Coarse sand, Some medium sand, White, Wet
-85				
-90	90'-92'	57, 80, 100/6	1.1'	SAND: Medium sand, White, Wet, Gray Clay
-95				
-100	100'-102'	2, 10, 5, 5	2'	SAND: Medium to Coarse sand, White, Wet
-105				
-110	110'-112'	41, 50/3	0.5'	SAND: Fine sand, silt and clay, White, Wet
-115				
-120	120'-122'	16, 58, 50/4	1.1'	SAND: Clay layer 6", White, Wet
-125				
-130	130'-132'	9, 48, 50/2	1.5'	SAND: Clay layer 3", Coarse sand/Gravel, White, Wet

Gamma Logs



Well Construction



Drawn By: CC Checked By: DJW

MACTEC

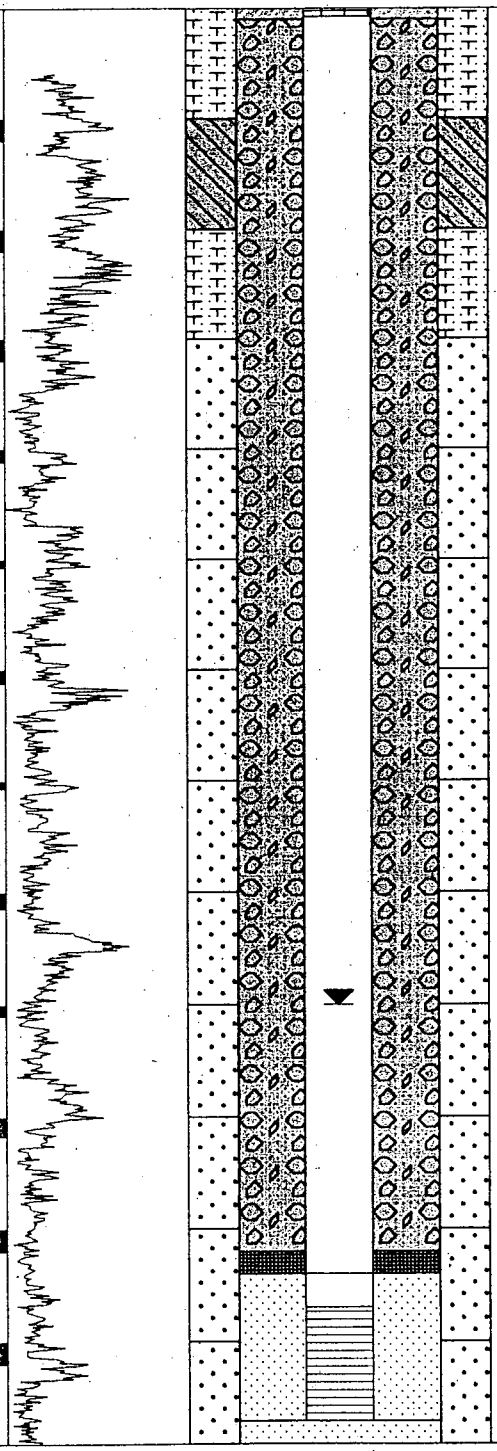
Well ID: MW-11S

Project No: 2200000028
Client: SWOPE
Location: Pennsauken, NJ
Drilled By: CT&E Environmental
Drill Method: H-S Auger

Drill Date: 10/31/2003
Sampling Type: Split Spoon
Logged By: Eric Killenbeck
Page: 1 of 1

Screened Interval:	117'-127'	Bentonite Seal:	112'-114'	Cement:	0'-1'
Sand Pack:	114'-127'	Bentonite Grout:	1'-112'	Well Screen:	4" PVC, 0.020 slot

Depth (feet)	Sample Interval (feet)	Blow Counts	Recovery (feet)	Sample Description
0				SILTY SAND: Trace Clay, Orangish Brown, Stiff
-5				
-10	10'-12'	9, 12, 13, 17	2'	CLAY: Some silt, Orangish Brown, Stiff
-15				
-20	20'-22'	5, 10, 11, 9	2'	SILTY SAND: Orangish Brown, Trace Clay, Stiff
-25				
-30	30'-32'	3, 6, 12, 20	2'	SAND: Fine to Coarse sand, White/Tan, Some Clay
-35				
-40	40'-42'	8, 32, 40, 40	1.25'	SAND: Very Fine to Fine Sand, White, Some Iron Staining
-45				
-50	50'-52'	38, 100/5	0.75'	SAND: Very Fine to Fine Sand, White/Tan, Iron Staining
-55				
-60	60'-62'	27, 100/4	1.25'	SAND: Medium sized, White
-65				
-70	70'-72'	75, 50/2	0.75'	SAND: Fine to Coarse Sand, White, slightly wet
-75				
-80	80'-82'	27, 49, 54, 6	1.5'	SAND: Medium sand, Orange, Saturated
-85				
-90	90'-92'	80, 80, 50/3	1'	SAND: Medium sand, Orangs/White/Tan, Saturated
-95				
-100	100'-102'	28, 42, 50/2	1.8'	SAND: Silt and Clay (white to gray) intermixed, Brown/Tan
-105				
-110	110'-112'	25, 45, 50/3	2'	SAND: Coarse to fine sand, White
-115				
-120	120'-122'	40, 70, 50/3	2'	SAND: Coarse sand, White/Tan
-125				



Drawn By: CC Checked By: DJN

APPENDIX B

WATER SAMPLING LOGS

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-7

Date: 3/22/04 Sampled By: CJC/SLW/SR

Sampling Time: 13:45 Recorded By: CJC

Weather: Sunny Windy Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #: 3013006

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 95 Bottom 115

Total Depth (ft bmp): 115 Pump Intake Depth (ft bmp): 105

Depth to Water (ft bmp): 82.80 Purge time Start: 12:28 Finish: 13:40

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
12:30	0	425		13.8	4.68	0.071	292	9.04	87.3	82.80	
12:35	5	425		14.3	4.47	0.047	285	8.54	77.5	82.80	
12:40	10	480		16.2	4.53	0.044	276	7.46	76.5	82.78	
12:45	15	480		16.9	4.55	0.044	275	7.00	75.6	82.78	
12:50	20	500		16.8	4.62	0.043	274	6.59	76.1	82.78	
12:55	25	500		17.0	4.71	0.042	272	5.98	75.7	82.78	
1:00	30	490		17.0	4.76	0.042	269	5.72	75.6	82.78	
1:05	35	490		17.2	4.83	0.042	268	5.23	65.9	82.78	
1:10	40	490		17.2	4.85	0.042	268	5.06	65.2	82.78	
1:15	45	490		17.3	4.88	0.041	269	4.77	63.6	82.78	
1:20	50	490		17.6	4.91	0.041	270	4.44	55.1	82.78	
1:25	55	490		17.6	4.95	0.040	268	4.[illegible]	53.1	82.78	
1:30	60	490		17.4	4.96	0.040	268	4.01	53.4	[illegible]	82.77
1:35	65	490		17.4	4.96	0.040	268	4.00	53.3	82.77	
1:40	70	490		17.3	4.97	0.040	269	3.92	53.0	82.77	

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-85

Date: 3/22/04 Sampled By: CJ/JR/SH

Sampling Time: 16:15 Recorded By: CJ

Weather: Sunny & Cold Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 110 Bottom 130

Total Depth (ft bmp): 130 Pump Intake Depth (ft bmp): 120

Depth to Water (ft bmp): 82.68 Purge time Start: 15:30 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
15:35	5	[illegible]		—	—	—	—	—	—	82.70	Horiba Batteries Dead
15:40	10	~500		—	—	—	—	—	—	82.70	" " "
15:45	15	500		13.0	6.15	0.339	-64	8.75	99.3	82.70	Replaced Batteries
15:50	20	500		13.3	6.14	0.339	-65	7.89	95.7	82.70	
15:55	25	500		13.5	6.17	0.339	-67	7.49	92.3	82.70	
16:00	30	500		13.3	6.18	0.339	-70	7.21	88.1	82.70	
1605	35	500		13.3	6.18	0.335	-72	6.98	88.3	82.70	
1610	40	500		13.2	6.19	0.334	-74	6.89	88.0	82.70	
1615	45	500		13.4	6.20	0.331	-75	6.77	87.6	82.70	Sample
1615	Sample										

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-8D

Date: 3/22/04 Sampled By: SH/JR/CC

Sampling Time: 1610-1625 Recorded By: SH

Weather: Sun 40°F Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/La~~Motte 2020~~ Serial #: 961203Y

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 185 Bottom 205

Total Depth (ft bmp): 205 Pump Intake Depth (ft bmp): 195

Depth to Water (ft bmp): 82.49 Purge time Start: Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
1530	0	400		12.07	5.33	0.160	220	1.01	4.3	82.52	
1535	5	400		12.45	5.09	0.198	229	0.39	5.6	82.52	
1540	10	400		12.69	4.94	0.216	231	0.46	4.1	82.52	
1545	15	400		12.84	4.90	0.220	230	0.36	7.5	82.52	
1550	20	400		12.82	4.89	0.222	226	0.25	7.2	82.51	
1555	25	400		12.94	4.88	0.223	224	0.26	6.9	82.51	
1600	30	400		13.06	4.87	0.224	219	0.23	6.6	82.51	
1605	35	400		13.04	4.87	0.226	219	0.26	6.2	82.51	

Sample Condition Color: colorless Odor: None Appearance: Non-Turbid

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification GM-8D

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-7D

Date: 3-23-04 Sampled By: Charlie Charlesworth

Sampling Time: 8:45 Recorded By: Charlie Charlesworth

Weather: Clear, 30's Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 180' Bottom 200'

Total Depth (ft bmp): 200' Pump Intake Depth (ft bmp): 190'

Depth to Water (ft bmp): 78.90' Purge time Start: 7:56 Finish: 8:45

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
8:00	4	425		11.8	4.86	0.188	274	1.33	-8.6	78.96	
8:05	9	425		11.7	4.73	0.178	262	4.38	0.6	78.95	
8:10	14	425		11.8	4.66	0.178	269	3.98	-0.6	78.95	
8:15	19	425		12.1	4.62	0.178	263	3.13	-0.4	78.95	
8:20	24	425		12.5	4.63	0.178	263	2.40	-0.9	78.95	
8.25	29	425		12.5	4.63	0.178	262	2.18	-0.9	78.95	
8:30	34	425		12.6	4.66	0.178	262	2.12	0	78.95	
8:35	39	425		12.8	4.68	0.178	262	2.09	0	78.95	
8:40	44	425		12.8	4.72	0.178	261	2.07	0	78.95	
8:45	49	425		12.8	4.75	0.178	259	2.05	0	78.95	
Sample MW-7D			8:45								

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-7S

Date: 3/23/04 Sampled By: [illegible]

Sampling Time: 0840 – Recorded By: [illegible]

Weather: [illegible] 35°F Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/~~LaMotte~~ 2020 Serial #: 961/2034

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top [illegible] Bottom [illegible]

Total Depth (ft bmp): 13[illegible] Pump Intake Depth (ft bmp): 12[illegible]

Depth to Water (ft bmp): 78.98 Purge time Start: Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
0800	0	350		10.21	5.33	0.166	185	0.75	1.9	79.65	
0805	5	300		10.56	5.13	0.154	177	0.34	1.2	79.28	
0810	10	300		10.93	5.07	0.136	170	0.32	2.7	79.20	
0815	15	300		11.11	5.06	0.146	167	0.39	1.6	79.18	
0820	20	300		11.48	5.07	0.146	159	0.32	1.3	79.18	
0825	25	300		11.76	5.13	0.148	153	0.28	1.0	79.18	
0830	30	300		11.72	5.15	0.150	149	0.26	1.0	79.16	
0835	35	300		11.87	5.16	0.152	145	0.24	1.2	79.18	

Sample Condition Color: Colorless Odor: None Appearance: Non-Turbid

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification GM-7S

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028
Phase/Task: 110
Well ID: GM-65
Date: 3/23/04
Sampled By: Charlie Charlesworth
Sampling Time: 10:52
Recorded By: Charlie Charlesworth
Weather: Clear 30's
Coded Replicate No.:

Instrument Identification
Water Quality Meter(s): Horiba U-22/LaMotte 2020
Serial #:

Purging Information
Casing Material: Stainless Steel
Purge Method: Grunfos Submersible Pump
Casing Diameter: 4-in.
Screen Interval (ft bmp): Top ____ Bottom ____
Total Depth (ft bmp):
Pump Intake Depth (ft bmp):
Depth to Water (ft bmp): 73.26'
Purge time Start: 9:50 Finish: 10:40

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
9:50	0	400		13.2	5.85	0.521	42	1.15	0.6	73.25	
1:55	5	445		13.5	5.86	0.521	43	0.75	0	73.25	
10:00	10	480		13.9	5.85	0.523	44	0.62	0	73.25	
10:05	15	480		14.6	5.86	0.515	56	0.57	0	73.25	
10:10	20	480		14.9	5.87	0.511	69	0.61	0	73.25	
10:15	25	480		14.8	5.87	0.510	80	0.72	0	73.25	
10:20	30	480		15.0	5.87	0.501	86	0.82	0	73.25	
10:25	35	480		14.7	5.86	0.492	92	0.88	0	73.25	
10:30	40	480		15.0	5.85	0.495	95	0.90	0	73.25	
10:35	45	480		15.0	5.85	0.487	98	0.90	0	73.25	
10:40	50		Sample	MW-65							

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028
Phase/Task: 110
Well ID: GM-65
Date: 2/24/04
Sampled By: Jim Ryan
Sampling Time:
Recorded By: Jim Ryan
Weather: clear, 40's
Coded Replicate No.: MS/MSD

Instrument Identification
Water Quality Meter(s): Horiba U-22/LaMotte 2020
Serial #: 901 2034

Purging Information
Casing Material: Stainless Steel
Purge Method: Grunfos Submersible Pump
Casing Diameter: 4 in.
Screen Interval (ft bmp): Top 107 Bottom 127
Total Depth (ft bmp): 127
Pump Intake Depth (ft bmp): 117
Depth to Water (ft bmp): 64.49'
Purge time Start: 0800 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
0805	0-5	500		13.03	5.08	0.281	343	0.83	5.9		adjust Rate
0810	10	400		13.17	4.98	0.354	335	0.75	0.3	64.48	
0815	15	400		13.36	4.99	0.359	326	1.88	0	64.48	
0820	20	400		13.55	5.01	0.352	316	2.29	0	64.49	
0825	25	400		13.80	5.02	0.340	309	2.24	0	64.49	
0830	30	400		13.99	5.02	0.325	297	2.01	0	64.50	
0835	35	400		14.18	5.02	0.314	292	1.77	0	64.50	
0840	40	400		14.27	5.03	0.307	285	1.67	0	64.50	
0845	45	400		14.33	5.04	0.303	279	1.56	0	64.51	
0850	50	400		14.41	5.00	0.299	274	1.58	0	64.51	
0855	55	400		14.50	5.03	0.299	267	1.50	0	64.51	
0855	SAMPLE, Slow flow to 225 ml/min										

Sample Condition
Color: Colorless
Odor: none detected
Appearance: non-turbid

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification GM-65

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-5D

Date: 3/29/21 Sampled By:

Sampling Time: Recorded By: Charlie Chadesworth

Weather: Sunny, Cold Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 175 Bottom 195

Total Depth (ft bmp): 195 Pump Intake Depth (ft bmp): 183

Depth to Water (ft bmp): 65.36 Purge time Start: 8:05 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
8:10	5	490		13.41	7.63	0.291	123	2.78	4.3	65.36	
8:15	10	490		14.00	6.89	0.283	119	1.51	4.6	65.35	
8:20	15	490		14.20	6.62	0.282	103	1.48	4.3	65.51	
8:25	20	490		14.20	6.56	0.281	97	1.17	4.2	65.62	
8:30	25	490		14.36	6.50	0.280	97	1.11	3.6	65.70	
8:35	30	490		14.57	6.48	0.278	97	1.09	3.5	65.72	
8:40	35	490		14.47	6.48	0.279	96	1.03	3.4	65.75	
8:45	40	490		14.51	6.47	0.279	95	1.01	3.3	65.78	
850	45	[illegible]	150 mL/Min	Sample GM-5D							

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification GM-5D

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-3RS

Date: 3/24/04 Sampled By: SA

Sampling Time: 1150 - 1210 Recorded By: SA

Weather: Sun 50°F Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #: 901203

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 110 Bottom 130

Total Depth (ft bmp): 130 Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): 77.78 Purge time Start: Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
1110	5	300		20.15	4.78	0.148	173	0.90	17.0	78.15	
1115	10	350		18.95	4.84	0.156	155	0.86	41.1	78.16	
1120	15	350		18.65	4.88	0.160	148	1.18	3.3	78.10	
1125	20	350		17.79	4.90	0.160	145	1.36	0.3	78.10	
1130	25	350		17.68	4.90	0.159	146	1.38	0	78.16	
1135	30	350		17.65	4.90	0.159	145	1.47	0	78.10	
1140	35	350		17.69	4.90	0.158	145	1.45	0	78.10	
1145	40	350		17.72	4.93	0.158	143	1.41	0	78.15	

Sample Condition Color: Colorless Odor: None Appearance: Non-Turbid

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification GM-3RS

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-3D

Date: 3/24/04 Sampled By:

Sampling Time: Recorded By: Charlie Charlesworth

Weather: Sunny, Cool Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 175 Bottom 195

Total Depth (ft bmp): 195 Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): 79.02 Purge time Start: 11:00 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
11:05	5	490		13.90	5.26	0.192	31	4.81	2.2	79.12	
11:10	10	490		13.91	5.15	0.199	27	4.78	2.9	79.13	
11:15	15	490		14.05	5.16	0.200	42	3.86	2.6	79.15	
11:20	20	490		14.14	5.17	0.201	65	2.91	2.5	79.15	
11:25	25	500		14.29	5.16	0.200	88	2.48	2.6	79.15	
11:30	30	500		14.47	5.17	0.200	124	1.82	2.4	79.16	
11:35	35	500		14.49	5.17	0.200	135	1.62	2.3	79.17	
11:40	40	500		14.49	5.17	0.200	145	1.36	2.4	79.17	
11:45	45	500		14.50	5.17	0.200	151	1.16	2.3	79.16	
11:50	50	450		14.50	5.17	0.200	156	1.00	2.3	79.16	
11:55	55	450		14.57	5.18	0.200	156	1.16	2.3	79.16	
12:00	60	450		14.57	5.18	0.200	157	0.96	2.3	79.17	
12:05	65	450		14.57	5.18	0.200	158	0.95	2.4	79.16	
12:10	70	450		14.58	5.18	0.200	160	0.99	2.5	79.15	

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-2

Date: 3/27/01 Sampled By:

Sampling Time: Recorded By: Tim Kane

Weather: Sun 55°F Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #: 9012034

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 77 Bottom 102

Total Depth (ft bmp): 102 Pump Intake Depth (ft bmp): 98

Depth to Water (ft bmp): 76.88 Purge time Start: Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
1340	0	250		20.65	5.21	0.122	149	0.39	70.6	~~77.46~~	adjust volume
1345 ~~1350~~	~~10~~ 5	275		23.28	5.09	0.129	153	0.28	59.6	77.48	adjusted
1350	10	275		19.71	5.05	0.140	157	0.37	45.1	77.12	
1355	15	275		18.73	5.04	0.144	160	0.41	44.3	77.45	
1400	20	275		17.97	5.07	0.147	160	0.39	45.8	77.45	
1405	25	275		17.41	5.08	0.149	161	0.35	0	77.45	
1410	30	275		17.34	5.10	0.150	159	0.32	18.6	77.46	
1415	35	275		17.29	5.13	0.149	157	0.26	32.8	77.46	
1420	40	275		17.20	5.11	0.151	156	0.23	12.1	77.46	
1425	45	275		17.17	5.12	0.151	151	0.21	16.3	77.46	
1430	50	275		17.16	5.13	0.151	150	0.15	15.7	[illegible]	
1435	55	275		17.09	5.18	0.151	146	0.17	12.8	77.46	
1440	60	275		16.97	5.17	0.152	145	0.16	11.3	77.46	
1440	Sample	slow	flow		150 ml/min						

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification MW-2

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028
Phase/Task: 110
Well ID: MW-1
Date: 3/24/03
Sampled By: Charlie Charlesworth
Sampling Time: 14:30
Recorded By: Charlie Charlesworth
Weather: Sunny, Warm
Coded Replicate No.:

Instrument Identification
Water Quality Meter(s): Horiba U-22/LaMotte 2020
Serial #:

Purging Information
Casing Material: Stainless Steel
Purge Method: Grunfos Submersible Pump
Casing Diameter: 4 in.
Screen Interval (ft bmp): Top 110 Bottom 130
Total Depth (ft bmp): 130
Pump Intake Depth (ft bmp): 120
Depth to Water (ft bmp): 76.57
Purge time Start: 13:45 Finish: 14:50

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
13:50	5	450		13.77	5.60	0.119	-105	3.0	10.0	[redacted]	[redacted] 76.57
13:55	10	450		13.85	5.59	0.111	-100	1.11	7.2	76.30	[redacted]
14:00	15	450		14.32	5.58	0.107	-93	0.84	6.4	76.30	
14:05	20	450		14.52	5.59	0.108	-92	0.73	6.0	76.30	
14:10	25	450		14.61	5.59	0.115	-90	0.68	5.9	76.30	
14:15	30	450		14.64	5.59	0.133	-88	0.62	5.8	76.30	
14:20	35	450		14.80	5.60	0.150	-86	0.58	6.0	>76.30	
14:25	40	450		14.87	5.61	0.144	-83	0.54	5.8	76.30	
14:30	45	250	Sample	MW-1							

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-15

Date: 3/25/04 Sampled By: Charlie Charlesworth

Sampling Time: Recorded By: Charlie Charlesworth

Weather: Cool, Overcast Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 110 Bottom 130

Total Depth (ft bmp): Pump Intake Depth (ft bmp): 116

Depth to Water (ft bmp): 79.47 Purge time Start: 8:15 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
8:15	—	500		13.34	5.27	0.072	179	2.00	5.7	79.47	
8:20	5	500		13.50	5.27	0.071	174	1.42	8.1		
8:25	10	500		13.89	5.28	0.071	170	1.14	5.2	79.48	
8:30	15	500		14.08	5.28	0.071	165	1.05	4.1	79.48	
8:35	20	500		14.32	5.28	0.071	160	0.89	2.8	79.48	
8:40	25	500		14.46	5.27	0.070	157	0.80	2.5	79.50	
8:45	30	500		14.60	5.27	0.071	156	0.74	2.1	79.50	
8:50	35	500		14.60	5.27	0.071	155	0.69	1.2	79.50	
8:55	40	500		14.64	5.27	0.071	155	0.67	1.4	79.49	
9:00	45	500		14.76	5.27	0.071	155	0.60	1.3	79.49	
9:05	50	500		14.78	5.27	0.072	157	0.60	0.7	79.49	
9:10	55	500		14.85	5.27	0.072	158	0.54	0.8	79.49	

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: GM-1D

Date: 3-25-09 Sampled By:

Sampling Time: 1115-1135 Recorded By: Jim Ryan

Weather: Overcast 40's Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #: 9017034

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top 175 Bottom 195

Total Depth (ft bmp): Pump Intake Depth (ft bmp): 185

Depth to Water (ft bmp): 81.92 Purge time Start: 0850 Finish: 1135

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
0850	0	500		13.24	5.91	0.275	190	3.36	8.5		Start Purge/adjust flow
0855	5	500		13.14	9.31	0.462	65	0.51	9.3	80.69	
0900	10	500		13.19	9.88	0.567	42	0.45	9.4	80.58	
0915	25	1125		13.64	10.02	0.613	4	0.07	8.6	80.73	increased flow rate
0920	40	1200		14.25	9.88	0.405	-25	0.27	8.4	80.82	
0945	55	1200		14.76	9.00	0.303	-6	1.50	9.2	80.81	
1000	70	1200		14.15	8.44	0.313	0	0.76	8.2	80.80	
1015	85	1200		14.16	7.72	0.318	9	1.05	7.5	80.82	
1030	90	1200		14.23	7.24	0.318	9	1.59	6.7	80.82	
1045	105	800		14.33	6.91	0.317	15	0.70	6.3	80.63	1040 Adjust Flow
1050	110	500		14.31	6.83	0.316	21	0.25	6.7	80.50	1047 Adjust
1055	115	500		14.28	6.80	0.314	19	0.24	6.8	80.45	
1100	120	500		14.30	6.73	0.314	20	0.20	6.8	80.45	
1105	125	500		14.41	6.70	0.312	24	0.18	6.7	80.45	
1110	130	500		14.39	6.68	0.312	25	0.20	6.6		

Sample Condition Color: Colorless Odor: None Appearance: Non-Turbid

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Pre Cur MNA	SEE CO -		

Sample Identification

Comments City Well Sampled just before this Purge = drawdown

Purge @ 1200 - 90 min - Adjust 500 ml/min

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MPWC #1

Date: 3/25/04 Sampled By: SJ

Sampling Time: 0835 Recorded By: SJ

Weather: Overcast 50°F Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/~~LaMotte~~ 2020 Serial #: 901 2034

Purging Information

Casing Material: Stainless Steel Purge Method: ~~Grunfos~~ Submersible Pump

Casing Diameter: ~~4 in.~~ 10" Screen Interval (ft bmp): Top ____ Bottom ____

Total Depth (ft bmp): 240 Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): ~70 Purge time Start: 0823 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
0825	2		600	14.60	5.14	0.220	—	—	—	—	
0827	4		1200	14.22	4.67	0.211	—	—	—	—	
0829	6		1800	13.96	4.58	0.211	—	—	—	—	
0831	8		2400	13.78	4.53	0.211	—	—	—	—	

Sample Condition Color: colorless Odor: None Appearance: Non-Turbid

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl

Sample Identification MPWC #1

Comments Est 700 gallon 1 Vol = 2100

@ 300 gpm = 300 gpm

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-10S

Date: 3.25.04 Sampled By:

Sampling Time: Recorded By: Jim Ryan

Weather: light rain 40's Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top ____ Bottom ____

Total Depth (ft bmp): Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): 83.47 Purge time Start: 1200 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
1200	0	350		12.73	5.68	0.384	130	9.65	15.6		
1205	5	350		13.04	5.63	0.384	125	9.04	26.6		
1210	10	350		13.96	5.62	0.382	123	8.14	21.1	83.79'	
1215	15	350		14.25	5.62	0.383	121	7.75	20.6		
1220	20	350		14.60	5.60	0.382	121	7.05	16.4		
1225	25	350		14.63	5.60	0.382	120	6.96	15.3	83.78	
1230	30	350		14.85	5.60	0.384	117	6.49	11.0		
1235	35	350		14.99	5.59	0.381	111	6.03	8.3		
1240	40	350		14.98	5.59	0.381	104	5.66	6.5		
1245	45	350		15.00	5.58	0.379	101	5.31	5.3	83.78'	
1250	50	350		15.13	5.59	0.376	97	4.79	3.4	83.78'	
1255	55	350		15.12	5.59	0.376	96	4.71	3.8	83.78'	
1300	60	350		15.22	5.59	0.375	95	4.34	2.8	83.78'	
1305	65	350		15.41	5.60	0.372	94	3.82	2.0	83.78'	
1310	70	350		15.48	5.60	0.371	94	3.54	1.5	83.78	
1315	75	350		15.49	5.61	0.370	95	3.25	1.2	83.78'	
1320	80	350		15.42	5.60	0.368	94	2.85	0.8	83.78'	
1325	85	350		15.44	5.59	0.366	96	2.51	0.7	83.78	

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Page 2 of 2

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-10S

Date: 3-25-04 Sampled By:

Sampling Time: Recorded By:

Weather: Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top Bottom

Total Depth (ft bmp): Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): Purge time Start: 1200 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
1330	90	350		15.37	5.59	0.365	96	2.35	0.7	83.78	
1335	95	350		15.34	5.59	0.365	96	2.09	0.4	83.78	
1338	98	350		15.36	5.59	0.364	97	2.04	0.8	83.78	
1341	101	350		15.40	5.58	0.364	98	1.99	0.4	83.78	
Sample 1341, slowed flow rate to											

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl
Select Biogeo/MNA see COC	See COC	See COC	See COC

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-9S

Date: 3/25/04 Sampled By: Charlie Charlesworth

Sampling Time: 16:15 Recorded By: Charlie Charlesworth

Weather: Overcast, Upper 40s Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top ____ Bottom ____

Total Depth (ft bmp): Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): 81.92 Purge time Start: 14.55 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
14.55	0	475		14.05	6.55	0.299	-108	2.33	110.0	81.91	
15:00	5	475		14.75	6.23	0.266	-123	1.02	260.0	81.90	
15:05	10	475		14.86	6.21	0.260	-125	1.01	230.0	81.90	
15:10	15	475		14.92	6.20	0.260	-125	0.99	224.0	81.91	
15:15	20	475		15.12	6.18	0.253	-127	0.94	189.0	81.91	
15:20	25	475		15.13	6.16	0.245	-129	0.91	150.0	81.91	
15:25	30	475		15.17	6.15	0.243	-131	0.86	126.0	81.91	
15:30	35	475		15.27	6.14	0.241	-132	0.83	110.0	81.91	
15:35	40	475		15.39	6.13	0.238	-134	0.76	93.0	81.91	
15:40	45	475		15.56	6.12	0.235	-135	0.72	77.0	81.91	
15:45	50	475		15.62	6.11	0.232	-136	0.68	67.7	81.90	
15:50	55	475		15.65	6.10	0.230	-137	0.69	59.9	81.90	
15:55	60	475		15.77	6.08	0.229	-138	0.63	53.1	81.90	
16:00	65	475		15.99	6.07	0.227	-140	0.59	56.6	81.90	
16:05	70	475		16.02	6.07	0.231	-140	0.59	46.5	81.90	
16:10	75	475		16.02	6.07	0.229	-141	0.57	43.8	81.90	
16:15											

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-115

Date: 3/26/04 Sampled By: Charlie Charlesworth

Sampling Time: Recorded By: Charlie Charlesworth

Weather: Sunny, Warm (50-60°) Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top Bottom

Total Depth (ft bmp): Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): 82.39 Purge time Start: 8:25 Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
8:30	5	350		14.98	5.65	0.073	183	10.88	39.0	82.40	
8:35	10	350		15.68	5.66	0.071	169	7.33	42.8	82.40	
8:40	15	350		16.46	5.68	0.071	162	6.20	30.1	82.40	
8:45	20	350		17.10	5.71	0.071	158	5.28	26.0	82.40	
8:50	25	350		17.21	5.73	0.072	151	4.61	25.6	82.39	
8:55	30	350		17.41	5.82	0.086	96	3.67	24.6	82.39	
9:00	35	350		17.59	5.97	0.111	54	3.06	31.0	82.39	
9:05	40	350		17.59	6.07	0.130	28	2.53	39.2	82.39	
9:10	45	350		17.70	6.10	0.138	16	2.22	46.2	82.39	
9:15	50	350		17.64	6.13	0.149	6	1.81	60.3	82.39	
9:20	55	350		17.61	6.16	0.153	2	1.57	61.6	82.39	
9:25	60	350		17.59	6.16	0.155	0	1.43	68.7	82.39	
9:30	65	350		17.46	6.17	0.159	-2	1.19	61.9	82.39	
9:35	70	350		17.46	6.17	0.161	-4	1.10	62.5	82.40	
9:40	75	350		17.37	6.18	0.165	-5	0.95	69.6	82.40	
9:45	80	350		17.41	6.18	0.167	-7	0.79	69.0	82.40	
9:50	85	350		17.36	6.19	0.168	-8	0.75	77.9	82.40	
9:55	90	350		17.34	6.19	0.171	-10	0.69	75.2	82.40	

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl

Sample Identification

Comments

Groundwater Sampling Form

Swope, Pennsauken, New Jersey

Project Number: 2200000028 Phase/Task: 110 Well ID: MW-11S Cont.

Date: 3/26/04 Sampled By: Charlie Chadlesworth

Sampling Time: Recorded By: Charlie Charlesworth

Weather: Coded Replicate No.:

Instrument Identification

Water Quality Meter(s): Horiba U-22/LaMotte 2020 Serial #:

Purging Information

Casing Material: Stainless Steel Purge Method: Grunfos Submersible Pump

Casing Diameter: 4 in. Screen Interval (ft bmp): Top Bottom

Total Depth (ft bmp): Pump Intake Depth (ft bmp):

Depth to Water (ft bmp): Purge time Start: Finish:

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Conductivity (mS/cm)	REDOX (mV)	DO (mg/L)	Turbidity (ntu)	Water Table (ft bmp)	Comments
:00	95	350		17.36	6.19	0.172	-10	0.67	78.0	82.40	
:05	100	350		17.38	6.19	0.172	-10	0.65	80.3	82.40	

Sample Condition Color: Odor: Appearance:

Sample Collection

Parameter:	Container:	No.	Preservative:
TCL VOCs	40 ml glass vial	3	HCl

Sample Identification

Comments

APPENDIX C

LABORATORY ANALYSIS SUMMARY SHEETS

Analytical Data Package for MACTEC Engineering and Consulting, Inc.

Client Project: SWOPE, 2200000028

SDG# MC0148

Mitkem Project ID: C0148

March 4, 2004

Prepared For:

MACTEC Engineering and Consulting, Inc.
5205 Militia Hill Road
Plymouth Meeting, PA 19462
Attn: Mr. Doug Newton

Prepared By:

Mitkem Corporation
175 Metro Center Boulevard
Warwick, RI 02886
(401) 732-3400

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-01A Date Received: 02/14/2004

Lab File ID: V5F1437.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	1.3	
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	8.5	
75-34-3	1,1-Dichloroethane	12	
156-59-2	cis-1,2-Dichloroethene	38	E
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	1.8	
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

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-01A Date Received: 02/14/2004

Lab File ID: V5F1437.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	20	
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	3.4	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	11	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.3	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	3.6	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	2.0	
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	3.5	
95-50-1	1,2-Dichlorobenzene	1.2	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0148

Lab Sample ID: C0148-01A Date Received: 02/14/2004

Lab File ID: V5F1437.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	123369	Unknown	3.12	2.6	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-01ADL Date Received: 02/14/2004

Lab File ID: V5F1443.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.3	D
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	8.5	D
75-34-3	1,1-Dichloroethane	12	D
156-59-2	cis-1,2-Dichloroethene	37	D
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.6	D
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-01ADL Date Received: 02/14/2004

Lab File ID: V5F1443.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	19	D
108-87-2	Methylcyclohexane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	3.1	D
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	9.8	D
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	D
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	3.3	D
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylenes (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.8	D
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	3.2	D
95-50-1	1,2-Dichlorobenzene	1.0	D
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0148

Lab Sample ID: C0148-01ADL Date Received: 02/14/2004

Lab File ID: V5F1443.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-10S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-02A Date Received: 02/14/2004

Lab File ID: V5F1442.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.99	
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	0.75	
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	4.7	
156-59-2	cis-1,2-Dichloroethene	3.9	
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	0.90	
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	7.7	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-10S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-02A Date Received: 02/14/2004

Lab File ID: V5F1442.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	2.3	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.36	J
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	0.99	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.80	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.3	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-10S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0148

Lab Sample ID: C0148-02A Date Received: 02/14/2004

Lab File ID: V5F1442.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-03A Date Received: 02/14/2004

Lab File ID: V5F1439.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.51	
75-35-4	1,1-Dichloroethene	0.96	
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	0.42	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	1.5	
75-34-3	1,1-Dichloroethane	2.4	
156-59-2	cis-1,2-Dichloroethene	6.6	
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	1.3	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.57	
107-06-2	1,2-Dichloroethane	0.50	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-03A Date Received: 02/14/2004

Lab File ID: V5F1439.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	41	E
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	2.0	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	5.9	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.52	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	4.5	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	3.6	
95-50-1	1,2-Dichlorobenzene	0.84	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-11S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0148

Lab Sample ID: C0148-03A Date Received: 02/14/2004

Lab File ID: V5F1439.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-03ADL Date Received: 02/14/2004

Lab File ID: V5F1444.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	1.3	U
74-87-3	Chloromethane	1.3	U
75-01-4	Vinyl chloride	1.3	U
74-83-9	Bromomethane	1.3	U
75-00-3	Chloroethane	1.3	U
75-69-4	Trichlorofluoromethane	1.3	U
75-35-4	1,1-Dichloroethene	1.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	1.3	U
79-20-9	Methyl acetate	1.3	U
75-09-2	Methylene chloride	1.3	U
156-60-5	trans-1,2-Dichloroethene	1.3	U
1634-04-4	Methyl tert-butyl ether	1.3	D
75-34-3	1,1-Dichloroethane	2.1	D
156-59-2	cis-1,2-Dichloroethene	5.8	D
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	1.3	U
67-66-3	Chloroform	1.3	U
71-55-6	1,1,1-Trichloroethane	1.2	DJ
110-82-7	Cyclohexane	1.3	U
56-23-5	Carbon tetrachloride	1.3	U
71-43-2	Benzene	1.3	U
107-06-2	1,2-Dichloroethane	1.3	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-03ADL Date Received: 02/14/2004

Lab File ID: V5F1444.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	41	D
108-87-2	Methylcyclohexane	1.3	U
78-87-5	1,2-Dichloropropane	1.3	U
75-27-4	Bromodichloromethane	1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	1.9	D
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	U
127-18-4	Tetrachloroethene	5.5	D
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	1.3	U
106-93-4	1,2-Dibromoethane	1.3	U
108-90-7	Chlorobenzene	4.2	D
100-41-4	Ethylbenzene	1.3	U
1330-20-7	Xylenes (Total)	1.3	U
100-42-5	Styrene	1.3	U
75-25-2	Bromoform	1.3	U
98-82-8	Isopropylbenzene	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	U
541-73-1	1,3-Dichlorobenzene	1.3	U
106-46-7	1,4-Dichlorobenzene	3.3	D
95-50-1	1,2-Dichlorobenzene	1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	1.3	U
120-82-1	1,2,4-Trichlorobenzene	1.3	U
87-61-6	1,2,3-Trichlorobenzene	1.3	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-11SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0148

Lab Sample ID: C0148-03ADL Date Received: 02/14/2004

Lab File ID: V5F1444.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

FIELDBLANK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-04A Date Received: 02/14/2004

Lab File ID: V5F1440.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.81	
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

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

FIELDBLANK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0148

Lab Sample ID: C0148-04A Date Received: 02/14/2004

Lab File ID: V5F1440.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	0.50	U
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	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.69	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.0	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELDBLANK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0148

Lab Sample ID: C0148-04A Date Received: 02/14/2004

Lab File ID: V5F1440.D Date Analyzed: 02/20/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY MACTEC E&C, Inc.	PHONE (610) 941-9700	COMPANY MACTEC	PHONE	LAB PROJECT #: C0148
NAME DOUG NEWTON	FAX (610) 941-9707	NAME	FAX	
ADDRESS 5205 Militia Hill Rd.		ADDRESS 1105 Sanctuary Parkway Suite 300		TURNAROUND TIME: STANDARD
CITY/ST/ZIP Plymouth Meeting, PA 19462		CITY/ST/ZIP Alpharetta, GA 30004		

CLIENT PROJECT NAME: SWOPE
CLIENT PROJECT #: 22000000028
CLIENT P.O.#:

REQUESTED ANALYSES: Method CLP OLC 03.2

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	Method CLP OLC 03.2											COMMENTS
MW-9S	2/12/02 4:00		X	X				3	X											
MW-10S	2/12/02 11:00		X	X				3	X											
MW-11S	2/12/02 2:00		X	X				3	X											
Field Blank	2/12/02 4:30		X	X				3	X											
	/																			
	/																			
	/																			
	/																			
	/																			
	/																			
	/																			
	/																			

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
	Charles J. Charlesworth	2/13/03 4:30PM	Tim Sheehan	2/14/03 0925
		/		/
		/		/

ADDITIONAL REMARKS:

COOLER TEMP: 2°C

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

Analytical Data Package for MACTEC Engineering and Consulting, Inc.

Client Project: SWOPE, 3485040018 T.O. 110

SDG# MC0244

Mitkem Work Order ID: C0244

April 5, 2004

Prepared For: MACTEC Engineering and Consulting, Inc.
5205 Militia Hill Road
Plymouth Meeting, PA 19462
Attn: Mr. Doug Newton

Prepared By: Mitkem Corporation
175 Metro Center Boulevard
Warwick, RI 02886
(401) 732-3400

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-2S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-08A Date Received: 03/24/2004

Lab File ID: V5F1718.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	7.2	
75-34-3	1,1-Dichloroethane	0.73	
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	0.61	
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

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-2S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-08A Date Received: 03/24/2004

Lab File ID: V5F1718.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	5.9	
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	2.3	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.79	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	1.7	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	1.5	
95-50-1	1,2-Dichlorobenzene	0.76	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-2S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-08A Date Received: 03/24/2004

Lab File ID: V5F1718.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-2D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-09A Date Received: 03/24/2004

Lab File ID: V5F1719.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.36	J
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	18	
75-34-3	1,1-Dichloroethane	0.55	
156-59-2	cis-1,2-Dichloroethene	4.9	
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	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

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-2D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-09A Date Received: 03/24/2004

Lab File ID: V5F1719.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	28	E
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.47	J
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	40	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
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.3	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-2D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-09A Date Received: 03/24/2004

Lab File ID: V5F1719.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01		Unknown (12.41913)	12.42	0.73	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-2DDL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-09ADL Date Received: 03/24/2004

Lab File ID: V5F1721.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	1.3	U
74-87-3	Chloromethane	1.3	U
75-01-4	Vinyl chloride	1.3	U
74-83-9	Bromomethane	1.3	U
75-00-3	Chloroethane	1.3	U
75-69-4	Trichlorofluoromethane	1.3	U
75-35-4	1,1-Dichloroethene	1.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	1.3	U
79-20-9	Methyl acetate	1.3	U
75-09-2	Methylene chloride	1.3	U
156-60-5	trans-1,2-Dichloroethene	1.3	U
1634-04-4	Methyl tert-butyl ether	16	D
75-34-3	1,1-Dichloroethane	1.3	U
156-59-2	cis-1,2-Dichloroethene	4.3	D
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	1.3	U
67-66-3	Chloroform	1.3	U
71-55-6	1,1,1-Trichloroethane	1.3	U
110-82-7	Cyclohexane	1.3	U
56-23-5	Carbon tetrachloride	1.3	U
71-43-2	Benzene	1.3	U
107-06-2	1,2-Dichloroethane	1.3	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-2DDL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-09ADL Date Received: 03/24/2004

Lab File ID: V5F1721.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	24	D
108-87-2	Methylcyclohexane	1.3	U
78-87-5	1,2-Dichloropropane	1.3	U
75-27-4	Bromodichloromethane	1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	1.3	U
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	U
127-18-4	Tetrachloroethene	35	D
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	0.85	DJ
106-93-4	1,2-Dibromoethane	1.3	U
108-90-7	Chlorobenzene	1.3	U
100-41-4	Ethylbenzene	1.3	U
1330-20-7	Xylenes (Total)	1.3	U
100-42-5	Styrene	1.3	U
75-25-2	Bromoform	1.3	U
98-82-8	Isopropylbenzene	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	U
541-73-1	1,3-Dichlorobenzene	1.3	U
106-46-7	1,4-Dichlorobenzene	1.3	U
95-50-1	1,2-Dichlorobenzene	1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	1.3	U
120-82-1	1,2,4-Trichlorobenzene	1.3	U
87-61-6	1,2,3-Trichlorobenzene	1.3	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-2DDL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-09ADL Date Received: 03/24/2004

Lab File ID: V5F1721.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-6D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-06A Date Received: 03/24/2004

Lab File ID: V5F1698.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

MW-6D

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	3.3	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.73	
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	6.5	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.74	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.75	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.1	
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

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-6D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-06A Date Received: 03/24/2004

Lab File ID: V5F1698.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	
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	7.4	
75-34-3	1,1-Dichloroethane	0.78	
156-59-2	cis-1,2-Dichloroethene	2.5	
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	0.34	J
107-06-2	1,2-Dichloroethane	1.3	

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-6D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-06A Date Received: 03/24/2004

Lab File ID: V5F1698.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-6S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-07A Date Received: 03/24/2004

Lab File ID: V5F1717.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.81	
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	0.40	J
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	24	
75-34-3	1,1-Dichloroethane	5.2	
156-59-2	cis-1,2-Dichloroethene	24	
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	0.59	
107-06-2	1,2-Dichloroethane	0.50	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-6S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-07A Date Received: 03/24/2004

Lab File ID: V5F1717.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	8.1	
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	3.3	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.84	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	9.1	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.2	
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.45	J
106-46-7	1,4-Dichlorobenzene	8.9	
95-50-1	1,2-Dichlorobenzene	3.0	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-6S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-07A Date Received: 03/24/2004

Lab File ID: V5F1717.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 4

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.12	13	NJ
02	75-43-4	Fluorodichloromethane	2.82	6.3	NJ
03	60-29-7	Ethyl ether	3.12	1.9	NJ
04	135-98-8	Benzene, (1-methylpropyl)-	11.84	0.64	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-7D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-05A Date Received: 03/24/2004

Lab File ID: V5F1697.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.87	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	1.0	
75-35-4	1,1-Dichloroethene	1.4	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.7	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	6.3	
75-34-3	1,1-Dichloroethane	2.9	
156-59-2	cis-1,2-Dichloroethene	11	
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	0.90	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.65	
71-43-2	Benzene	0.88	
107-06-2	1,2-Dichloroethane	2.6	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-7D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-05A Date Received: 03/24/2004

Lab File ID: V5F1697.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	6.7	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	2.2	
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	7.9	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.3	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	4.4	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.6	
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	0.81	
95-50-1	1,2-Dichlorobenzene	0.84	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.46	J
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-7D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-05A Date Received: 03/24/2004

Lab File ID: V5F1697.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-7S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-04A Date Received: 03/24/2004

Lab File ID: V5F1714.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	3.9	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.97	
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	14	
156-59-2	cis-1,2-Dichloroethene	12	
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	0.44	J
107-06-2	1,2-Dichloroethane	9.3	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-7S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-04A Date Received: 03/24/2004

Lab File ID: V5F1714.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	6.1	
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	0.51	
127-18-4	Tetrachloroethene	1.1	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.79	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.62	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	0.31	J
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-7S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-04A Date Received: 03/24/2004

Lab File ID: V5F1714.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-8D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-02A Date Received: 03/24/2004

Lab File ID: V5F1713.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	1.0	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	2.3	
75-35-4	1,1-Dichloroethene	0.55	
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	10	
75-34-3	1,1-Dichloroethane	2.0	
156-59-2	cis-1,2-Dichloroethene	8.0	
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	0.47	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.90	
107-06-2	1,2-Dichloroethane	0.96	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-8D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-02A Date Received: 03/24/2004

Lab File ID: V5F1713.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	4.8	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.68	
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	4.5	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.80	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	3.5	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.3	
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	2.5	
95-50-1	1,2-Dichlorobenzene	1.1	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-8D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-02A Date Received: 03/24/2004

Lab File ID: V5F1713.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.14	6.3	NJ
02	75-43-4	Fluorodichloromethane	2.82	8.9	NJ
03	60-29-7	Ethyl ether	3.12	1.3	NJ

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-8D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-02A Date Received: 03/24/2004

Lab File ID: V5F1713.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.14	6.3	NJ
02	75-43-4	Fluorodichloromethane	2.82	8.9	NJ
03	60-29-7	Ethyl ether	3.12	1.3	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-8S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-03A Date Received: 03/24/2004

Lab File ID: V5F1695.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.68	
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	20	
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	0.31	J
75-34-3	1,1-Dichloroethane	20	
156-59-2	cis-1,2-Dichloroethene	30	E
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	0.76	
107-06-2	1,2-Dichloroethane	2.4	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-8S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-03A Date Received: 03/24/2004

Lab File ID: V5F1695.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	20	
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	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.54	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	1.9	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.78	
98-82-8	Isopropylbenzene	0.34	J
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	1.2	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-8S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-03A Date Received: 03/24/2004

Lab File ID: V5F1695.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	75-43-4	Fluorodichloromethane	2.82	4.7	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-8SDL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-03ADL Date Received: 03/24/2004

Lab File ID: V5F1716.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	15	D
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	15	D
156-59-2	cis-1,2-Dichloroethene	23	D
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	0.62	DJ
107-06-2	1,2-Dichloroethane	2.0	D

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-8SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-03ADL Date Received: 03/24/2004

Lab File ID: V5F1716.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	16	D
108-87-2	Methylcyclohexane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.6	D
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylenes (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	D
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-8SDL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-03ADL Date Received: 03/24/2004

Lab File ID: V5F1716.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-7

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-01A Date Received: 03/24/2004

Lab File ID: V5F1693.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.66	
156-60-5	trans-1,2-Dichloroethene	1.7	
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	6.6	
156-59-2	cis-1,2-Dichloroethene	38	E
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	0.94	
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	3.9	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-7

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-01A Date Received: 03/24/2004

Lab File ID: V5F1693.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	20	
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	3.1	
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
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	2.2	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-7

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-01A Date Received: 03/24/2004

Lab File ID: V5F1693.D Date Analyzed: 03/24/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-7DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0244

Lab Sample ID: C0244-01ADL Date Received: 03/24/2004

Lab File ID: V5F1715.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	16	D
108-87-2	Methylcyclohexane	1.3	U
78-87-5	1,2-Dichloropropane	1.3	U
75-27-4	Bromodichloromethane	1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	1.3	U
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	U
127-18-4	Tetrachloroethene	2.6	D
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	1.1	DJ
106-93-4	1,2-Dibromoethane	1.3	U
108-90-7	Chlorobenzene	1.3	U
100-41-4	Ethylbenzene	1.3	U
1330-20-7	Xylenes (Total)	1.3	U
100-42-5	Styrene	1.3	U
75-25-2	Bromoform	2.0	D
98-82-8	Isopropylbenzene	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	U
541-73-1	1,3-Dichlorobenzene	1.3	U
106-46-7	1,4-Dichlorobenzene	1.3	U
95-50-1	1,2-Dichlorobenzene	1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	1.3	U
120-82-1	1,2,4-Trichlorobenzene	1.3	U
87-61-6	1,2,3-Trichlorobenzene	1.3	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-7DL

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0244

Lab Sample ID: C0244-01ADL Date Received: 03/24/2004

Lab File ID: V5F1715.D Date Analyzed: 03/25/2004

Purge Volume: 25.0 (ML) Dilution Factor: 2.5

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO

COMPANY: MACTEC E&C
PHONE: 610.941.9700
NAME: Doug Newton
FAX: 610.941.9707
ADDRESS: 5205 Militia Hill Rd
CITY/ST/ZIP: Plymouth Meeting, PA 19462

INVOICE TO

COMPANY: MACTEC
PHONE:
NAME: Accounts Payable
FAX:
ADDRESS: 1105 Sanctuary Parkway Suite 300
CITY/ST/ZIP: Alpharetta, GA 30004

LAB PROJECT #: C0244
TURNAROUND TIME:

CLIENT PROJECT NAME: Swope Superfund
CLIENT PROJECT #: 2200000028.110
CLIENT P.O.#:

REQUESTED ANALYSES: EPA VOCs CLP 03.2

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	EPA VOCs CLP 03.2	COMMENTS
MW-7 ✓	3/22/04 1345		X	X			01	3	X	
GM-8D ✓	1610						02	3	X	
GM-8S ✓	1615						03	3	X	
GM-7S ✓	3/23/04 0840						04	3	X	
GM-7D ✓	0845						05	3	X	
GM-6D ✓	1030						06	3	X	
GM-6S ✓	1040						07	3	X	
GM-2S ✓	1330						08	3	X	
GM-2D	1332		X	X			09	3	X	

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
	[signature]	3/23/04 5:00	[signature]	3/24/04 0900

ADDITIONAL REMARKS:

COOLER TEMP: 5°

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

Analytical Data Package for MACTEC Engineering and Consulting, Inc.

Client Project: SWOPE, 3485040018 T.O. 110

SDG# MC0259

Mitkem Work Order ID: C0259

April 19, 2004

Prepared For: MACTEC Engineering and Consulting, Inc.
5205 Militia Hill Road
Plymouth Meeting, PA 19462
Attn: Mr. Doug Newton

Prepared By: Mitkem Corporation
175 Metro Center Boulevard
Warwick, RI 02886
(401) 732-3400

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

FB-032604

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-16A Date Received: 03/27/2004

Lab File ID: V5F1795.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.92	
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

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

FB-032604

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-16A Date Received: 03/27/2004

Lab File ID: V5F1795.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	0.50	U
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	0.50	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
1330-20-7	Xylenes (Total)	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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB-032604

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-16A Date Received: 03/27/2004

Lab File ID: V5F1795.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-1D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-12A Date Received: 03/27/2004

Lab File ID: V5F1863.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.90	
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	2.2	
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	1.6	
75-34-3	1,1-Dichloroethane	3.9	
156-59-2	cis-1,2-Dichloroethene	19	
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	0.77	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	1.5	
71-43-2	Benzene	0.96	
107-06-2	1,2-Dichloroethane	4.0	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-1D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-12A Date Received: 03/27/2004

Lab File ID: V5F1863.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	7.9	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	1.9	
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	7.6	
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	3.9	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	0.52	
95-50-1	1,2-Dichlorobenzene	0.53	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.43	J
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-1D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-12A Date Received: 03/27/2004

Lab File ID: V5F1863.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-1S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-10A Date Received: 03/27/2004

Lab File ID: V5F1789.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	1.9	
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	16	
156-59-2	cis-1,2-Dichloroethene	76	E
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	3.5	
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	1.6	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-1S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-10A Date Received: 03/27/2004

Lab File ID: V5F1789.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	22	
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	14	
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
1330-20-7	Xylenes (Total)	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	0.39	J
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-1S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-10A Date Received: 03/27/2004

Lab File ID: V5F1789.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-1SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-10ADL Date Received: 03/27/2004

Lab File ID: V5F1800.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	1.8	DJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	14	D
156-59-2	cis-1,2-Dichloroethene	64	D
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	1.6	DJ
71-55-6	1,1,1-Trichloroethane	3.2	D
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-1SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-10ADL Date Received: 03/27/2004

Lab File ID: V5F1800.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	20	D
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	13	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
1330-20-7	Xylenes (Total)	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-1SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-10ADL Date Received: 03/27/2004

Lab File ID: V5F1800.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-3D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-06A Date Received: 03/27/2004

Lab File ID: V5F1785.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.68	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.73	
75-35-4	1,1-Dichloroethene	0.55	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.1	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.89	
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	7.1	
75-34-3	1,1-Dichloroethane	1.6	
156-59-2	cis-1,2-Dichloroethene	5.2	
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	0.51	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.71	
107-06-2	1,2-Dichloroethane	1.1	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-3D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-06A Date Received: 03/27/2004

Lab File ID: V5F1785.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	1.6	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.67	
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	1.8	
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	5.0	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	2.5	
95-50-1	1,2-Dichlorobenzene	1.1	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-3D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-06A Date Received: 03/27/2004

Lab File ID: V5F1785.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.15	5.8	NJ
02		Unknown	2.83	5.0	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-3RS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-05A Date Received: 03/27/2004

Lab File ID: V5F1773.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.82	
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	15	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	1.5	
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	1.6	
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	0.39	J
156-60-5	trans-1,2-Dichloroethene	0.45	J
1634-04-4	Methyl tert-butyl ether	0.46	J
75-34-3	1,1-Dichloroethane	32	E
156-59-2	cis-1,2-Dichloroethene	75	E
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	1.1	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.78	
107-06-2	1,2-Dichloroethane	23	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-3RS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-05A Date Received: 03/27/2004

Lab File ID: V5F1773.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	22	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.55	
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	0.83	
127-18-4	Tetrachloroethene	6.8	
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	1.1	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.45	J
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	0.54	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-3RS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-05A Date Received: 03/27/2004

Lab File ID: V5F1773.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-3RSDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-05ADL Date Received: 03/27/2004

Lab File ID: V5F1784.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	11	D
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	24	D
156-59-2	cis-1,2-Dichloroethene	59	D
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	19	D

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-3RSDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-05ADL Date Received: 03/27/2004

Lab File ID: V5F1784.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	17	D
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	5.2	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
1330-20-7	Xylenes (Total)	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-3RSDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-05ADL Date Received: 03/27/2004

Lab File ID: V5F1784.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-4D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-02A Date Received: 03/27/2004

Lab File ID: V5F1767.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	1.3	
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	0.30	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	1.5	
75-34-3	1,1-Dichloroethane	3.1	
156-59-2	cis-1,2-Dichloroethene	13	
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	0.70	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.84	
71-43-2	Benzene	0.88	
107-06-2	1,2-Dichloroethane	2.9	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-4D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-02A Date Received: 03/27/2004

Lab File ID: V5F1767.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	3.4	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	2.2	
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	2.3	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.44	J
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	5.8	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	1.8	
95-50-1	1,2-Dichlorobenzene	1.3	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.48	J
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-4D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-02A Date Received: 03/27/2004

Lab File ID: V5F1767.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.13	2.5	NJ
02		Unknown	2.82	2.1	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-03A Date Received: 03/27/2004

Lab File ID: V5F1769.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	1.1	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.4	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.38	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.34	J
75-34-3	1,1-Dichloroethane	1.7	
156-59-2	cis-1,2-Dichloroethene	8.1	
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	0.54	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.86	
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	2.2	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-03A Date Received: 03/27/2004

Lab File ID: V5F1769.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	4.1	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.83	
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	4.4	
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	0.32	J
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-5D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-03A Date Received: 03/27/2004

Lab File ID: V5F1769.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-04A Date Received: 03/27/2004

Lab File ID: V5F1770.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.83	
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	3.9	
75-34-3	1,1-Dichloroethane	1.1	
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	1.1	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.43	J
107-06-2	1,2-Dichloroethane	0.52	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-04A Date Received: 03/27/2004

Lab File ID: V5F1770.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	0.63	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.62	
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	0.50	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	3.9	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	2.1	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	5.9	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	4.2	
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	2.4	
95-50-1	1,2-Dichlorobenzene	1.2	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-5S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-04A Date Received: 03/27/2004

Lab File ID: V5F1770.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5SMS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-04AMS Date Received: 03/27/2004

Lab File ID: V5F1771.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	5.5	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.2	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	4.1	
75-34-3	1,1-Dichloroethane	1.2	
156-59-2	cis-1,2-Dichloroethene	2.1	
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	1.1	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	5.4	
107-06-2	1,2-Dichloroethane	0.83	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5SMS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-04AMS Date Received: 03/27/2004

Lab File ID: V5F1771.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	5.4	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.65	
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	4.7	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	3.8	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.48	J
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	11	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.7	
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	2.5	
95-50-1	1,2-Dichlorobenzene	1.2	
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

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5SMSD

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-04AMSD Date Received: 03/27/2004

Lab File ID: V5F1772.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	5.4	
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	4.1	
75-34-3	1,1-Dichloroethane	1.1	
156-59-2	cis-1,2-Dichloroethene	2.0	
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	1.1	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	5.4	
107-06-2	1,2-Dichloroethane	0.83	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-5SMSD

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-04AMSD Date Received: 03/27/2004

Lab File ID: V5F1772.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	5.3	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.64	
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	4.7	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	3.8	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.84	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	11	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	2.5	
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	2.4	
95-50-1	1,2-Dichlorobenzene	1.2	
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

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-9

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-11A Date Received: 03/27/2004

Lab File ID: V5F1790.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	1.8	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	4.3	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	15	
156-59-2	cis-1,2-Dichloroethene	71	E
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	3.4	
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	1.5	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-9

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-11A Date Received: 03/27/2004

Lab File ID: V5F1790.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	21	
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	14	
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
1330-20-7	Xylenes (Total)	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	0.36	J
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-9

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-11A Date Received: 03/27/2004

Lab File ID: V5F1790.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	75-43-4	Fluorodichloromethane	2.82	1.4	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-9DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-11ADL Date Received: 03/27/2004

Lab File ID: V5F1865.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	13	D
156-59-2	cis-1,2-Dichloroethene	62	D
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.6	D
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

GM-9DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-11ADL Date Received: 03/27/2004

Lab File ID: V5F1865.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	17	D
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	11	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
1330-20-7	Xylenes (Total)	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GM-9DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-11ADL Date Received: 03/27/2004

Lab File ID: V5F1865.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MPWC#1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-09A Date Received: 03/27/2004

Lab File ID: V5F1797.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.55	
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	18	
75-34-3	1,1-Dichloroethane	1.0	
156-59-2	cis-1,2-Dichloroethene	5.2	
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	0.46	J
71-43-2	Benzene	0.47	J
107-06-2	1,2-Dichloroethane	1.1	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MPWC#1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-09A Date Received: 03/27/2004

Lab File ID: V5F1797.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	6.2	
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	9.2	
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	1.7	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	1.3	
95-50-1	1,2-Dichlorobenzene	0.72	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MPWC#1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-09A Date Received: 03/27/2004

Lab File ID: V5F1797.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.13	3.8	NJ
02		Unknown (2.81592)	2.82	3.5	J
03		Unknown (3.10625)	3.11	0.84	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-07A Date Received: 03/27/2004

Lab File ID: V5F1786.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.88	
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	
75-35-4	1,1-Dichloroethene	2.1	
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	0.88	
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	8.3	
75-34-3	1,1-Dichloroethane	19	
156-59-2	cis-1,2-Dichloroethene	76	E
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	1.5	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.44	J
107-06-2	1,2-Dichloroethane	1.4	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-07A Date Received: 03/27/2004

Lab File ID: V5F1786.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	27	E
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	16	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	2.7	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	1.2	
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	3.0	
95-50-1	1,2-Dichlorobenzene	0.93	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-07A Date Received: 03/27/2004

Lab File ID: V5F1786.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.15	7.2	NJ
02	60-29-7	Ethyl ether	3.12	0.86	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-1DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-07ADL Date Received: 03/27/2004

Lab File ID: V5F1798.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.1	DJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	8.1	D
75-34-3	1,1-Dichloroethane	17	D
156-59-2	cis-1,2-Dichloroethene	68	D
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-1DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-07ADL Date Received: 03/27/2004

Lab File ID: V5F1798.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	23	D
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	14	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.4	DJ
100-41-4	Ethylbenzene	2.5	U
1330-20-7	Xylenes (Total)	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.6	D
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-1DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-07ADL Date Received: 03/27/2004

Lab File ID: V5F1798.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.13	7.1	NJ
02		Unknown	2.82	6.3	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-08A Date Received: 03/27/2004

Lab File ID: V5F1787.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	5.3	
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	1.3	
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	22	
156-59-2	cis-1,2-Dichloroethene	72	E
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	0.34	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	11	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-08A Date Received: 03/27/2004

Lab File ID: V5F1787.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	21	
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	0.73	
127-18-4	Tetrachloroethene	13	
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
1330-20-7	Xylenes (Total)	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	0.37	J

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-08A Date Received: 03/27/2004

Lab File ID: V5F1787.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-2DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-08ADL Date Received: 03/27/2004

Lab File ID: V5F1799.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	4.4	D
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	19	D
156-59-2	cis-1,2-Dichloroethene	63	D
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	10	D

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-2DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-08ADL Date Received: 03/27/2004

Lab File ID: V5F1799.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	19	D
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	11	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
1330-20-7	Xylenes (Total)	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-2DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-08ADL Date Received: 03/27/2004

Lab File ID: V5F1799.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01		Unknown	2.60	7.5	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-01A Date Received: 03/27/2004

Lab File ID: V5F1763.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.32	J
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	1.4	
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	1.0	
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.49	J
75-34-3	1,1-Dichloroethane	7.6	
156-59-2	cis-1,2-Dichloroethene	58	E
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	2.6	
110-82-7	Cyclohexane	3.7	
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.44	J
107-06-2	1,2-Dichloroethane	8.1	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-01A Date Received: 03/27/2004

Lab File ID: V5F1763.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	9.2	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.85	
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	5.3	
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	3.2	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	0.88	
95-50-1	1,2-Dichlorobenzene	0.69	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.33	J
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-01A Date Received: 03/27/2004

Lab File ID: V5F1763.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-4DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-01ADL Date Received: 03/27/2004

Lab File ID: V5F1768.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 4.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.0	U
74-87-3	Chloromethane	2.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	2.0	U
75-00-3	Chloroethane	2.0	U
75-69-4	Trichlorofluoromethane	2.0	U
75-35-4	1,1-Dichloroethene	1.7	DJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U
67-64-1	Acetone	20	U
75-15-0	Carbon disulfide	2.0	U
79-20-9	Methyl acetate	2.0	U
75-09-2	Methylene chloride	2.0	U
156-60-5	trans-1,2-Dichloroethene	2.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
75-34-3	1,1-Dichloroethane	7.7	D
156-59-2	cis-1,2-Dichloroethene	60	D
78-93-3	2-Butanone	20	U
74-97-5	Bromochloromethane	2.0	U
67-66-3	Chloroform	2.0	U
71-55-6	1,1,1-Trichloroethane	2.6	D
110-82-7	Cyclohexane	2.0	U
56-23-5	Carbon tetrachloride	2.0	U
71-43-2	Benzene	2.0	U
107-06-2	1,2-Dichloroethane	9.1	D

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-4DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-01ADL Date Received: 03/27/2004

Lab File ID: V5F1768.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 4.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	9.5	D
108-87-2	Methylcyclohexane	2.0	U
78-87-5	1,2-Dichloropropane	2.0	U
75-27-4	Bromodichloromethane	2.0	U
10061-01-5	cis-1,3-Dichloropropene	2.0	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	2.0	U
10061-02-6	trans-1,3-Dichloropropene	2.0	U
79-00-5	1,1,2-Trichloroethane	2.0	U
127-18-4	Tetrachloroethene	5.9	D
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	2.0	U
106-93-4	1,2-Dibromoethane	2.0	U
108-90-7	Chlorobenzene	3.2	D
100-41-4	Ethylbenzene	2.0	U
1330-20-7	Xylenes (Total)	2.0	U
100-42-5	Styrene	2.0	U
75-25-2	Bromoform	2.0	U
98-82-8	Isopropylbenzene	2.0	U
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U
541-73-1	1,3-Dichlorobenzene	2.0	U
106-46-7	1,4-Dichlorobenzene	2.0	U
95-50-1	1,2-Dichlorobenzene	2.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U
120-82-1	1,2,4-Trichlorobenzene	2.0	U
87-61-6	1,2,3-Trichlorobenzene	2.0	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-4DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-01ADL Date Received: 03/27/2004

Lab File ID: V5F1768.D Date Analyzed: 03/30/2004

Purge Volume: 25.0 (ML) Dilution Factor: 4.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-14A Date Received: 03/27/2004

Lab File ID: V5F1793.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	1.5	
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	2.5	
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	1.7	
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	2.0	
75-34-3	1,1-Dichloroethane	24	
156-59-2	cis-1,2-Dichloroethene	89	E
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	0.33	J
107-06-2	1,2-Dichloroethane	0.50	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-14A Date Received: 03/27/2004

Lab File ID: V5F1793.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	43	E
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	20	
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	1.2	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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	1.2	
95-50-1	1,2-Dichlorobenzene	0.37	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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No SDG No.: MC0259

Lab Sample ID: C0259-14A Date Received: 03/27/2004

Lab File ID: V5F1793.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.13	2.1	NJ
02		Unknown	2.83	3.1	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-14ADL Date Received: 03/27/2004

Lab File ID: V5F1866.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.2	DJ
75-34-3	1,1-Dichloroethane	21	D
156-59-2	cis-1,2-Dichloroethene	79	D
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-9SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-14ADL Date Received: 03/27/2004

Lab File ID: V5F1866.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	35	D
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	17	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
1330-20-7	Xylenes (Total)	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-14ADL Date Received: 03/27/2004

Lab File ID: V5F1866.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 5.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-10S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-13A Date Received: 03/27/2004

Lab File ID: V5F1864.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	0.63	
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	1.7	
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	0.89	
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	6.1	
156-59-2	cis-1,2-Dichloroethene	7.1	
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	0.86	
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	10	

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-10S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-13A Date Received: 03/27/2004

Lab File ID: V5F1864.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	2.7	
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.46	J
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	0.57	
127-18-4	Tetrachloroethene	1.2	
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	0.34	J
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-10S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-13A Date Received: 03/27/2004

Lab File ID: V5F1864.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-15A Date Received: 03/27/2004

Lab File ID: V5F1794.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	1.2	
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	1.7	
75-34-3	1,1-Dichloroethane	3.3	
156-59-2	cis-1,2-Dichloroethene	6.7	
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	0.52	
107-06-2	1,2-Dichloroethane	0.50	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-15A Date Received: 03/27/2004

Lab File ID: V5F1794.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	53	E
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	7.1	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.78	
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	3.7	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylenes (Total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	2.0	
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	3.4	
95-50-1	1,2-Dichlorobenzene	0.79	
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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-11S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-15A Date Received: 03/27/2004

Lab File ID: V5F1794.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01	593-70-4	Methane, chlorofluoro-	2.12	4.4	NJ
02		Unknown	2.39	4.6	J
03	75-43-4	Fluorodichloromethane	2.81	5.6	NJ

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: SDG No.: MC0259

Lab Sample ID: C0259-15ADL Date Received: 03/27/2004

Lab File ID: V5F1867.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 4.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-71-8	Dichlorodifluoromethane	2.0	U
74-87-3	Chloromethane	2.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	2.0	U
75-00-3	Chloroethane	2.0	U
75-69-4	Trichlorofluoromethane	2.0	U
75-35-4	1,1-Dichloroethene	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U
67-64-1	Acetone	20	U
75-15-0	Carbon disulfide	2.0	U
79-20-9	Methyl acetate	2.0	U
75-09-2	Methylene chloride	2.0	U
156-60-5	trans-1,2-Dichloroethene	2.0	U
1634-04-4	Methyl tert-butyl ether	1.5	DJ
75-34-3	1,1-Dichloroethane	2.8	D
156-59-2	cis-1,2-Dichloroethene	5.7	D
78-93-3	2-Butanone	20	U
74-97-5	Bromochloromethane	2.0	U
67-66-3	Chloroform	2.0	U
71-55-6	1,1,1-Trichloroethane	2.0	U
110-82-7	Cyclohexane	2.0	U
56-23-5	Carbon tetrachloride	2.0	U
71-43-2	Benzene	2.0	U
107-06-2	1,2-Dichloroethane	2.0	U

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

MW-11SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-15ADL Date Received: 03/27/2004

Lab File ID: V5F1867.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 4.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	43	D
108-87-2	Methylcyclohexane	2.0	U
78-87-5	1,2-Dichloropropane	2.0	U
75-27-4	Bromodichloromethane	2.0	U
10061-01-5	cis-1,3-Dichloropropene	2.0	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	2.0	U
10061-02-6	trans-1,3-Dichloropropene	2.0	U
79-00-5	1,1,2-Trichloroethane	2.0	U
127-18-4	Tetrachloroethene	5.7	D
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	2.0	U
106-93-4	1,2-Dibromoethane	2.0	U
108-90-7	Chlorobenzene	3.2	D
100-41-4	Ethylbenzene	2.0	U
1330-20-7	Xylenes (Total)	2.0	U
100-42-5	Styrene	2.0	U
75-25-2	Bromoform	2.0	U
98-82-8	Isopropylbenzene	2.0	U
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U
541-73-1	1,3-Dichlorobenzene	2.0	U
106-46-7	1,4-Dichlorobenzene	2.9	D
95-50-1	1,2-Dichlorobenzene	2.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U
120-82-1	1,2,4-Trichlorobenzene	2.0	U
87-61-6	1,2,3-Trichlorobenzene	2.0	U

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-11SDL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-15ADL Date Received: 03/27/2004

Lab File ID: V5F1867.D Date Analyzed: 04/05/2004

Purge Volume: 25.0 (ML) Dilution Factor: 4.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q
01		Unknown	2.14	3.5	J

1LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

TB-032604

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-17A Date Received: 03/27/2004

Lab File ID: V5F1796.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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	0.84	
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

1LCB

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

TB-032604

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No.: _____ SDG No.: MC0259

Lab Sample ID: C0259-17A Date Received: 03/27/2004

Lab File ID: V5F1796.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
79-01-6	Trichloroethene	0.50	U
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	0.50	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
1330-20-7	Xylenes (Total)	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

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-032604

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: Client No _____ SDG No.: MC0259

Lab Sample ID: C0259-17A Date Received: 03/27/2004

Lab File ID: V5F1796.D Date Analyzed: 03/31/2004

Purge Volume: 25.0 (ML) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.25 (MM) Length: 30 (M)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC. (UG/L)	Q

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY MACTEC Engineering & Consulting	PHONE 610-941-1700	COMPANY	PHONE	LAB PROJECT #:
NAME Doug Newton	FAX 610-941-9707	NAME	FAX	
ADDRESS 5205 Militia Hill Rd.		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Plymouth Meeting, PA 19462		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
SWOPE	22000 0029	

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	COMMENTS
MW-4	3/23/-4 16[illegible]		X	X				2	
GM-4D	↓ 1 1711		↓	↓				2	
GM-5D	3/24/41 [illegible]							2	
GM-5S MS MSD	1 0855							1	
GM-3RS	1 11[illegible]							2	
GM-3D	1 12[illegible]							3	
MW-1	1 1142							3	
MW-2	↓ 1 1144							3	
MPWC #1	3/25/41 0825							2	
GM-1D	1 92[illegible]							3	
GM-9	1 0925							3	
GM-1D	↓ 1115		↓	↓				2	

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
	[illegible]	3/2[illegible]/41 9:00		/
		/		/
		/		/

ADDITIONAL REMARKS:

COOLER TEMP:

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732 549 3900 Fax: 732 549 3679
www.stl-inc.com

04/16/2004

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Building 6
Pittsburgh, PA 15238

Attention: Ms. Veronica Bortot

Laboratory Results
Job No. A590 - Swope Oil

Dear Ms. Bortot:

Enclosed are the results you requested for the following sample(s) received at our laboratory on March 24, 2004.

Lab No.	Client ID	Analysis Required
513569	GM-8D	Ferrous Iron
513570	GM-8S	Ferrous Iron
513571	GM-7S	Ferrous Iron
513572	GM-7D	Ferrous Iron
513573	GM-6D	Ferrous Iron
513574	GM-6S	Ferrous Iron
513575	GM-2S	Ferrous Iron
513576	GM-2D	Ferrous Iron

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Nadzan, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

SEVERN TRENT STL

STL Pittsburgh
450 William Pitt Way
Pittsburgh, PA 15238

Tel: 412 820 8380 Fax: 412 820 2080
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. Swope Oil

New Jersey

Lot #: C4C240115

Doug Newton

MACTEC Engineering & Consultin

SEVERN TRENT LABORATORIES, INC.

Veronica Bortot
Project Manager

New Jersey Certification #: PA005

April 12, 2004

DATA SUMMARY PACKAGE

Site: Swope Oil

Lab Job No: A590

Date Received: 03/24/2004
Matrix: WATER

Date Analyzed: 03/25/2004
QA Batch: 0018

Ferrous Iron

STL Edison Sample #	Client ID	Sample Date	Dilution Factor	Analytical Result Units: mg/l
513569	GM-8D	03/22/2004	1.0	ND
513570	GM-8S	03/22/2004	5.0	16.3
513571	GM-7S	03/23/2004	1.0	4.0
513572	GM-7D	03/23/2004	1.0	0.18
513573	GM-6D	03/23/2004	1.0	0.36
513574	GM-6S	03/23/2004	1.0	ND
513575	GM-2S	03/23/2004	1.0	ND
513576	GM-2D	03/23/2004	1.0	ND

Quantitation Limit for Ferrous Iron is 0.1 mg/l.

X-Method 3500-Fe (Standard Methods for the Examination of Water and Wastewater, 18th Edition) specifies that ferrous iron be determined "at sampling site because of the possibility of change in the ferrous-ferric ratio with time in acid solutions" (p3-67).

METALS SUMMARY

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-8D

TOTAL Metals

Lot-Sample #...: C4C240115-001 Matrix.....: WATER
Date Sampled...: 03/22/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	228	100	ug/L	SW846 6010B	03/26-03/29/04	GCRJ71AP
		Dilution Factor: 1		Analysis Time..: 17:26	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	1210	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRJ71AQ
		Dilution Factor: 1		Analysis Time..: 17:26	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-8D

DISSOLVED Metals

Lot-Sample #...: C4C240115-001 Matrix.....: WATER
Date Sampled...: 03/22/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	86.8 B	100	ug/L	SW846 6010B	03/26-03/29/04	GCRJ71AM
		Dilution Factor: 1		Analysis Time..: 19:00	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	1150 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRJ71AN
		Dilution Factor: 1		Analysis Time..: 19:00	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-8S

TOTAL Metals

Lot-Sample #...: C4C240115-002 Matrix.....: WATER
Date Sampled...: 03/22/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	75000	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKD1AP
		Dilution Factor: 1		Analysis Time..: 17:59	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	1860	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKD1AQ
		Dilution Factor: 1		Analysis Time..: 17:59	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-8S

DISSOLVED Metals

Lot-Sample #...: C4C240115-002 Matrix.....: WATER
Date Sampled...: 03/22/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	63400	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKD1AM
		Dilution Factor: 1		Analysis Time..: 19:22	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	1690 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKD1AN
		Dilution Factor: 1		Analysis Time..: 19:22	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-7S

TOTAL Metals

Lot-Sample #...: C4C240115-003 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	3880	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKF1AP
		Dilution Factor: 1		Analysis Time..: 18:04	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	1770	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKF1AQ
		Dilution Factor: 1		Analysis Time..: 18:04	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-7S

DISSOLVED Metals

Lot-Sample #...: C4C240115-003 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	4550	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKF1AM
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	1860 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKF1AN
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-7D

TOTAL Metals

Lot-Sample #...: C4C240115-004 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	136	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKJ1AP
		Dilution Factor: 1		Analysis Time..: 18:10	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	363	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKJ1AQ
		Dilution Factor: 1		Analysis Time..: 18:10	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-7D

DISSOLVED Metals

Lot-Sample #...: C4C240115-004 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	99.9 B	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKJ1AM
		Dilution Factor: 1		Analysis Time..: 19:33	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	352 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKJ1AN
		Dilution Factor: 1		Analysis Time..: 19:33	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-6D

TOTAL Metals

Lot-Sample #...: C4C240115-005 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	633	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKK1AP
		Dilution Factor: 1		Analysis Time..: 18:15	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	195	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKK1AQ
		Dilution Factor: 1		Analysis Time..: 18:15	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-6D

DISSOLVED Metals

Lot-Sample #...: C4C240115-005 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	361	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKK1AM
		Dilution Factor: 1		Analysis Time..: 19:38	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	188 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKK1AN
		Dilution Factor: 1		Analysis Time..: 19:38	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-6S

TOTAL Metals

Lot-Sample #...: C4C240115-006 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	64.2 B	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKL1AP
		Dilution Factor: 1		Analysis Time..: 18:21	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	5610	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKL1AQ
		Dilution Factor: 1		Analysis Time..: 18:21	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-6S

DISSOLVED Metals

Lot-Sample #...: C4C240115-006 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	60.8 B	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKL1AM
		Dilution Factor: 1		Analysis Time..: 19:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	5360 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKL1AN
		Dilution Factor: 1		Analysis Time..: 19:55	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-2S

TOTAL Metals

Lot-Sample #...: C4C240115-007 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	119	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKM1AP
		Dilution Factor: 1		Analysis Time..: 18:26	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	63.7	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKM1AQ
		Dilution Factor: 1		Analysis Time..: 18:26	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-2S

DISSOLVED Metals

Lot-Sample #...: C4C240115-007 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	105	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKM1AM
		Dilution Factor: 1		Analysis Time..: 20:00	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	65.1 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKM1AN
		Dilution Factor: 1		Analysis Time..: 20:00	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-2D

TOTAL Metals

Lot-Sample #...: C4C240115-008 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086115						
Iron	153	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKP1AP
		Dilution Factor: 1		Analysis Time..: 18:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 18.0	
Manganese	747	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKP1AQ
		Dilution Factor: 1		Analysis Time..: 18:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086021	MDL.....: 0.11	

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-2D

DISSOLVED Metals

Lot-Sample #...: C4C240115-008 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/24/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4086114						
Iron	26.4 B	100	ug/L	SW846 6010B	03/26-03/29/04	GCRKP1AM
		Dilution Factor: 1		Analysis Time..: 20:06	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 18.0	
Manganese	624 J	15.0	ug/L	SW846 6010B	03/26-03/29/04	GCRKP1AN
		Dilution Factor: 1		Analysis Time..: 20:06	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4086020	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

GENERAL CHEMISTRY SUMMARY

New Jersey

TOC

Lab Name: STL PITTSBURGH **Method:** SW846 9060

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C240115

Matrix: WATER

Total Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AH	1.6	mg/L	1.0	1	3/31/04 1 - 3/31/04 19:14	4091128
GM-8S	C4C240115 002	GCRKD1AH	1.4	mg/L	1.0	1	3/31/04 1 - 3/31/04 19:26	4091128
GM-7S	C4C240115 003	GCRKF1AH	2.3	mg/L	1.0	1	3/31/04 1 - 3/31/04 19:39	4091128
GM-7D	C4C240115 004	GCRKJ1AH	1.2	mg/L	1.0	1	3/31/04 1 - 3/31/04 19:51	4091128
GM-6D	C4C240115 005	GCRKK1AH	0.98 B	mg/L	1.0	1	3/31/04 1 - 3/31/04 20:03	4091128
GM-6S	C4C240115 006	GCRKL1AH	3.0	mg/L	1.0	1	3/31/04 1 - 3/31/04 20:16	4091128
GM-2S	C4C240115 007	GCRKM1AH	1.0	mg/L	1.0	1	3/31/04 1 - 3/31/04 20:52	4091128
GM-2D	C4C240115 008	GCRKP1AH	0.77 B	mg/L	1.0	1	3/31/04 1 - 3/31/04 21:05	4091128

B Estimated result. Result is less than RL.

New Jersey

Chloride

Lab Name: STL PITTSBURGH
Method: MCAWW 300.0A
Client Name: MACTEC ENGINEERING & CONSULTING INC
Lot Number: C4C240115
Matrix: WATER

Chloride

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AA	24.1	mg/L	1.0	1	3/24/04 1 - 3/24/04 15:09	4096427
GM-8S	C4C240115 002	GCRKD1AA	8.3	mg/L	1.0	1	3/24/04 1 - 3/24/04 15:54	4096427
GM-7S	C4C240115 003	GCRKF1AA	10.0	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:09	4096427
GM-7D	C4C240115 004	GCRKJ1AA	21.4	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:24	4096427
GM-6D	C4C240115 005	GCRKK1AA	14.8	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:39	4096427
GM-6S	C4C240115 006	GCRKL1AA	45.7	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:54	4096427
GM-2S	C4C240115 007	GCRKM1AA	153	mg/L	1.0	1	3/24/04 1 - 3/24/04 17:09	4096427
GM-2D	C4C240115 008	GCRKP1AA	18.3	mg/L	1.0	1	3/24/04 1 - 3/24/04 17:24	4096427

New Jersey

Biochemical Oxygen Demand

Lab Name: STL PITTSBURGH **Method:** MCAWW 405.1

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C240115

Matrix: WATER

Incubation

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AG	ND	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-8S	C4C240115 002	GCRKD1AG	ND	mg/L	4.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-7S	C4C240115 003	GCRKF1AG	2.7	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-7D	C4C240115 004	GCRKJ1AG	ND	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-6D	C4C240115 005	GCRKK1AG	ND	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-6S	C4C240115 006	GCRKL1AG	ND	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-2S	C4C240115 007	GCRKM1AG	ND	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474
GM-2D	C4C240115 008	GCRKP1AG	ND	mg/L	2.0	1	3/24/04 - 3/29/04 12:45	4084474

New Jersey

Dissolved Organic Carbon

Lab Name: STL PITTSBURGH **Method:** SW846 9060

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C240115

Matrix: WATER

Dissolved Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AL	1.6	mg/L	1.0	1	3/31/04 1 - 4/1/04 00:21	4091130
GM-8S	C4C240115 002	GCRKD1AL	2.1	mg/L	1.0	1	3/31/04 1 - 4/1/04 00:33	4091130
GM-7S	C4C240115 003	GCRKF1AL	3.2	mg/L	1.0	1	3/31/04 1 - 4/1/04 00:45	4091130
GM-7D	C4C240115 004	GCRKJ1AL	1.3	mg/L	1.0	1	3/31/04 1 - 4/1/04 01:22	4091130
GM-6D	C4C240115 005	GCRKK1AL	1.2	mg/L	1.0	1	3/31/04 1 - 4/1/04 01:34	4091130
GM-6S	C4C240115 006	GCRKL1AL	3.1	mg/L	1.0	1	3/31/04 1 - 4/1/04 01:47	4091130
GM-2S	C4C240115 007	GCRKM1AL	1.2	mg/L	1.0	1	3/31/04 1 - 4/1/04 01:59	4091130
GM-2D	C4C240115 008	GCRKP1AL	0.94 B	mg/L	1.0	1	3/31/04 1 - 4/1/04 02:11	4091130

B Estimated result. Result is less than RL.

New Jersey

Nitrate as N

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 300.0A
Lot Number: C4C240115

Nitrate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AC	0.092	mg/L	0.050	1	3/24/04 1 - 3/24/04 15:09	4085162
GM-8S	C4C240115 002	GCRKD1AC	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 15:54	4085162
GM-7S	C4C240115 003	GCRKF1AC	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:09	4085162
GM-7D	C4C240115 004	GCRKJ1AC	0.22	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:24	4085162
GM-6D	C4C240115 005	GCRKK1AC	0.059	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:39	4085162
GM-6S	C4C240115 006	GCRKL1AC	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:54	4085162
GM-2S	C4C240115 007	GCRKM1AC	0.33	mg/L	0.050	1	3/24/04 1 - 3/24/04 17:09	4085162
GM-2D	C4C240115 008	GCRKP1AC	0.93	mg/L	0.050	1	3/24/04 1 - 3/24/04 17:24	4085162

New Jersey

Nitrite as N

Lab Name: STL PITTSBURGH **Method:** MCAWW 300.0A

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C240115

Matrix: WATER

Nitrite

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 15:09	4085163
GM-8S	C4C240115 002	GCRKD1AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 15:54	4085163
GM-7S	C4C240115 003	GCRKF1AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:09	4085163
GM-7D	C4C240115 004	GCRKJ1AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:24	4085163
GM-6D	C4C240115 005	GCRKK1AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:39	4085163
GM-6S	C4C240115 006	GCRKL1AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 16:54	4085163
GM-2S	C4C240115 007	GCRKM1AD	ND	mg/L	0.050	1	3/24/04 1 - 3/24/04 17:09	4085163
GM-2D	C4C240115 008	GCRKP1AD	0.034 B	mg/L	0.050	1	3/24/04 1 - 3/24/04 17:24	4085163

B Estimated result. Result is less than RL.

New Jersey

Total Kjeldahl Nitrogen

Lab Name: STL PITTSBURGH **Method:** MCAWW 351.3

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C240115

Matrix: WATER

Digestion and distillation procedure

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AK	ND	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450
GM-8S	C4C240115 002	GCRKD1AK	1.7 B	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665
GM-7S	C4C240115 003	GCRKF1AK	1.2 B	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450
GM-7D	C4C240115 004	GCRKJ1AK	ND	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450
GM-6D	C4C240115 005	GCRKK1AK	ND	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450
GM-6S	C4C240115 006	GCRKL1AK	ND	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450
GM-2S	C4C240115 007	GCRKM1AK	1.7 B	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450
GM-2D	C4C240115 008	GCRKP1AK	ND	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450

New Jersey

Sulfate

Lab Name: STL PITTSBURGH **Method:** MCAWW 300.0A

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C240115

Matrix: WATER

Sulfate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-6D	C4C240115 001	GCRJ71AE	28.9	mg/L	1.0	1	3/24/04 1 - 3/24/04 15:09	4096428
GM-8S	C4C240115 002	GCRKD1AE	8.0	mg/L	1.0	1	3/24/04 1 - 3/24/04 15:54	4096428
GM-7S	C4C240115 003	GCRKF1AE	9.3	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:09	4096428
GM-7D	C4C240115 004	GCRKJ1AE	25.2	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:24	4096428
GM-6D	C4C240115 005	GCRKK1AE	29.8	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:39	4096428
GM-6S	C4C240115 006	GCRKL1AE	31.1	mg/L	1.0	1	3/24/04 1 - 3/24/04 16:54	4096428
GM-2S	C4C240115 007	GCRKM1AE	13.2	mg/L	1.0	1	3/24/04 1 - 3/24/04 17:09	4096428
GM-2D	C4C240115 008	GCRKP1AE	27.9	mg/L	1.0	1	3/24/04 1 - 3/24/04 17:24	4096428

New Jersey

Total Sulfide

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 376.1
Lot Number: C4C240115

Sulfide

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-8D	C4C240115 001	GCRJ71AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-8S	C4C240115 002	GCRKD1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-7S	C4C240115 003	GCRKF1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-7D	C4C240115 004	GCRKJ1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-6D	C4C240115 005	GCRKK1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-6S	C4C240115 006	GCRKL1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-2S	C4C240115 007	GCRKM1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127
GM-2D	C4C240115 008	GCRKP1AF	ND	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127

A590

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): VERONICA BARTOT
Company: STL Pittsburgh
Address: 450 William Pitt Way Bldg 6
City: Pittsburgh, State: PA, 15238
Phone: 412-820-8380 Fax: 412-820-2080

Samplers Name (Printed):
P.O. #:

Site/Project Identification: SWOPE Oil
State (Location of site): NJ: ☒ NY: ☐ Other:
Regulatory Program: EPA

Analysis Turnaround Time
Standard ☒
Rush Charges Authorized For:
2 Week ☐
1 Week ☐
Other ☐

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: A590

Sample Identification	Date	Time	Matrix	No. of. Cont.	FETZ	Sample Numbers
GM-8D	3/22/04	16:10	AQ	1	X	569
GM-8S	3/22/04	16:15		1	X	570
GM-7S	3/22/04	08:40		1	X	571
GM-7D		08:45		1	X	572
GM-6D		10:30		1	X	573
GM-6S		10:40		1	X	574
GM-2S		13:30		1	X	575
GM-2D		13:32		1	X	576

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____
Soil:
Water: 1

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	STL	3/24/03 16:30	1) [signature]	STL
2) [signature]	STL	3/24/04 1700	2) [signature]	STL EDISON
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL Edison

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice): DOUG NEWTON
Company: MACTEC ENG + CONSULTING
Address: 5205 Militia Hill Rd.
City: Plymouth Meeting State: PA 19462
Phone: 610-941-9700 Fax: 610-941-9707

Samplers Name (Printed): SCOTT HORSMAN
P.O. #: 22000 0 0028

Site/Project Identification: SWOPE PENNSAUKEN
State (Location of site): NJ: ☑ NY: ☐ Other:
Regulatory Program: EPA

Analysis Turnaround Time
Standard ☑
Rush Charges Authorized For:
2 Week ☐
1 Week ☐
Other ☐

LAB USE ONLY
Project No:
Job No:

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	BOD U0511	Diss. organic carbon 9060	Total organic carbon 9060	Sulfide 376.1	TKN 351.2	Chloride, Fe 24, nitrate, nitrite, sulfate	Total Fe + Mn	Diss Fe + Mn				Sample Numbers
GM-8D	3/22/04	1610	water	8	X	X	X	X	X	X	X	X				
GM-8S	3/22/04	1615		8	X	X	X	X	X	X	X	X				
GM-7S	3/23/04	0840		8	X	X	X	X	X	X	X	X				
GM-7D		0845		8	X	X	X	X	X	X	X	X				
GM-6D		1030		8	X	X	X	X	X	X	X	X				
GM-6S		1040		8	X	X	X	X	X	X	X	X				
GM-2S		1330		8	X	X	X	X	X	X	X	X				
GM-2D		1332		8	X	X	X	X	X	X	X	X				

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____
Soil:
Water:

Special Instructions: Diss Fe + Mn / Diss TOC Field Filtered
Water Metals Filtered (Yes/No)? Diss TOC

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	MACTEC	3/23/04 1350	1) [signature]	STL
2) [signature]	STL	3-23-04 16:25	2)	
3)		3/24/04 1000	3) [signature]	STL-Pittsburgh
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732 549 3900 Fax: 732 549 3679
www.stl-inc.com

04/28/2004

STL Pittsburgh
450 William Pitt Way
Building 6
Pittsburgh, PA 15238

Attention: Ms. Veronica Bortot

Laboratory Results
Job No. A746 - Swope Oil

Dear Ms. Bortot:

Enclosed are the results you requested for the following sample(s) received at our laboratory on March 25, 2004.

Lab No.	Client ID	Analysis Required
514341	GM-9	Ferrous Iron
514342	GM-1S	Ferrous Iron
514343	GM-1D	Ferrous Iron
514344	MW-10S	Ferrous Iron

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Nadzan, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

SEVERN TRENT STL

STL Pittsburgh
450 William Pitt Way
Pittsburgh, PA 15238

Tel: 412 820 8380 Fax: 412 820 2080
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. Swope Oil

New Jersey

Lot #: C4C260135

Doug Newton

MACTEC Engineering & Consultin

SEVERN TRENT LABORATORIES, INC.

Veronica Bortot

Veronica Bortot
Project Manager

New Jersey Certification #: PA005

April 12, 2004

DATA SUMMARY PACKAGE

Site: Swope Oil

Lab Job No: A746

Date Received: 03/25/2004

Date Sampled: 03/25/04

Matrix: WATER

QA Batch: 0016

Ferrous Iron

STL Edison Sample #	Client ID	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
514341	GM-9	03/26/04	1.0	0.2
514342	GM-1S	03/26/04	1.0	0.18
514343	GM-1D	03/26/04	1.0	ND
514344	MW-10S	03/26/04	1.0	1.2

Quantitation Limit for Ferrous Iron is 0.1 mg/l.

X-Method 3500-Fe (Standard Methods for the Examination of Water and Wastewater, 18th Edition) specifies that ferrous iron be determined "at sampling site because of the possibility of change in the ferrous-ferric ratio with time in acid solutions" (p3-67).

METALS SUMMARY

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-9

TOTAL Metals

Lot-Sample #...: C4C260135-001 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	515	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VA1AN
		Dilution Factor: 1		Analysis Time..: 00:40	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	61.4 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VA1AP
		Dilution Factor: 1		Analysis Time..: 00:40	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-9

DISSOLVED Metals

Lot-Sample #...: C4C260135-001 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	461	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VA1AL
		Dilution Factor: 1		Analysis Time..: 02:53	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	60.7 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VA1AM
		Dilution Factor: 1		Analysis Time..: 02:53	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-1S

TOTAL Metals

Lot-Sample #...: C4C260135-002 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	520	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VE1AN
		Dilution Factor: 1		Analysis Time..: 00:45	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	60.5 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VE1AP
		Dilution Factor: 1		Analysis Time..: 00:45	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-1S

DISSOLVED Metals

Lot-Sample #...: C4C260135-002 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	466	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VE1AL
		Dilution Factor: 1		Analysis Time..: 02:58	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	61.4 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VE1AM
		Dilution Factor: 1		Analysis Time..: 02:58	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-1D

TOTAL Metals

Lot-Sample #...: C4C260135-003 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	32.2 B	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VF1AN
		Dilution Factor: 1		Analysis Time..: 00:51	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	32.2 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VF1AP
		Dilution Factor: 1		Analysis Time..: 00:51	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-1D

DISSOLVED Metals

Lot-Sample #...: C4C260135-003 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	34.0 B	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VF1AL
		Dilution Factor: 1		Analysis Time..: 03:04	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	33.4 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VF1AM
		Dilution Factor: 1		Analysis Time..: 03:04	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-10S

TOTAL Metals

Lot-Sample #...: C4C260135-004 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	1430	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VG1AN
		Dilution Factor: 1		Analysis Time..: 00:56	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	459 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VG1AP
		Dilution Factor: 1		Analysis Time..: 00:56	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-10S

DISSOLVED Metals

Lot-Sample #...: C4C260135-004 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/26/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	1370	100	ug/L	SW846 6010B	03/29-04/02/04	GC0VG1AL
		Dilution Factor: 1		Analysis Time..: 03:09	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	475 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC0VG1AM
		Dilution Factor: 1		Analysis Time..: 03:09	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

GENERAL CHEMISTRY SUMMARY

New Jersey

TOC

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C260135
Matrix:	WATER		

Total Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AH	0.96 B	mg/L	1.0	1	4/7/04 12 - 4/7/04 09:28	4098121
GM-1S	C4C260135 002	GC0VE1AH	0.87 B	mg/L	1.0	1	4/7/04 12 - 4/7/04 10:05	4098121
GM-1D	C4C260135 003	GC0VF1AH	1.1	mg/L	1.0	1	4/7/04 12 - 4/7/04 10:18	4098121
MW-10S	C4C260135 004	GC0VG1AH	3.1	mg/L	1.0	1	4/7/04 12 - 4/7/04 10:30	4098121

New Jersey

Chloride

Lab Name: STL PITTSBURGH **Method:** MCAWW 300.0A

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C260135

Matrix: WATER

Chloride

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AA	3.8	mg/L	1.0	1	3/26/04 1 - 3/26/04 20:32	4099198
GM-1S	C4C260135 002	GC0VE1AA	3.8	mg/L	1.0	1	3/26/04 1 - 3/26/04 21:17	4099198
GM-1D	C4C260135 003	GC0VF1AA	23.7	mg/L	1.0	1	3/26/04 1 - 3/26/04 21:32	4099198
MW-10S	C4C260135 004	GC0VG1AA	47.7	mg/L	1.0	1	3/26/04 1 - 3/26/04 21:47	4099198

New Jersey

Biochemical Oxygen Demand

Lab Name: STL PITTSBURGH **Method:** MCAWW 405.1

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C260135

Matrix: WATER

Incubation

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AG	ND	mg/L	2.0	1	3/26/04 - 3/31/04 10:20	4087120
GM-1S	C4C260135 002	GC0VE1AG	ND	mg/L	2.0	1	3/26/04 - 3/31/04 10:20	4087120
GM-1D	C4C260135 003	GC0VF1AG	ND	mg/L	2.0	1	3/26/04 - 3/31/04 10:20	4087120
MW-10S	C4C260135 004	GC0VG1AG	2.4	mg/L	2.0	1	3/26/04 - 3/31/04 10:20	4087120

New Jersey

Dissolved Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C260135
Matrix:	WATER		

Dissolved Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AK	1.1	mg/L	1.0	1	4/7/04 12 - 4/7/04 12:08	4098122
GM-1S	C4C260135 002	GC0VE1AK	0.82 B	mg/L	1.0	1	4/7/04 12 - 4/7/04 12:45	4098122
GM-1D	C4C260135 003	GC0VF1AK	1.1	mg/L	1.0	1	4/7/04 12 - 4/7/04 13:22	4098122
MW-10S	C4C260135 004	GC0VG1AK	3.0	mg/L	1.0	1	4/7/04 12 - 4/7/04 13:34	4098122

New Jersey

Nitrate as N

Lab Name: STL PITTSBURGH **Method:** MCAWW 300.0A

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C260135

Matrix: WATER

Nitrate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AC	0.032 B	mg/L	0.050	1	3/26/04 1 - 3/26/04 20:32	4087164
GM-1S	C4C260135 002	GC0VE1AC	0.032 B	mg/L	0.050	1	3/26/04 1 - 3/26/04 21:17	4087164
GM-1D	C4C260135 003	GC0VF1AC	0.31	mg/L	0.050	1	3/26/04 1 - 3/26/04 21:32	4087164
MW-10S	C4C260135 004	GC0VG1AC	ND	mg/L	0.050	1	3/26/04 1 - 3/26/04 21:47	4087164

New Jersey

Nitrite as N

Lab Name: STL PITTSBURGH **Method:** MCAWW 300.0A

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C260135

Matrix: WATER

Nitrite

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AD	ND	mg/L	0.050	1	3/26/04 1 - 3/26/04 20:32	4087163
GM-1S	C4C260135 002	GC0VE1AD	ND	mg/L	0.050	1	3/26/04 1 - 3/26/04 21:17	4087163
GM-1D	C4C260135 003	GC0VF1AD	0.018 B	mg/L	0.050	1	3/26/04 1 - 3/26/04 21:32	4087163
MW-10S	C4C260135 004	GC0VG1AD	ND	mg/L	0.050	1	3/26/04 1 - 3/26/04 21:47	4087163

New Jersey

Total Kjeldahl Nitrogen

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 351.3
Lot Number: C4C260135

Digestion and distillation procedure

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AJ	1.2 B	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665
GM-1S	C4C260135 002	GC0VE1AJ	ND	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665
GM-1D	C4C260135 003	GC0VF1AJ	1.7 B	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665
MW-10S	C4C260135 004	GC0VG1AJ	1.2 B	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665

B Estimated result. Result is less than RL.

New Jersey

Sulfate

Lab Name: STL PITTSBURGH **Method:** MCAWW 300.0A

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C260135

Matrix: WATER

Sulfate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AE	5.9	mg/L	1.0	1	3/26/04 1 - 3/26/04 20:32	4099199
GM-1S	C4C260135 002	GC0VE1AE	5.9	mg/L	1.0	1	3/26/04 1 - 3/26/04 21:17	4099199
GM-1D	C4C260135 003	GC0VF1AE	20.2	mg/L	1.0	1	3/26/04 1 - 3/26/04 21:32	4099199
MW-10S	C4C260135 004	GC0VG1AE	54.8	mg/L	1.0	1	3/26/04 1 - 3/26/04 21:47	4099199

New Jersey

Total Sulfide

Lab Name: STL PITTSBURGH **Method:** MCAWW 376.1

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C260135

Matrix: WATER

Sulfide

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-9	C4C260135 001	GC0VA1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222
GM-1S	C4C260135 002	GC0VE1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222
GM-1D	C4C260135 003	GC0VF1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222
MW-10S	C4C260135 004	GC0VG1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222

A746

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice):

Samplers Name (Printed):

Site/Project Identification: Swope - Pennsauken NJ - Mactec

Company: STL Pittsburgh

P.O. #:

State (Location of site): NJ: ☒ NY: ☐ Other:

Regulatory Program:

Address: 450 William Pitt Way Bldg 6

City: Pittsburgh State: PA 15238

Phone: Fax:

Analysis Turnaround Time
Standard ☒
Rush Charges Authorized For:
2 Week ☐
1 Week ☐
Other ☐ ____

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: A746

Sample Identification	Date	Time	Matrix	No. of. Cont.	Fe 8A	Sample Numbers
GM-9	3/25/04	0925	water	1	X	514341
GM-1S	↓	0925	↓	1	X	514342
GM-1D	↓	1115	↓	1	X	514343
MW-10S	↓	1341	↓	1	X	514344

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water: 1

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	STL	3/25/04 17:00	1) [signature]	STL
2) [signature]	STL	3/25/04 18:30	2) [signature]	STL EDISON
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL Edison

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice) DOUG NEWTON	Samplers Name (Printed) SCOTT Horsnall	Site/Project Identification SWOPE PENNSAUKEN NJ
Company MACTEC Eng+Consulting	P.O. # 2200000028	State (Location of site): NJ: [X] NY: [ ] Other:
Address 5205 Militia Hill Road	Analysis Turnaround Time: Standard [X]	Regulatory Program: EPA
City Plymouth Meeting State PA 19462	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	LAB USE ONLY Project No: Job No:
Phone 610-941-9700 Fax 610-941-9707		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of. Cont.	BOD 405.1	TOTAL organic carbon	Diss organic carbon	sulfide	TKN	Cl, Fe2+ NO3, NO3 sulfate	TOTAL Fe+Mn	Diss Fe+Mn				Sample Numbers
GM-9	3/25/04	0925	water	8	X	X	X	X	X	X	X	X				
GM-1S		0925		8	X	X	X	X	X	X	X	X				
GM-1D		1115		8	X	X	X	X	X	X	X	X				
MW-10S		1341		8	X	X	X	X	X	X	X	X				
				Soil:												
				Water:	1	3	3	56	3	1	4	4				

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other ZnAc, 7 = Other _____

Special Instructions Diss Fe+M & DISS organic carbon FIELD Filtered

Water Metals Filtered (Yes/No)? Yes

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	MACTEC	3/25/04 15:38	1) [signature]	STL
2) [signature]	STL	3-25-04 16:00	2)	
3)		3/26/04 1000	3) [signature]	STL-Pittsburgh
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732 549 3900 Fax: 732 549 3679
www.stl-inc.com

04/29/2004

STL Pittsburgh
450 William Pitt Way
Building 6
Pittsburgh, PA 15238

Attention: Ms. Veronica Bortot

Laboratory Results
Job No. A901 - C2L040144

Dear Ms. Bortot:

Enclosed are the results you requested for the following sample(s) received at our laboratory on March 26, 2004.

Lab No.	Client ID	Analysis Required
515300	MW-9S	Ferrous Iron
515301	MW-11S	Ferrous Iron
515302	FB-032604	Ferrous Iron

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Nadzan, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

SEVERN TRENT STL

STL Pittsburgh
450 William Pitt Way
Pittsburgh, PA 15238

Tel: 412 820 8380 Fax: 412 820 2080
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. Swope Oil

New Jersey

Lot #: C4C270117

Doug Newton

MACTEC Engineering & Consultin

SEVERN TRENT LABORATORIES, INC.

Veronica Bortot

Veronica Bortot
Project Manager

New Jersey Certification #: PA005

April 13, 2004

DATA SUMMARY PACKAGE

Site: C2L040144

Lab Job No: A901

Date Received: 03/26/2004
Matrix: WATER

Date Sampled: 03/25/04
QA Batch: 0016

Ferrous Iron

STL Edison Sample #	Client ID	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
515300	MW-9S	03/29/04	5.0	12.0
515301	MW-11S	03/29/04	5.0	6.8
515302	FB-032604	03/29/04	1.0	ND

Quantitation Limit for Ferrous Iron is 0.1 mg/l.

X-Method 3500-Fe (Standard Methods for the Examination of Water and Wastewater, 18th Edition) specifies that ferrous iron be determined "at sampling site because of the possibility of change in the ferrous-ferric ratio with time in acid solutions" (p3-67).

METALS SUMMARY

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-9S

TOTAL Metals

Lot-Sample #...: C4C270117-001 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/27/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	15700	100	ug/L	SW846 6010B	03/29-04/02/04	GC3DL1AN
		Dilution Factor: 1		Analysis Time..: 01:02	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	220 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC3DL1AP
		Dilution Factor: 1		Analysis Time..: 01:02	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-9S

DISSOLVED Metals

Lot-Sample #...: C4C270117-001 Matrix.....: WATER
Date Sampled...: 03/25/04 Date Received..: 03/27/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	14800	100	ug/L	SW846 6010B	03/29-04/02/04	GC3DL1AL
		Dilution Factor: 1		Analysis Time..: 03:15	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	213 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC3DL1AM
		Dilution Factor: 1		Analysis Time..: 03:15	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-11S

TOTAL Metals

Matrix.....: WATER

Lot-Sample #...: C4C270117-002
Date Sampled...: 03/26/04 Date Received..: 03/27/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	9880	100	ug/L	SW846 6010B	03/29-04/02/04	GC3DN1AN
		Dilution Factor: 1		Analysis Time..: 01:07	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	883 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC3DN1AP
		Dilution Factor: 1		Analysis Time..: 01:07	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-11S

DISSOLVED Metals

Matrix.....: WATER

Lot-Sample #...: C4C270117-002
Date Sampled...: 03/26/04 Date Received..: 03/27/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	8170	100	ug/L	SW846 6010B	03/29-04/02/04	GC3DN1AL
		Dilution Factor: 1		Analysis Time..: 03:21	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	767 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC3DN1AM
		Dilution Factor: 1		Analysis Time..: 03:21	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: FB-032604

TOTAL Metals

Lot-Sample #...: C4C270117-003 Matrix.....: WATER
Date Sampled...: 03/26/04 Date Received..: 03/27/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	ND	100	ug/L	SW846 6010B	03/29-04/02/04	GC3DP1AN
		Dilution Factor: 1		Analysis Time..: 01:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	0.36 B,J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC3DP1AP
		Dilution Factor: 1		Analysis Time..: 01:13	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: FB-032604

DISSOLVED Metals

Lot-Sample #...: C4C270117-003 Matrix.....: WATER
Date Sampled...: 03/26/04 Date Received..: 03/27/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	ND	100	ug/L	SW846 6010B	03/29-04/02/04	GC3DP1AL
		Dilution Factor: 1		Analysis Time..: 03:26	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	0.24 B,J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GC3DP1AM
		Dilution Factor: 1		Analysis Time..: 03:26	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

GENERAL CHEMISTRY SUMMARY

New Jersey

TOC

Lab Name: STL PITTSBURGH **Method:** SW846 9060

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C270117

Matrix: WATER

Total Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AH	8.4	mg/L	1.0	1	4/7/04 12 - 4/7/04 10:42	4098121
MW-11S	C4C270117 002	GC3DN1AH	1.2	mg/L	1.0	1	4/7/04 12 - 4/7/04 11:19	4098121
FB-032604	C4C270117 003	GC3DP1AH	ND	mg/L	1.0	1	4/7/04 12 - 4/7/04 11:31	4098121

New Jersey

Chloride

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 300.0A
Lot Number: C4C270117

Chloride

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AA	6.3	mg/L	1.0	1	3/27/04 1 - 3/27/04 14:22	4100228
MW-11S	C4C270117 002	GC3DN1AA	10.8	mg/L	1.0	1	3/27/04 1 - 3/27/04 15:07	4100228
FB-032604	C4C270117 003	GC3DP1AA	ND	mg/L	1.0	1	3/27/04 1 - 3/27/04 15:22	4100228

New Jersey

Biochemical Oxygen Demand

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 405.1
Lot Number: C4C270117

Incubation

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AG	18.5	mg/L	2.0	1	3/27/04 1 - 4/1/04 10:00	4087157
MW-11S	C4C270117 002	GC3DN1AG	ND	mg/L	2.0	1	3/27/04 1 - 4/1/04 10:00	4087157
FB-032604	C4C270117 003	GC3DP1AG	239	mg/L	2.0	1	3/27/04 1 - 4/1/04 10:00	4087157

New Jersey

Dissolved Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C270117
Matrix:	WATER		

Dissolved Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AK	8.1	mg/L	1.0	1	4/7/04 12 - 4/7/04 13:46	4098122
MW-11S	C4C270117 002	GC3DN1AK	1.6	mg/L	1.0	1	4/7/04 12 - 4/7/04 13:59	4098122
FB-032604	C4C270117 003	GC3DP1AK	ND	mg/L	1.0	1	4/7/04 12 - 4/7/04 14:11	4098122

New Jersey

Nitrate as N

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 300.0A
Lot Number: C4C270117

Nitrate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AC	ND	mg/L	0.050	1	3/27/04 1 - 3/27/04 14:22	4089375
MW-11S	C4C270117 002	GC3DN1AC	0.14	mg/L	0.050	1	3/27/04 1 - 3/27/04 15:07	4089375
FB-032604	C4C270117 003	GC3DP1AC	ND	mg/L	0.050	1	3/27/04 1 - 3/27/04 15:22	4089375

New Jersey

Nitrite as N

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 300.0A
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C270117
Matrix:	WATER		

Nitrite

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AD	ND	mg/L	0.050	1	3/27/04 1 - 3/27/04 14:22	4089376
MW-11S	C4C270117 002	GC3DN1AD	ND	mg/L	0.050	1	3/27/04 1 - 3/27/04 15:07	4089376
FB-032604	C4C270117 003	GC3DP1AD	ND	mg/L	0.050	1	3/27/04 1 - 3/27/04 15:22	4089376

New Jersey

Total Kjeldahl Nitrogen

Lab Name: STL PITTSBURGH **Method:** MCAWW 351.3

Client Name: MACTEC ENGINEERING & CONSULTING INC **Lot Number:** C4C270117

Matrix: WATER

Digestion and distillation procedure

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AJ	ND	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665
MW-11S	C4C270117 002	GC3DN1AJ	2.3 B J	mg/L	3.0	1	4/8/04 12 - 4/9/04 00:00	4100283
FB-032604	C4C270117 003	GC3DP1AJ	1.2 B	mg/L	3.0	1	4/5/04 12 - 4/6/04 00:00	4097665

B Estimated result. Result is less than RL.

New Jersey

Sulfate

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 300.0A
Lot Number: C4C270117

Sulfate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AE	6.8	mg/L	1.0	1	3/27/04 1 - 3/27/04 14:22	4100229
MW-11S	C4C270117 002	GC3DN1AE	5.2	mg/L	1.0	1	3/27/04 1 - 3/27/04 15:07	4100229
FB-032604	C4C270117 003	GC3DP1AE	0.10 B	mg/L	1.0	1	3/27/04 1 - 3/27/04 15:22	4100229

B Estimated result. Result is less than RL.

New Jersey

Total Sulfide

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 376.1
Lot Number: C4C270117

Sulfide

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-9S	C4C270117 001	GC3DL1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222
MW-11S	C4C270117 002	GC3DN1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222
FB-032604	C4C270117 003	GC3DP1AF	ND	mg/L	1.0	1	3/31/04 1 - 3/31/04 16:30	4092222

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification: Swope - Pennsauken NJ
Company: STL Pittsburgh	P.O. #	State (Location of site): NJ: ☒ NY: ☐ Other:
		Regulatory Program:
Address: 450 William Pitt Way Bldg 6	Analysis Turnaround Time: Standard ☒	
City: Pittsburgh State: PA 15238	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: Fax:		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: A901

Sample Identification	Date	Time	Matrix	No. of Cont.	Fe 24										Sample Numbers
MW-9S	3/26/04	16:15	Aq	1	X										511300
MW-11S	3/26/04	10:15	↓	1	X										511301
FB-032604	3/26/04	11:30	↓	1	X										511302
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH				Soil:											
6 = Other _____, 7 = Other _____				Water:	1										

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Mark Morse	STL	3/26/04 1	1)	STL EDISON
2)		1	2)	
3)		1	3)	
4)		1	4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

A901 STL Edison 4

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice) DOUG NEWTON	Samplers Name (Printed) SCOTT Horsnall	Site/Project Identification Swope PENNSAUKEN, NJ
Company MACTEC Engineering + Consulting	P.O. # 22000 00028	State (Location of site): NJ: ☒ NY: ☐ Other:
		Regulatory Program: EPA
Address 5205 Military Hill Rd.	Analysis Turnaround Time: Standard ☒	
City Plymouth Meeting PA State 19462	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone 610-941-9700 Fax 610-941-9707		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No:

Sample Identification	Date	Time	Matrix	No. of. Cont.	BOD 405	Total organic carbon 9060	Diss. organic carbon 9060	Sulfide	TKN	Cl, Fe^{2+}, NO_2, NH_3, sulfate	Total Fe+Mn	Diss Fe+Mn				Sample Numbers
MW-9S	3/25/04	1615	WATER	8	X	X	X	X	X	X	X	X				
MW-11S	3/26/04	1015	↓	↓	X	X	X	X	X	X	X	X				
FB-032604	↓	1130	↓	↓	X	X	X	X	X	X	X	X				
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other 2nAc, 7 = Other				Soil:												
				Water:	1	3	3	5/6	3	1	4	4				

Special Instructions Diss Fe+Mn & Diss organic Carbon Field Filtered

Water Metals Filtered (Yes/No)? Yes

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	MACTEC	3/26/04, 14:17	1) [signature]	STL
2) [signature]	STL	3/26/04 17:00	2)	
3)		3/27/04 1025	3) [signature]	STL · Pittsburgh
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732 549 3900 Fax: 732 549 3679
www.stl-inc.com

04/23/2004

STL Pittsburgh
450 William Pitt Way
Building 6
Pittsburgh, PA 15238

Attention: Ms. Veronica Bortot

Laboratory Results
Job No. A654 - Swope Oil

Dear Ms. Bortot:

Enclosed are the results you requested for the following sample(s) received at our laboratory on March 24, 2004.

Lab No.	Client ID	Analysis Required
513858	MW-4	Ferrous Iron
513859	GM-4D	Ferrous Iron
513860	GM-5D	Ferrous Iron
513861	GM-5S	Ferrous Iron
513862	GM-3RS	Ferrous Iron
513863	GW-3D	Ferrous Iron
513864	MW-1	Ferrous Iron
513865	MW-2	Ferrous Iron

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Nadzan, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

SEVERN TRENT STL

STL Pittsburgh
450 William Pitt Way
Pittsburgh, PA 15238

Tel: 412 820 8380 Fax: 412 820 2080
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. Swope Oil

New Jersey

Lot #: C4C250122

Doug Newton

MACTEC Engineering & Consultin

SEVERN TRENT LABORATORIES, INC.

Veronica Bortot

Veronica Bortot
Project Manager

New Jersey Certification #: PA005

April 12, 2004

DATA SUMMARY PACKAGE

Site: Swope Oil

Lab Job No: A654

Date Received: 03/24/2004
Matrix: WATER

Date Analyzed: 03/25/2004
QA Batch: 0017

Ferrous Iron

STL Edison Sample #	Client ID	Sample Date	Dilution Factor	Analytical Result Units: mg/l
513858	MW-4	03/23/2004	1.0	ND
513859	GM-4D	03/23/2004	1.0	0.57
513860	GM-5D	03/24/2004	1.0	ND
513861	GM-5S	03/24/2004	1.0	ND
513862	GM-3RS	03/24/2004	1.0	0.59
513863	GW-3D	03/24/2004	1.0	ND
513864	MW-1	03/24/2004	1.0	3.0
513865	MW-2	03/24/2004	1.0	2.7

Quantitation Limit for Ferrous Iron is 0.1 mg/l.

X-Method 3500-Fe (Standard Methods for the Examination of Water and Wastewater, 18th Edition) specifies that ferrous iron be determined "at sampling site because of the possibility of change in the ferrous-ferric ratio with time in acid solutions" (p3-67).

METALS SUMMARY

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-4

TOTAL Metals

Lot-Sample #...: C4C250122-001 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	122	100	ug/L	SW846 6010B	03/29-04/02/04	GCVVQ1AN
		Dilution Factor: 1		Analysis Time..: 02:03	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	328 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVVQ1AP
		Dilution Factor: 1		Analysis Time..: 02:03	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-4

DISSOLVED Metals

Lot-Sample #...: C4C250122-001 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	124	100	ug/L	SW846 6010B	03/29-04/02/04	GCVVQ1AL
		Dilution Factor: 1		Analysis Time..: 04:16	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	349 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVVQ1AM
		Dilution Factor: 1		Analysis Time..: 04:16	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-4D

TOTAL Metals

Lot-Sample #...: C4C250122-002 Matrix.....: WATER
Date Sampled...: 03/23/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	819	100	ug/L	SW846 6010B	03/29-04/02/04	GCVVX1AN
		Dilution Factor: 1		Analysis Time..: 02:08	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	392 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVVX1AP
		Dilution Factor: 1		Analysis Time..: 02:08	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-4D

DISSOLVED Metals

Lot-Sample #...: C4C250122-002
Date Sampled...: 03/23/04 Date Received..: 03/25/04 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	582	100	ug/L	SW846 6010B	03/29-04/02/04	GCVVX1AL
		Dilution Factor: 1		Analysis Time..: 04:22	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	392 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVVX1AM
		Dilution Factor: 1		Analysis Time..: 04:22	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-5D

TOTAL Metals

Lot-Sample #...: C4C250122-003
Date Sampled...: 03/24/04 Date Received..: 03/25/04
Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	86.6 B	100	ug/L	SW846 6010B	03/29-04/02/04	GCVV01AN
		Dilution Factor: 1		Analysis Time..: 01:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	48.1 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVV01AP
		Dilution Factor: 1		Analysis Time..: 01:19	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-5D

DISSOLVED Metals

Lot-Sample #...: C4C250122-003 Matrix.....: WATER
Date Sampled...: 03/24/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	50.0 B	100	ug/L	SW846 6010B	03/29-04/02/04	GCVV01AL
		Dilution Factor: 1		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	47.3 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVV01AM
		Dilution Factor: 1		Analysis Time..: 03:32	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-5S

TOTAL Metals

Lot-Sample #...: C4C250122-004
Date Sampled...: 03/24/04 Date Received..: 03/25/04 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	30.0 B	100	ug/L	SW846 6010B	03/29-04/02/04	GCVV21CE
		Dilution Factor: 1		Analysis Time..: 01:35	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	248 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVV21CH
		Dilution Factor: 1		Analysis Time..: 01:35	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-5S

DISSOLVED Metals

Lot-Sample #...: C4C250122-004
Date Sampled...: 03/24/04 Date Received..: 03/25/04 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	28.6 B	100	ug/L	SW846 6010B	03/29-04/02/04	GCVV21A7
		Dilution Factor: 1		Analysis Time..: 03:48	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	268 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVV21CA
		Dilution Factor: 1		Analysis Time..: 03:48	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-3RS

TOTAL Metals

Lot-Sample #...: C4C250122-005 Matrix.....: WATER
Date Sampled...: 03/24/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	660	100	ug/L	SW846 6010B	03/29-04/02/04	GCVV71AN
		Dilution Factor: 1		Analysis Time..: 01:57	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	723 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVV71AP
		Dilution Factor: 1		Analysis Time..: 01:57	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-3RS

DISSOLVED Metals

Matrix.....: WATER

Lot-Sample #...: C4C250122-005
Date Sampled...: 03/24/04 Date Received...: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	597	100	ug/L	SW846 6010B	03/29-04/02/04	GCVV71AL
		Dilution Factor: 1		Analysis Time..: 04:10	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	740 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVV71AM
		Dilution Factor: 1		Analysis Time..: 04:10	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-3D

TOTAL Metals

Lot-Sample #...: C4C250122-006 Matrix.....: WATER
Date Sampled...: 03/24/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	65.9 B	100	ug/L	SW846 6010B	03/29-04/02/04	GCVWA1AN
		Dilution Factor: 1		Analysis Time..: 02:14	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	188 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVWA1AP
		Dilution Factor: 1		Analysis Time..: 02:14	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: GM-3D

DISSOLVED Metals

Lot-Sample #...: C4C250122-006
Date Sampled...: 03/24/04 Date Received..: 03/25/04 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	43.9 B	100	ug/L	SW846 6010B	03/29-04/02/04	GCVWA1AL
		Dilution Factor: 1		Analysis Time..: 04:27	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	189 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVWA1AM
		Dilution Factor: 1		Analysis Time..: 04:27	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-1

TOTAL Metals

Lot-Sample #...: C4C250122-007 Matrix.....: WATER
Date Sampled...: 03/24/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	3330	100	ug/L	SW846 6010B	03/29-04/02/04	GCVWC1AN
		Dilution Factor: 1		Analysis Time..: 02:20	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	646 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVWC1AP
		Dilution Factor: 1		Analysis Time..: 02:20	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-1

DISSOLVED Metals

Lot-Sample #...: C4C250122-007
Date Sampled...: 03/24/04 Date Received..: 03/25/04 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	3410	100	ug/L	SW846 6010B	03/29-04/02/04	GCVWC1AL
		Dilution Factor: 1		Analysis Time..: 04:33	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	677 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVWC1AM
		Dilution Factor: 1		Analysis Time..: 04:33	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-2

TOTAL Metals

Lot-Sample #...: C4C250122-008 Matrix.....: WATER
Date Sampled...: 03/24/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089126						
Iron	1280	100	ug/L	SW846 6010B	03/29-04/02/04	GCVWF1AN
		Dilution Factor: 1		Analysis Time..: 02:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 18.0	
Manganese	462 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVWF1AP
		Dilution Factor: 1		Analysis Time..: 02:25	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089033	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-2

DISSOLVED Metals

Lot-Sample #...: C4C250122-008 Matrix.....: WATER
Date Sampled...: 03/24/04 Date Received..: 03/25/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4089123						
Iron	3460	100	ug/L	SW846 6010B	03/29-04/02/04	GCVWF1AL
		Dilution Factor: 1		Analysis Time..: 04:38	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 18.0	
Manganese	484 J	15.0	ug/L	SW846 6010B	03/29-04/02/04	GCVWF1AM
		Dilution Factor: 1		Analysis Time..: 04:38	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4089032	MDL.....: 0.11	

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

GENERAL CHEMISTRY SUMMARY

New Jersey

TOC

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: SW846 9060
Lot Number: C4C250122

Total Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-4	C4C250122 001	GCVVQ1A	1.3	mg/L	1.0	1	3/31/2004 - 3/31/2004 21:17	4091128
GM-4D	C4C250122 002	GCVVX1AH	1.6	mg/L	1.0	1	3/31/2004 - 3/31/2004 21:29	4091128
GM-5D	C4C250122 003	GCVV01AH	0.85 B	mg/L	1.0	1	3/31/2004 - 3/31/2004 21:42	4091128
GM-5S	C4C250122 004	GCVV21A	1.5	mg/L	1.0	1	3/31/2004 - 3/31/2004 21:54	4091128
GM-3RS	C4C250122 005	GCVV71AH	1.5	mg/L	1.0	1	3/31/2004 - 3/31/2004 22:55	4091128
GM-3D	C4C250122 006	GCVWA1A	1.4	mg/L	1.0	1	3/31/2004 - 3/31/2004 23:07	4091128
MW-1	C4C250122 007	GCVWC1A	1.3	mg/L	1.0	1	3/31/2004 - 3/31/2004 23:20	4091128
MW-2	C4C250122 008	GCVWF1A	1.2	mg/L	1.0	1	3/31/2004 - 3/31/2004 23:32	4091128

New Jersey

Chloride

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 300.0A
Lot Number: C4C250122

Chloride

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-2	C4C250122 008	GCVWF1A	9.2	mg/L	1.0	1	3/25/2004 - 3/25/2004 18:13	4097168
MW-1	C4C250122 007	GCVWC1A	10.2	mg/L	1.0	1	3/25/2004 - 3/25/2004 17:58	4097168
GM-3D	C4C250122 006	GCVWA1A	20.2	mg/L	1.0	1	3/25/2004 - 3/25/2004 17:43	4097168
GM-3RS	C4C250122 005	GCVV71AA	9.7	mg/L	1.0	1	3/25/2004 - 3/25/2004 17:28	4097168
GM-5S	C4C250122 004	GCVV21AA	21.5	mg/L	1.0	1	3/25/2004 - 3/25/2004 16:43	4097168
GM-5D	C4C250122 003	GCVV01AA	24.1	mg/L	1.0	1	3/25/2004 - 3/25/2004 16:28	4097168
MW-4	C4C250122 001	GCVVQ1AA	16.2	mg/L	1.0	1	3/25/2004 - 3/25/2004 15:58	4097168
GM-4D	C4C250122 002	GCVVX1AA	22.4	mg/L	1.0	1	3/25/2004 - 3/25/2004 16:13	4097168

New Jersey

Biochemical Oxygen Demand

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 405.1
Lot Number: C4C250122

Incubation

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-4	C4C250122 001	GCVVQ1A	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
GM-4D	C4C250122 002	GCVVX1AG	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
GM-5D	C4C250122 003	GCVV01AG	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
GM-5S	C4C250122 004	GCVV21AT	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
GM-3RS	C4C250122 005	GCVV71AG	2.1	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
GM-3D	C4C250122 006	GCVWA1A	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
MW-1	C4C250122 007	GCVWC1A	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560
MW-2	C4C250122 008	GCVWF1A	ND	mg/L	2.0	1	3/25/2004 - 3/30/2004 12:00	4085560

New Jersey

Dissolved Organic Carbon

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: SW846 9060
Lot Number: C4C250122

Dissolved Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-1	C4C250122 007	GCVWC1A	2.1	mg/L	1.0	1	3/31/2004 - 4/1/2004 04:26	4091130
MW-2	C4C250122 008	GCVWF1A	4.4	mg/L	1.0	1	3/31/2004 - 4/1/2004 04:38	4091130
GM-3D	C4C250122 006	GCVWA1A	1.6	mg/L	1.0	1	3/31/2004 - 4/1/2004 04:14	4091130
GM-3RS	C4C250122 005	GCVV71AK	1.8	mg/L	1.0	1	3/31/2004 - 4/1/2004 04:01	4091130
GM-5S	C4C250122 004	GCVV21A4	1.7	mg/L	1.0	1	3/31/2004 - 4/1/2004 03:00	4091130
GM-5D	C4C250122 003	GCVV01AK	1.1	mg/L	1.0	1	3/31/2004 - 4/1/2004 02:48	4091130
MW-4	C4C250122 001	GCVVQ1AK	1.3	mg/L	1.0	1	3/31/2004 - 4/1/2004 02:23	4091130
GM-4D	C4C250122 002	GCVVX1AK	1.7	mg/L	1.0	1	3/31/2004 - 4/1/2004 02:35	4091130

New Jersey

Nitrate as N

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 300.0A
Lot Number: C4C250122

Nitrate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-4D	C4C250122 002	GCVVX1AC	0.084	mg/L	0.050	1	3/25/2004 - 3/25/2004 16:13	4086227
MW-4	C4C250122 001	GCVVQ1A	0.11	mg/L	0.050	1	3/25/2004 - 3/25/2004 15:58	4086227
GM-5D	C4C250122 003	GCVV01AC	0.66	mg/L	0.050	1	3/25/2004 - 3/25/2004 16:28	4086227
GM-5S	C4C250122 004	GCVV21AE	0.27	mg/L	0.050	1	3/25/2004 - 3/25/2004 16:43	4086227
GM-3RS	C4C250122 005	GCVV71AC	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 17:28	4086227
GM-3D	C4C250122 006	GCVWA1A	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 17:43	4086227
MW-1	C4C250122 007	GCVWC1A	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 17:58	4086227
MW-2	C4C250122 008	GCVWF1A	0.16	mg/L	0.050	1	3/25/2004 - 3/25/2004 18:13	4086227

New Jersey

Nitrite as N

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 300.0A
Lot Number: C4C250122

Nitrite

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-2	C4C250122 008	GCVWF1A	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 18:13	4086228
MW-1	C4C250122 007	GCVWC1A	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 17:58	4086228
GM-3D	C4C250122 006	GCVWA1A	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 17:43	4086228
GM-3RS	C4C250122 005	GCVV71AD	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 17:28	4086228
GM-5S	C4C250122 004	GCVV21AH	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 16:43	4086228
GM-4D	C4C250122 002	GCVVX1AD	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 16:13	4086228
GM-5D	C4C250122 003	GCVV01AD	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 16:28	4086228
MW-4	C4C250122 001	GCVVQ1A	ND	mg/L	0.050	1	3/25/2004 - 3/25/2004 15:58	4086228

New Jersey

Total Kjeldahl Nitrogen

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER

Method: MCAWW 351.3
Lot Number: C4C250122

Digestion and distillation procedure

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
GM-4D	C4C250122 002	GCVVX1AJ	1.2 B	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
MW-4	C4C250122 001	GCVVQ1AJ	ND	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
GM-5S	C4C250122 004	GCVV21A1	2.3 B	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
GM-5D	C4C250122 003	GCVV01AJ	ND	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
GM-3RS	C4C250122 005	GCVV71AJ	ND	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
GM-3D	C4C250122 006	GCVWA1A	1.7 B	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
MW-1	C4C250122 007	GCVWC1A	ND	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665
MW-2	C4C250122 008	GCVWF1AJ	ND	mg/L	3.0	1	4/5/2004 - 4/6/2004 00:00	4097665

VAPORTECH
Services, Inc.

Analytical Laboratory & Geoprobe Sampling

APR 07 2004

3/30/04

Mr. Doug Newton
Mactec Engineering and Consulting
5205 Militia Hill Road
Plymouth Meeting, PA 19462

Dear Doug:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on 3/24 & 3/27 2004 for your project; Swope Pennsauken, NJ.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

David J. Masdea

Enclosure:

1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel.: 724-898-2622 • Fax: 724-898-2633

SEVERN TRENT STL

STL Pittsburgh
450 William Pitt Way
Pittsburgh, PA 15238

Tel: 412 820 8380 Fax: 412 820 2080
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. Swope Oil

New Jersey

Lot #: C4C230137

Doug Newton

MACTEC Engineering & Consultin

SEVERN TRENT LABORATORIES, INC.

Veronica Bortot
Project Manager

New Jersey Certification #: PA005

April 6, 2004

/aportech Services, Inc.

MAC8_9_4200

MACTEC Engineering & Consulting
Project: Swope Pennsauken, NJ - 2200000028
-- WATER SAMPLES --

SAMPLE NAME	CARBON DIOXIDE (mg/l)	OXYGEN (mg/l)	NITROGEN (mg/l)	METHANE (ug/l)	ETHANE (ug/l)	ETHENE (ug/l)	FILE NAME	DATE COLLECTED	DATE RECEIVED	DATE ANALYZED
MW-7	51.1	0.91	8.1	ND	ND	ND	D27A/B3.50A	03/22/2004	03/24/2004	03/24/2004
GM-8D	149.8	0.50	6.5	488.2	0.14	0.01	D27A/B3.51A	03/22/2004	03/24/2004	03/24/2004
GM-8S	103.4	0.34	7.9	693.2	0.30	3.43	D27A/B3.52A	03/22/2004	03/24/2004	03/24/2004
GM-7S	117.3	1.79	11.2	793.3	0.08	1.67	D27A/B3.53A	03/23/2004	03/24/2004	03/24/2004
GM-7D	133.0	0.70	8.1	253.8	0.06	0.01	D27A/B3.54A	03/23/2004	03/24/2004	03/24/2004
GM-6D	57.7	1.29	9.6	49.3	0.03	ND	D27A/B3.55A	03/23/2004	03/24/2004	03/24/2004
GM-6S	207.1	0.62	7.1	363.7	0.16	0.04	D27A/B3.56A	03/23/2004	03/24/2004	03/24/2004
GM-2S	120.0	0.92	10.9	37.4	0.03	0.01	D27A/B3.57A	03/23/2004	03/24/2004	03/24/2004
GM-2D	21.6	1.10	10.2	7.5	0.02	0.02	D27A/B3.58A	03/23/2004	03/24/2004	03/24/2004
MW-4	129.6	1.30	7.2	ND	ND	ND	D27A/B3.74A	03/23/2004	03/27/2004	03/29/2004
GM-4D	149.8	0.92	8.2	256.3	0.03	0.05	D27A/B3.75A	03/23/2004	03/27/2004	03/29/2004
GM-5D	18.2	1.20	8.0	3.2	ND	ND	D27A/B3.76A	03/24/2004	03/27/2004	03/29/2004
GM-5S	149.8	0.96	6.2	13.3	0.03	ND	D27A/B3.77A	03/24/2004	03/27/2004	03/29/2004
GM-3RS	181.1	1.14	10.0	1188.7	0.17	4.69	D27A/B3.78A	03/24/2004	03/27/2004	03/29/2004
GM-3D	161.4	0.95	7.2	290.5	0.05	0.02	D27A/B3.79A	03/24/2004	03/27/2004	03/29/2004
MW-1	153.2	1.15	9.7	302.7	0.07	0.04	D27A/B3.80A	03/24/2004	03/27/2004	03/29/2004
MW-2	80.0	0.94	10.6	121.2	0.05	3.34	D27A/B3.81A	03/24/2004	03/27/2004	03/29/2004
GM-9	94.4	0.63	8.6	6.4	ND	ND	D27A/B3.82A	03/25/2004	03/27/2004	03/29/2004
GM-1S	103.3	0.67	9.6	6.4	ND	ND	D27A/B3.83A	03/25/2004	03/27/2004	03/29/2004
GM-1D	19.6	0.96	10.4	163.5	0.10	0.07	D27A/B3.84A	03/25/2004	03/27/2004	03/29/2004
MW-10S	104.4	0.59	8.4	310.0	0.28	0.74	D27A/B3.85A	03/25/2004	03/27/2004	03/29/2004
MW-9S	96.8	0.73	8.0	136.7	0.08	0.26	D27A/B3.86A	03/25/2004	03/27/2004	03/29/2004
MW-11S	102.0	1.82	12.9	224.6	0.12	0.13	D27A/B3.87A	03/26/2004	03/27/2004	03/29/2004
MDL	0.4	0.15	0.4	0.2	0.01	0.01				

MDL - denotes lower 'Method Detection Limit'

ND - denotes 'Not Detected' at or above the lower method detection limit

2-Apr-2004

Reviewed by: _____

/aportech Services, Inc.

/IAC8_9_4200

MACTEC Engineering & Consulting
Project: Swope Pennsauken, NJ - 2200000028
-- WATER SAMPLES --

QUALITY CONTROL

:ONTINUING CALIBRATION CHECK (TCD)

;TANDARD: "237"
'ILE NAME: D27B3.73A

:OMPOUND	KNOWN (%)	RESULT (%)	PERCENT DIFFERENCE
:arbon Dioxide	15.00	14.96	0.27
)xygen	7.01	6.96	0.68
/itrogen	66.48	65.39	1.64
/ethane	4.51	4.43	1.88

LABORATORY BLANK RESULTS (TCD)

BLANK: CARRIER IN LOOP
FILE NAME: D27B3.71A

COMPOUND	BLANK (%)	METHOD DETECTION LIMIT (%)
Carbon Dioxide	ND	0.02
Oxygen	ND	0.03
Nitrogen	ND	0.10
Methane	ND	0.03

:ONTINUING CALIBRATION CHECK (FID)

,TANDARD: "54"
'ILE NAME: D27A3.72A

OMPOUND	KNOWN PPMV	RESULT PPMV	PERCENT DIFFERENCE
/ethane	15.69	15.82	0.80
thane	15.66	15.58	0.52
thene	15.76	14.90	5.46

LABORATORY BLANK RESULTS (FID)

BLANK: CARRIER IN LOOP
FILE NAME: D27A3.71A

COMPOUND	BLANK PPMV	METHOD DETECTION LIMIT PPMV
Methane	ND	1.00
Ethane	ND	0.02
Ethene	ND	0.02

) - denotes 'Not Detected' at or above the lower method detection limit

Reviewed by: _____

'aportech Services, Inc.

1AC8_9_4200

MACTEC Engineering & Consulting
Project: Swope Pennsauken, NJ - 2200000028
-- WATER SAMPLES --

QUALITY CONTROL

:ONTINUING CALIBRATION CHECK (TCD)

:TANDARD: "237"
ILE NAME: D27B3.44A

OMPOUND	KNOWN (%)	RESULT (%)	PERCENT DIFFERENCE
:arbon Dioxide	15.00	15.22	1.45
)xygen	7.01	7.09	1.14
litrogen	66.48	66.18	0.46
'lethane	4.51	4.54	0.69

LABORATORY BLANK RESULTS (TCD)

BLANK: CARRIER IN LOOP
FILE NAME: D27B3.42A

COMPOUND	BLANK (%)	METHOD DETECTION LIMIT (%)
Carbon Dioxide	ND	0.02
Oxygen	ND	0.03
Nitrogen	ND	0.10
Methane	ND	0.03

:ONTINUING CALIBRATION CHECK (FID)

TANDARD: "54"
ILE NAME: D27A3.49A

OMPOUND	KNOWN PPMV	RESULT PPMV	PERCENT DIFFERENCE
'ethane	15.69	15.87	1.14
thane	15.66	15.35	1.96
thene	15.76	14.79	6.17

LABORATORY BLANK RESULTS (FID)

BLANK: CARRIER IN LOOP
FILE NAME: D27A3.42A

COMPOUND	BLANK PPMV	METHOD DETECTION LIMIT PPMV
Methane	ND	1.00
Ethane	ND	0.02
Ethene	ND	0.02

D - denotes 'Not Detected' at or above the lower method detection limit

-Mar-2004

Reviewed by:

CHAIN-OF-CUSTODY RECORD

MAC9-4200

PAGE 1 of 2

VAPORTECH Services, Inc.

1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: MACTEC Engineering & Consulting
Address: 5205 Militia Hill Rd.
City: Plymouth Meeting **State:** PA **Zip:** 19462
Proj. Manager: Doug Newton
Proj. Location: SWDPE Pennsauken, NJ
Proj. Number: 22000 0 0028
Phone #: 610-941-9700 **Fax #:** 610-941-9707

Sampler's signature:

Analysis Options: Enter letters in Requested Analysis columns below.

A	Light Hydrocarbons	F	BTEX
B	Permanent Gases	G	BTEX & C5 - C10
C	Methane	H	TPH (C4 - C12 range)
D	Methane, Ethane, Ethylene	I	Chlorinated Hydrocarbons
E	Hydrogen	J	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Collection Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis				(Other)	Remarks
3/23/04	1605	2	water	MW-4	A(1)	B(2)				A(1) Ethane/Ethylene
↓	1711	2	↓	GM-4D	↓	↓				B(2) CO_2, O_2, N, Argon, methane
3/24/04	0850	2	↓	GM-5D	↓	↓				
↓	0855	2	↓	GM-5S	↓	↓				
↓	1150	2	↓	GM-3RS	↓	↓				
↓	1220	2	↓	GM-3D	↓	↓				
↓	1430	2	↓	MW-1	↓	↓				
↓	1440	2	↓	MW-2	↓	↓				
3/25/04	0425	2	↓	GM-9	↓	↓				
↓	0925	2	↓	GM-1S	↓	↓				
↓	1115	2	↓	GM-1D	↓	↓				
↓			↓		↓	↓				

Results to: Doug Newton

Invoice to:

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
[signature]	MACTEC	3/26/04	4:15	D. Moore	VAPORTECH	3-27-04	9:30
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

WHITE COPY : Laboratory to return. YELLOW COPY : Laboratory PINK COPY : Submitter

CHAIN-OF-CUSTODY RECORD

MAC9-4200

PAGE 2 OF 2

VAPORTECH Services, Inc.

1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: MACTEC Engineering + Consulting
Address: 5205 Militia Hill Road
City: Plymouth Meeting State: PA Zip: 19462
Proj. Manager: DOUG NEWTON
Proj. Location: SWOFF Pennsauken, NJ
Proj. Number: 22000 0 0028
Phone #: 610-941-9700 Fax #: 610-941-9707

Sampler's signature:

Analysis Options: Enter letters in Requested Analysis columns below.

A	Light Hydrocarbons	F	BTEX
B	Permanent Gases	G	BTEX & C5 - C10
C	Methane	H	TPH (C4 - C12 range)
D	Methane, Ethane, Ethylene	I	Chlorinated Hydrocarbons
E	Hydrogen	J	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Collection Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis				(Other)	Remarks
3/25/04	1341	2	water	MW-10S	A(1)	B(2)				A(1) Ethane + Ethylene
↓	1615	2	water	MW-9S	↓	↓				
3/26/04	1015	2	water	MW-11S	↓	↓				B(2) O_2, CO_2, N, CH_4

Results to: DOUG NEWTON

Invoice to:

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
[signature]	MACTEC	3/26/04	4:15	D. Moore	VAPORTECH	3-27-04	9:30
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

WHITE COPY : Laboratory to return. YELLOW COPY : Laboratory PINK COPY : Submitter

MAC 8 - 4175

CHAIN-OF-CUSTODY RECORD

VAPORTECH Services, Inc.

1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: MACTEC ENGINEERING + CONSULTING
Address: 5205 Militia Hill Rd
City: Plymouth Meeting **State:** PA **Zip:** 19462
Proj. Manager: DOUG NEWTON
Proj. Location: SUNOCO PENNSAUKEN, NJ
Proj. Number: 22000 0 0028
Phone #: 610-941-9700 **Fax #:** 610-948-9702

Sampler's signature:

Analysis Options: Enter letters in Requested Analysis columns below.

A	Light Hydrocarbons	F	BTEX
B	Permanent Gases	G	BTEX & C5 - C10
C	Methane	H	TPH (C4 - C12 range)
D	Methane, Ethane, Ethylene	I	Chlorinated Hydrocarbons
E	Hydrogen	J	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Collection Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis				(Other)	(1) Light HC Remarks
3/22/04	1345	2	water	MW-7	A(1)	B(2)				Ethane + Ethylene
	1610	2		GM-8D						(2) Perm Gass
	1615	2		GM-8S						CO_2, O_2, Nitrogen, methane
3/23/04	0840	2		GM-7S						
	0845	2		GM-7D						
	1030	2		GM-6D						
	1040	2		GM-6S						
	1330	2		GM-2S						
	1332	2		GM-2D						

Results to : DOUG NEWTON

Invoice to : DOUG NEWTON

Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
	MACTEC	3/23/04	5:00			3/24/04	9:50
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Laboratory to return. YELLOW COPY : Laboratory PINK COPY : Submitter

New Jersey

Sulfate

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 300.0A
Lot Number: C4C250122

Sulfate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-1	C4C250122 007	GCVWC1A	15.3	mg/L	1.0	1	3/25/2004 - 3/25/2004 17:58	4097170
GM-3D	C4C250122 006	GCVWA1A	28.2	mg/L	1.0	1	3/25/2004 - 3/25/2004 17:43	4097170
GM-3RS	C4C250122 005	GCVV71AE	13.6	mg/L	1.0	1	3/25/2004 - 3/25/2004 17:28	4097170
GM-5D	C4C250122 003	GCVV01AE	18.8	mg/L	1.0	1	3/25/2004 - 3/25/2004 16:28	4097170
GM-5S	C4C250122 004	GCVV21AL	39.3	mg/L	1.0	1	3/25/2004 - 3/25/2004 16:43	4097170
MW-4	C4C250122 001	GCVVQ1AE	22.9	mg/L	1.0	1	3/25/2004 - 3/25/2004 15:58	4097170
GM-4D	C4C250122 002	GCVVX1AE	26.2	mg/L	1.0	1	3/25/2004 - 3/25/2004 16:13	4097170
MW-2	C4C250122 008	GCVWF1A	10.6	mg/L	1.0	1	3/25/2004 - 3/25/2004 18:13	4097170

New Jersey

Total Sulfide

Lab Name: STL PITTSBURGH
Client Name: MACTEC ENGINEERING & CONSULTING INC
Matrix: WATER
Method: MCAWW 376.1
Lot Number: C4C250122

Sulfide

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-4	C4C250122 001	GCVVQ1AF	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
GM-4D	C4C250122 002	GCVVX1AF	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
GM-5S	C4C250122 004	GCVV21AP	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
GM-5D	C4C250122 003	GCVV01AF	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
GM-3RS	C4C250122 005	GCVV71AF	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
GM-3D	C4C250122 006	GCVWA1A	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
MW-1	C4C250122 007	GCVWC1A	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212
MW-2	C4C250122 008	GCVWF1A	ND	mg/L	1.0	1	3/31/2004 - 3/31/2004 16:30	4092212

STL Pittsburgh

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): DOUG NEWTON
Company: MACTEC ENGINEERING + CONSULTING
Address: 5205 Militia Hill Rd.
City: Plymouth Meeting State: PA 19462
Phone: 610-941-9700 Fax: 610-941-9707

Samplers Name (Printed): SCOTT HUSSHALL
P.O. #: 22000 0 0028
Analysis Turnaround Time: Standard [X]
Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]

Site/Project Identification: SWOPE PENNSAUKEN, NJ
State (Location of site): NJ: [X] NY: [ ] Other:
Regulatory Program: EPA

LAB USE ONLY
Project No:
Job No:

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	BOD 405.1	Dissolved Organic Carbon 9060	Total Organic Carbon 9060	Sulfide 376.1	TKN 351.2	Chloride Fluoride Nitrate Nitrite Sulfate	Total Fe + Mn	Dissolved Fe + Mn				Sample Numbers
MW-7	3/22/04	1345	Water	8	X	X	X	X	X	X	X	X				
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other NaOH, 7 = Other				Soil:												
				Water:	1	3	3	5/6	3	1						

Water Metals Filtered (Yes/No)?

Special Instructions

	Company	Date / Time		Company
Relinquished by 1)	MACTEC	3/22/04 / 13:45	Received by 1)	STL
Relinquished by 2)	STL	3/22/04 / 16:06	Received by 2)	
Relinquished by 3)			Received by 3)	
Relinquished by 4)		3-23-04 / 0900	Received by 4)	STL Pittsburgh

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): DOUG NEWTON
Company: MACTEC Engineering + Consulting
Address: 5205 Militia Hill Rd.
City: Plymouth Meeting State: PA
Phone: 610-941-9700 Fax: 610-941-9707

Samplers Name (Printed): SCOTT HORSNELL
P.O. #: 22000 0 0028

Site/Project Identification: SWDPE PENNSAUKEN, NJ
State (Location of site): NJ: [X] NY: [ ] Other:
Regulatory Program: EPA

Analysis Turnaround Time
Standard [X]
Rush Charges Authorized For:
2 Week [ ]
1 Week [ ]
Other [ ]

LAB USE ONLY
Project No:
Job No:

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	BOD 405.1	Total organic carbon 9060	Diss. organic carbon 9060	Sulfide	TKN	Cl, NO3, Fe, SO4	Total Fe+Mn	Diss Fe+Mn	Sample Numbers
MW-4	3/23/04	1605	water	8	X	X	X	X	X	X	X	X	
GM-4D	↓	1711		8	X	X	X	X	X	X	X	X	
GM-5D	3/24/04	0850		8	X	X	X	X	X	X	X	X	
GM-5S & GM-5S MS/MSD		0855		24	X	X	X	X	X	X	X	X	
GM-3RS		1150		8	X	X	X	X	X	X	X	X	
GM-3D		1220		8	X	X	X	X	X	X	X	X	
MW-1		1430		8	X	X	X	X	X	X	X	X	
MW-2	↓	1441		8	X	X	X	X	X	X	X	X	
Soil:													
Water:					1	3	3	56	3	1	4	4	

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other ZnAc, 7 = Other _____

Special Instructions: Diss Fe+Mn & Diss TOC FIELD Filtered
Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	MACTEC	3/24/04 1550	1) [signature]	STL
2) [signature]	STL	3/24/04 1600	2) [signature]	STL
3) [signature]	STL	3/24/03	3)	
4)		3/25/04 0925	4) [signature]	STL-Pittsburgh

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice) VERONICA Bortot	Samplers Name (Printed) Scott Horsnall	Site/Project Identification Snope Pennsauken, NJ
Company STL Pittsburgh	P.O. # —	State (Location of site): NJ: [X] NY: [ ] Other:
		Regulatory Program: EPA
Address 450 William Pitt Way, Building 6	Analysis Turnaround Time: Standard [X]	
City Pittsburgh, PA, State 15238	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	
Phone 412-820-8780 / Fax 412-820-2080		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: A654

Sample Identification	Date	Time	Matrix	No. of. Cont.	FE+2	Sample Numbers
MW-4	3/23/04	16:05	Water	1	X	513858
GM-4D	↓	17:11	↓	1	X	859
GM-5D	3/24/04	08:50	↓	1	X	860
GM-5S/GM-5S MS/MSD	↓	08:55	↓	3	X	861
GM-3RS	↓	11:50	↓	1	X	862
GW-3D	↓	12:20	↓	1	X	863
MW-1	↓	14:30	↓	1	X	864
MW-2	↓	14:41	↓	1	X	865

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water: 1

Water Metals Filtered (Yes/No)?

Special Instructions

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	STL	3/24/04 17:10	1) [signature]	STL
2) [signature]	STL	3/24/04, 18:30	2) [signature]	STL EDISON
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

DATA SUMMARY PACKAGE

METALS SUMMARY

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-7

TOTAL Metals

Lot-Sample #...: C4C230137-001 Matrix.....: WATER
Date Sampled...: 03/22/04 Date Received..: 03/23/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4085103						
Iron	69.9 B,J	100	ug/L	SW846 6010B	03/25-03/27/04	GCPTN1AN
		Dilution Factor: 1		Analysis Time..: 21:46	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4085016	MDL.....: 18.0	
Manganese	77.7 J	15.0	ug/L	SW846 6010B	03/25-03/27/04	GCPTN1AP
		Dilution Factor: 1		Analysis Time..: 21:46	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4085016	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC ENGINEERING & CONSULTING INC

Client Sample ID: MW-7

DISSOLVED Metals

Lot-Sample #...: C4C230137-001 Matrix.....: WATER
Date Sampled...: 03/22/04 Date Received..: 03/23/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4085102						
Iron	22.9 B	100	ug/L	SW846 6010B	03/25-03/27/04	GCPTN1AL
		Dilution Factor: 1		Analysis Time..: 22:30	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4085015	MDL.....: 18.0	
Manganese	80.6 J	15.0	ug/L	SW846 6010B	03/25-03/27/04	GCPTN1AM
		Dilution Factor: 1		Analysis Time..: 22:30	Analyst ID.....: 022952	
		Instrument ID..: TRACEICP		MS Run #.....: 4085015	MDL.....: 0.11	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level

GENERAL CHEMISTRY SUMMARY

New Jersey

TOC

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Total Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AH	0.48 B	mg/L	1.0	1	3/31/04 1 - 3/31/04 19:02	4091128

B Estimated result. Result is less than RL.

New Jersey

Chloride

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 300.0A
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Chloride

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AA	2.5	mg/L	1.0	1	4/2/04 12 - 4/3/04 00:37	4096378

New Jersey

Biochemical Oxygen Demand

Lab Name:	STL PITTSBURGH	Method:	MCAWW 405.1
Client Name:	MACTEC ENGINEERING & CONSULTING INC	Lot Number:	C4C230137
Matrix:	WATER		

Incubation

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AG	ND	mg/L	2.0	1	3/23/04 1 - 3/28/04 12:15	4083441

New Jersey

Dissolved Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Dissolved Organic Carbon

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AK	0.74 B	mg/L	1.0	1	3/31/04 1 - 4/1/04 00:09	4091130

B Estimated result. Result is less than RL.

New Jersey

Nitrate as N

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 300.0A
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Nitrate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AC	1.2	mg/L	0.050	1	3/23/04 1 - 3/23/04 19:20	4084206

New Jersey

Nitrite as N

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 300.0A
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Nitrite

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AD	ND	mg/L	0.050	1	3/23/04 1 - 3/23/04 19:20	4084207

New Jersey

Total Kjeldahl Nitrogen

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 351.3
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Digestion and distillation procedure

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AJ	ND	mg/L	3.0	1	4/1/04 12 - 4/1/04 00:00	4092450

New Jersey

Sulfate

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 300.0A
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Sulfate

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AE	1.0	mg/L	1.0	1	4/2/04 12 - 4/3/04 00:37	4096377

New Jersey

Total Sulfide

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 376.1
Client Name:	MACTEC ENGINEERING & CONSULTING INC	**Lot Number:**	C4C230137
Matrix:	WATER		

Sulfide

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep Date - Analysis Date/Time	QC Batch
MW-7	C4C230137 001	GCPTN1AF	1.3	mg/L	1.0	1	3/26/04 1 - 3/26/04 18:00	4087127

Order #: P0403527
Report Date: 03/26/04
Client Proj Name: Mactec Eng
Client Proj #: C4C230137

Client Name: Severn Trent Laboratories
Contact: Veronica Bortot
Address: 450 William Pitt Way
Pittsburgh, PA 15238

Lab Sample #: P0403527-01

Sample Description	Matrix	Sampled Date/Time	Received
MW-7	Water	22 Mar. 04 13:45	23 Mar. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date	
WetChem							
Ferrous Iron	<1.0	1.0	mg/L	SM3500Fe	md	3/23/04	15:00

N - NELAC certified analysis