JSW –
edoc –

ENERGYSOLUTIONS

September 28, 2007
Ref. No. 31128-043

Mr. Jaspal Walia
Project Manager
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Subject: HRC Injection Plan for Area B
Leica, Inc. Site; Erie County, Cheektowaga, NY
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

Enclosed you will find a copy of our proposed plan for injection of Hydrogen Release Compound (HRC) produced by Regenesis of San Clemente, California in the vicinity of Area B at the subject site. These planned remedial activities are intended to serve two purposes. The injection will reduce concentrations of chlorinated hydrocarbon Contaminants of Concern (COCs) in the soils beneath the building and as a result of these reduced soil concentrations will also serve as a mitigating measure for the Volatile Organic Compound (VOC) concentrations detected in the air in the building as required by the NYSDOH.

We look forward to receiving NYDEC approval to implement this proposed plan. I will be out of the country and unavailable until the 9th of October. Please feel free to call me at that time at 801-303-1092 if you have any questions.

Sincerely,

Patricia A. Mallumphy for
Robert E. McPeak, JR., P.E., LEP
Manager Environmental Services

Enclosures

CC:
D. Simkowski
A. Szklany
C. Grabinski
B. Sye Marvuglio
C. O'Conner (NYSDOH)
E. Doubleday

143 West Street • New Milford, Connecticut 06776
860.355.8194 • Fax: 860.355.3295 • www.energysolutions.com

SUPPLEMENTAL AREA B SOIL REMEDIATION USING HYDROGEN RELEASE COMPOUND (HRC) REMEDIAL ACTION WORK PLAN

FOR THE

LEICA, INC. SITE
CHEEKTOWAGA, NEW YORK

Prepared for:

LEICA, INC.

OPTICAL PRODUCTS DIVISION
2345 WAUKEGAN ROAD
BANNOCKBURN, IL 60015

PREPARED BY

ENERGY*SOLUTIONS*, LLC

143 WEST STREET

NEW MILFORD, CT 06776

MAY 2007

SUPPLEMENTAL AREA B SOIL REMEDIATION USING HYDROGEN RELEASE COMPOUND (HRC) REMEDIAL ACTION WORK PLAN

FOR THE

LEICA, INC. SITE
CHEEKTOWAGA, NEW YORK

Prepared for:

LEICA, INC.
OPTICAL PRODUCTS DIVISION
2345 WAUKEGAN ROAD
BANNOCKBURN, IL 60015

Prepared by:

ENERGY*SOLUTIONS*, LLC
143 WEST STREET
NEW MILFORD, CT 06776

AUTHORIZATIONS

MAY 2007

Patricia A. Mallumpky for

Robert E. McPeak, Jr., P.E., LEP
Department Manager, Environmental Services

9/28/07

Date

TABLE OF CONTENTS

Page

TABLES

APPENDICES

1.0 INTRODUCTION

Energy*Solutions*, LLC (Energy*Solutions*) has prepared this Supplemental Area B Soil Remediation Work Plan on behalf of Leica Microsystems Inc. (Leica). The main purpose of this Work Plan is to describe activities to be performed during the remediation of contaminated soils and groundwater in the vicinity of Area B beneath the building to the west of the former dry well at the Leica site. A Vicinity Map is included as Figure 1 in Appendix A. This report also briefly reviews site history and the results of previous site investigations and other remedial activities performed to date.

1.1 OBJECTIVES OF THE SUPPLEMENTAL AREA B REMEDIATION

This supplemental Area B remediation is intended to accomplish two objectives. Contamination in Area B is believed to have originated from discharges of volatile organic chemicals to a former dry well which was located immediately to the west of the main facility loading dock in the vicinity of MW-16 and MW-16A. The remediation is intended to reduce concentrations of VOCs in the soil and groundwater in the vicinity of Area B and beneath the building to the west of this former dry well. This action will facilitate the reduction of contaminant concentrations in MW-16R and MW-16A and thereby aid in meeting the Remedial Action Objectives for groundwater in Area B. The action will also aid in achieving the RAOs for the soils beneath the building floor.

Secondly, this remedial action is also intended to provide mitigation of the VOC concentrations in the soil gas beneath the building and in the indoor air. Testing during December of 2006 revealed concentrations of VOCs in these areas. This remedial action is intended to provide mitigation of these VOC concentrations as recommended in New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

2.0 SITE LOCATION AND DESCRIPTION

The Leica Site is located on approximately 24 acres of land at the intersection of Eggert Road and Sugar Road in the Town of Cheektowaga, Erie County, New York, (See Figure 1). The west boundary of the Site abuts the eastern boundary of the City of Buffalo. The Site is located in a generally commercial/residential area and is bounded by open land and public housing to the west, Cemetery property to the north and east and residential property to the south. The wetland located immediately to the east of Area C is the only surface water body in the general vicinity of the Site. Storm water run-off from the building roof is collected by the municipal storm water system and conveyed to Scajaquada Creek approximately one mile south of the Site. Surface water from the southern portions of the site is transmitted overland directly to the wetland area adjacent to the southeast corner of the property. Groundwater is not used for a source of drinking water. Drinking water is supplied by the Erie County Water Authority from the Niagara River.

The manufacturing facility was built on the Site in 1938 by the Spencer Lens Company for the manufacture of scientific instruments and high quality optical devices. The property has been owned and operated by various other firms manufacturing similar optical related products since that time until it was used for product warehousing by the current operator since the mid 90s.

There are three permanent buildings on-Site, including the brick multi-story Main Building of approximately 360,000 square feet, a single story metal storage building of approximately 3,100 square feet, and a one story brick fire protection system pump house of 325 square feet. The Main Building was constructed in segments from 1938 to 1967. The remainder of the Site is either paved for parking use or landscaped. The buildings are all constructed with concrete slab on grade foundations. The main building does have a basement area immediately to the south of the main loading docks in the northeast corner of the facility.

The Site is listed on the New York Registry of Inactive Hazardous Waste Sites (#915156) as a Class 2 site. A Class 2 designation indicates the property is assumed to pose a significant threat to public health and/or the environment. Revision of the Site Classification is currently under consideration by the NYSDEC based on recent remedial actions.

3.0 SUMMARY OF REMEDIAL INVESTIGATIONS/ACTIONS

3.1 INTRODUCTION

This section summarizes investigations and remedial actions performed in all three of the original areas addressed by the Energy*Solutions* remediation system including: Area A located northeast of the main facility loading dock, Area B located immediately adjacent to the main facility loading dock, and area C located to the east of the southeast corner of the facility. These areas are shown on Figure 2. Shallow soil contamination in Areas A and C has been addressed and the shallow remedial system is no longer operating in these areas. Deep groundwater is still being extracted in Areas B and C from wells MW-11A (Area C) and MW-16A (Area B) (See Figure 4). This current Supplemental Area B Soil Remediation Plan is designed to address additional contamination in Area B.

3.2 SITE HISTORY REVIEW

Leica, under the supervision of the New York State Department of Environmental Conservation (NYSDEC) initiated a Remedial Investigation/Feasibility Study (RI/FS) in November 1993 to address the contamination at the Site. The RI was completed in October 1994 by Connestoga-Rovers and Associates (CRA). An FS was submitted by CRA in May 1995 with subsequent revisions in July 1995, March 1996 with final addendums by NES, Inc. (now Energy*Solutions*) submitted in February 1997. Upon issuance of a Record of Decision (ROD), the NYSDEC authorized Leica to begin activities necessary to design and implement the chosen remedial alternative at the Site.

When revision of the ROD was completed, Energy*Solutions* performed additional investigation of several Site areas in order to more accurately define the extent of contamination in Areas B, and C. This investigation revealed soils surrounding the original boundaries of Area C which also contained VOC concentrations above the RAOs.

3.2.1 Remediation System Installation

Once the extent of the contamination at the site had been more thoroughly delineated, Energy*Solutions* prepared and subsequently received approval from the NYSDEC to install the

in-situ AS/DVE and bedrock groundwater remediation systems The system, which included a combination of air sparging and dual vacuum extraction (AS/DVE) designed to remediate a shallow soil zone (0 – 4') and an intermediate soil zone (8 – 13') of contamination, was installed in 1999. The system was designed to remediate soils in three specific areas of the site including: Area A, a former hazardous waste storage area located northeast of the main facility loading docks; Area B, a former dry well located immediately to the east of the main loading docks, and Area C located beneath the main parking area in the south eastern portion of the property (See Figure 2). The AS/DVE system was operated in Area A and Area B until July of 2002 and until approximately November of 2002 in Area C. A bedrock groundwater extraction system was also installed by Energy*Solutions* in 1999. The groundwater extraction system has operated consistently (excluding minor shutdown and maintenance periods) since that time until the present.

Based on soil data collected in May and August of 2001, the New York State Department of Environmental Conservation (NYSDEC) permitted Energy*Solutions* to discontinue operation of the treatment system in Areas A and B. AS/DVE system operations were discontinued in these two areas in July of 2002. Soil samples collected and analyzed in August of 2001 indicated that concentrations of contaminants in portions of Area C were still not in compliance with the applicable criteria.

3.2.2 Supplemental Soil Removal in Area C

In response to these results, Energy*Solutions* proposed and implemented supplemental soil removal in Area C beginning in October of 2002. Removal activities were completed in January of 2004 when the last contaminated soils were transported from the site for disposal. Groundwater remediation and long term monitoring continued at the site following this soil removal action in order to assess the success of the operation and are still in progress. Additional information concerning this removal action is included in Section 3.3 of this Plan.

System performance data collected throughout 2000 and 2001 indicated that the remedial system was successfully reducing contaminant concentrations in Area A and Area B, and parts of Area C; however hot spots remained in portions of Area C. In order to address this problem, Energy*Solutions* proposed the completion of more aggressive supplemental remedial activities. Prior to implementing these activities an Interim Closure Investigation was completed in order to confirm which areas of the site needed supplemental remediation.

Following completion of the Interim Closure Investigation, Energy*Solutions* proposed and implemented Supplemental Soil Removal Action in Area C. Soils in portions of Area C were excavated and removed. A total of 8,106 tons of soil (based on actual weight) were excavated from Area C between October 29, 2002 and May 22, 2003. Of the 8,106 tons of excavated soil, 7,636 tons contained VOC concentrations above the RAOs and the remaining 470 tons of soil contained VOC concentrations below the RAOs.

Excavation activities occurred in two separate excavation areas (Excavation Areas 1 and 2), both located in Area C. Following the excavation of contaminated soils, confirmation samples were then collected from the excavation faces and floors and submitted to a New York State Certified Laboratory (Spectrum Analytical) for analysis. Each excavation area was determined to be complete when the parameter concentration averages of the confirmation samples collected within an excavation area were below the RAOs and NYSDEC Region 9 confirmation/approval was received. Eight confirmation samples were collected from Excavation Area 1 and fifty-eight

confirmation samples were collected from Excavation Area 2 and used to calculate the parameter concentration averages for excavation closure. Confirmation samples indicated that the remaining soils at the perimeter of Excavation areas 1 and 2 were in compliance with the RAOs.

Confirmation floor samples were not collected from an area south of grid zones C11, C12, and C13 in Excavation Area 2 because the excavation was advanced to bedrock in this area.

The excavated material was disposed of at the following landfills; Modern Landfill Inc., Model City, New York, Waste Management Inc., CWM Chemical Services, L.L.C., in Model City, New York and Clean Harbors Environmental Services, Inc., Canadian Waste Services, Inc., Sarnia Landfill, Sarnia, Ontario, Canada. Following the completion of excavation and backfilling activities in Area C, the Energy*Solutions* field crew dismantled and demobilized all non-essential above grade equipment from Area C.

Following completion of soil removal activities in Area C in 2002 and 2003 Energy*Solutions* continued to monitor groundwater quality at the Leica site. Results of this groundwater monitoring program obtained in the fall of 2004 and into the spring of 2005 indicated that chlorinated solvent concentrations were increasing in the monitoring wells located in Area B (MW-16R and MW-16A). TCE was detected in well MW-16R at a concentration of 12,000 ug/l in September and 14,000 ug/l in December of 2004 and up to 30,000 ug/l in June of 2005.

In order to address these increased concentrations in MW-16R and MW-16A, it was decided that supplemental remedial action in the area was appropriate. Before planning these supplemental actions, it would be necessary to determine the location of the source of these elevated concentrations so that remedial efforts could be focused in the proper areas.

3.3 SUMMARY OF SUPPLEMENTAL AREA B INVESTIGATIONS

3.3.1 Original Soil Gas Survey (June 2005)

In order to determine the potential source of the elevated VOC concentrations in MW-16R and MW-16A, Energy*Solutions* completed a soil gas survey in the vicinity of the facility loading docks and MW-16R in June of 2005. Based on the fact that remedial actions had been performed in the areas immediately to the east of the main facility loading docks, the source areas were suspected to be located beneath the building to the west. The survey was completed using passive sampling techniques. Collection media was placed in small bore holes advanced through building floors, loading docks and other paved surfaces in the area and remained in place for approximately two weeks. Approximately 25 soil gas samples were collected from beneath the surface in the area. The survey revealed the presence of VOC concentrations in the area. The highest concentrations were located to the west of MW-16R in the areas beneath the loading docks and other nearby sections of the building.

These results appear to be consistent with the conceptual fate and transport model for the former dry well located in the area. Groundwater monitoring has indicated that in the past groundwater flowed in a southwesterly direction when not influenced by groundwater recovery from MW-16A. Current flow patterns are influenced by this groundwater recovery and are expected to be in an easterly direction. Based on this information, past releases from the former dry well would have contacted the groundwater and flowed in a southwesterly direction to the areas beneath the building and would now be drawn back to the west by the recovery operation. Soil samples

collected from areas beneath the building during the RI/FS performed in the early 1990s, revealed slightly elevated concentrations of VOCs (Maximum concentration of trichloroethene (TCE) at 480 ug/kg), but were apparently collected from locations too far to the west to reveal the areas of maximum concentration.

Several contaminants of concern were detected in the soil gas survey including trichloroethene (TCE), 1,1,1 trichloroethane (1,1,1 TCA), 1,2 dichloroethene (1,2 DCE) and vinyl chloride. Survey results further suggested that the highest VOC concentrations are located immediately to the southwest of the former dry well approximately thirty feet away. Sufficient samples were collected to the west beneath the building to locate what appears to be the western edge of the hot spot which is within approximately fifty feet of the eastern side of the building.

Based on this information collected during the soil gas survey, it appears that the source of the concentrations of VOCs in MW-16R and MW-16A is located beneath the eastern side of the building and the loading docks.

3.3.2 Supplemental Soil Sampling and Soil Gas Surveys

Following completion of this June 2005 soil gas survey, three supplemental investigations were completed. These investigations included soil sampling beneath the building floors in December of 2005, additional soil sampling surrounding the former drywell and MW-16R and MW-16A in March of 2006 and a soil vapor survey completed in December of 2006. The remedial actions proposed in this Work Plan are based on the results of these supplemental investigations.

Soil sampling completed beneath the facility floors in December of 2005 revealed areas of limited contamination. TCE was detected in all of the samples collected and was present at a maximum concentration of 4,700 ug/kg beneath the basement area. 1,1,1 TCA was detected in 12 of the 13 samples at a maximum concentration of 4,900 ug/kg, also beneath the basement area. Xylene was detected in 6 of the 13 samples at a maximum concentration of 26,000 ug/l beneath the main building entry room located immediately south of the loading dock. Although these concentrations were above the site RAOs, they did not appear to be representative of a significant source area capable of causing the spikes observed in groundwater concentrations in 2004 and 2005 in MW-16R and MW-16A

Samples collected in March of 2006 suggested that the VOC concentrations in the vicinity of the former dry well were even lower than those under the building confirming that: the Dual Vacuum Extraction system operated from 1999 through 2002 had successfully reduced the VOC concentrations in the soils in Area B; and the soils in this area were apparently not the cause of the spikes in MW-16R and MW-16A. TCE was detected at a maximum concentration of 390 ug/kg, and 1,1,1 TCA was detected at a maximum concentration of 450, both below their respective RAOs. Xylene was the only constituent detected at a concentration above its respective RAO at 11,500 ug/kg.

Subslab vapor and ambient indoor air sampling completed in December of 2006 confirmed the presence of VOC vapors in the area. TCE was detected at a maximum concentration of 380,000 ug/m^3 in subslab vapors and at a maximum concentration in the building of 16 ug/m^3 both in the main entry room south of the loading docks.

Results from this sampling effort were compared to the New York State Department of Health (NYSDOH) Guidance for evaluating Soil Vapor Intrusion. Based on the concentrations detected in the subslab vapors and the indoor air, the DOH Guidance recommends mitigation.

Base on these supplemental investigations completed in Area B, a source area with high solvent concentrations is not present in Area B or the immediate vicinity; however concentrations above the site RAOs have been detected in the soils beneath the building. These soils below the building were most probably impacted by releases from the dry well formerly located in Area B in the vicinity of MW-16R and MW-16A. They are also affecting air quality below the floor slabs and within the building. The following remedial action design, when implemented, is intended to reduce the concentrations of the VOCs in the soils beneath the building and achieve compliance with the RAOs for the affected soils. The remedial action will also reduce the concentrations of VOCs in the sub-slab vapors and building indoor air and meet the need for mitigation of these elevated vapor concentrations as required by the DOH Guidance.

4.0 PROJECT DESIGN

4.1 REMEDIAL APPROACH

Energy*Solutions* proposes the use of biological remediation in order to reduce these VOC concentrations beneath the building. Energy*Solutions* will provide services which will include the injection of Hydrogen Release Compound (HRC) a proprietary agent produced by Regenesis of San Clemente, California. HRC is used to enhance in situ biodegradation rates for chlorinated hydrocarbons (CHs) by supporting anaerobic reductive dechlorination processes. Reductive dechlorination is now recognized as one of the primary attenuation mechanisms by which chlorinated solvent groundwater plumes can be contained and/or remediated.

HRC is a proprietary polylactate ester that, when deposited into the subsurface, slowly releases lactate. Lactate is metabolized by naturally occurring microorganisms, resulting in the creation of anaerobic aquifer conditions and the production of hydrogen. Naturally occurring microorganisms capable of reductive dechlorination then use the hydrogen to progressively remove chlorine atoms from chlorinated hydrocarbon contaminants.

HRC is manufactured as a viscous gel that can be injected into the saturated zone in a grid or barrier configurations for either localized area or cutoff-based treatment approaches. The use of HRC for groundwater remediation offers a comparatively simple and cost effective remediation alternative for sites that would otherwise require unacceptably long periods of time for natural attenuation or the high levels of capital investment and operating expense associated with active remediation technologies.

Energy*Solutions* will purchase the HRC directly from Regenesis and supervise the injection of the compound by a subcontracted direct push drilling firm. We propose to inject the HRC using a direct push GeoProbe unit. The gel is injected into the subsurface under pressure. Once the compound is injected, it carries the lactate esters to the contaminated soils and groundwater where the reductive dechlorination process begins.

Based on the current design calculations, the proposed remedial action includes the injection of approximately 3,000 pounds of HRC. The design currently includes one application. Additional injections may be performed if needed to reach remedial objectives.

Injection rates have been calculated using reasonable estimates of current subsurface conditions such as dissolved oxygen concentration, pH, oxidation reduction potential, etc. If results from baseline sampling performed immediately before the injection indicate significant variations in the actual conditions, the program may be revised as appropriate. The following data was used to determine the quantity of HRC needed for this site-specific project. The VOC concentrations utilized in the calculations are not the highest detected to date. The highest concentrations only once since monitoring began in 1998 and have not been repeated since June of 2005. The concentrations used are representative of the highest concentrations detected in the area within the past five sampling rounds and are therefore considered to be conservative considering that the current concentrations are significantly below these values. A summary of the available data is included in Appendix C.

- Estimated plume area to be treated: approximately 60 feet x 90 feet^2.
- Representative contaminant concentration: 15,000ug/L TCE; 6,000ug/L cis-DCE; 1,000ug/L 1,1,1-TCA, and 2,000 1,1 DCA
- Contaminated saturated zone thickness requiring treatment: 10 feet (approximately 5 to 15 feet bgs[1])
- Estimated groundwater velocity: For the purposes of this proposal, we assume a groundwater velocity <50 feet/year.
- Current groundwater geochemistry is estimated to be: oxygen 2mg/L, nitrate 1mg/L, potential manganese reduction demand 2mg/L, potential ferric iron reduction demand 15 mg/L, and potential sulfate reduction demand 50 mg/L.

Exact HRC delivery locations should be selected in the field. HRC injection locations may need to be adjusted to take into account the needs of the building tenant, site features such as underground utilities, foundations and footings, thickened slabs in the loading dock area and other site structures.

4.2 INJECTION

HRC is normally applied to the subsurface using direct-push hydraulic equipment or through re-injection wells. The direct push method, will be utilized at the Leica site. Drive rods are pushed to the bottom of the contaminated saturated zone and then HRC is injected as the rods are withdrawn. The minimum recommended rod size of 0.625-inch inner diameter will be used. Also, permanent caps will be installed at injection points to eliminate the need to re-bore the concrete floors in order to facilitate additional injections, if needed.

Based on the site conditions special equipment will be needed to perform the injections in several of the grid locations. Normal personnel access doors are the only means of access to several

[1]bgs = below ground surface

areas where injection is panned including the basement, the entry room area and others. These areas will be serviced by special equipment which can pass through these openings.

The HRC will be injected using an appropriate pump capable of processing a material with a viscosity of 20,000 centipoise, at flow rates of 3 to 10 gallons per minute (11 to 38 liters/minute), and at pressures ranging from 1,000 psig to 1,500 psig (14 to 102 bar).

4.3 PRE INJECTION TESTING

Limited Preliminary testing activities will be performed prior to initiating the injection process. Additional information is needed regarding current groundwater geochemistry in the area. Current dosing rates are based on the following assumptions: dissolved oxygen (DO) <2 mg/L, ferrous iron <5 mg/L, and manganese <5 mg/L. These parameters will be measured immediately before the injection begins and the final dosing rates will be adjusted accordingly. Samples will be collected from MW-16R and MW-16A for the purposes of assessing these parameters.

4.4 REMEDIAL ACTION

Once the pre-injection sampling is completed, the remediation will begin. Injection will be performed at a number of locations up gradient and down gradient of the center of the plume detected beneath the building. The injection points will be designed to address an area of VOC contaminated soil and groundwater between the building and the former dry well approximately 60 feet by 90 feet by ten feet deep.

Fifty two injection points will be installed surrounding the center of the area on the eastern side of the building where the highest VOC concentrations were detected in soil and soil gas sampling in 2005 through 2007. HRC will be injected using GeoProbe push rod injection points and high pressure injection pumps capable of generating a minimum of 1,000 psi pressure.

The HRC will be injected at the rate of 5.5 lbs per vertical foot of injection depth (expected to be from approximately 5 feet bgs to 15 feet bgs). Based on these injection rates, approximately 3,000 lbs of HRC will be injected in the 52 injection points. Final point locations and injection rates will be determined in the field based on the needs of the current facility operator, site features, availability of access to specific areas inside the building and on the loading docks and utility mark-outs. Current plans call for some injection points to be located in a basement area to the south of the loading docks where the floor elevation is approximately four to six feet below grade. The depth of injection will be adjusted accordingly in these basement areas.

Injection points which are located within the loading docks and interior building areas may be installed through the concrete floors. These areas will be cored with a concrete hole saw or with the GeoProbe unit before the injection begins in order to provide access through the concrete. Access to interior building locations including the basement area will be provided using a remotely controlled geoprobe unit. The unit is small enough to be able to fit through a normal three foot door opening. Approximate locations for the injection points are shown on Figure 3. Injection locations will be adjusted in the field based on the needs of SamSon and the actual building configuration.

Permanent injection points will be installed at each of the 52 locations. Based on the proposed injection rates, we anticipate the injection process for the first round will be completed within five days. The permanent injection points will be installed with a seal around the perimeter in order to limit as much as possible the migration of sub-slab gasses into the building. In addition, indoor air sampling will be performed shortly after the injection as described below in order to confirm that the operation has not increased the VOD concentrations inside the building.

4.5 LONG TERM MONITORING

4.5.1 Groundwater

Monitoring of selected wells will be conducted to validate the HRC-based enhancement of reductive dechlorination processes. Also, an initial or "baseline" round of sampling will be performed to identify pre-HRC installation groundwater conditions. After the HRC is delivered to the subsurface, samples will be collected on a regular basis to monitor progress of the remediation program. We anticipate collecting samples quarterly for the first year after the injection. Samples will be collected from existing wells MW-16A, MW-16R, and MW-18. As an integral part of the monitoring process Energy*Solutions* will also install additional new wells at the site including an additional deep well at MW-18 and a new well pair inside the building. The interior wells will be installed in the main warehousing area to the west of the loading docks as shown on Figure 3. These new wells MW-18A and MW-24 and MW-24A will be added to the monitoring program in order to monitor the progress of the remediation down gradient of the injection gallery. Proposed well construction details are included in Appendix A.

The monitoring program will include the measurement of the following field/chemical parameters:

- VOCs by EPA method 8260
- field parameters: dissolved oxygen, ORP, pH, temperature, and ferrous iron (optional field measurement)
- natural attenuation/inorganic parameters: total and dissolved ferrous iron, total and dissolved manganese, nitrate, sulfate, and chloride
- HRC-based electron donor: total organic carbon

4.5.2 Soils

In addition to the groundwater monitoring, soil sampling will also be performed in the injection area in order to assess the success of the remedial action on the soils in the area and confirm the concentrations in this source area have been reduced to the RAOs established in the Record of Decision. This post-injection soil sampling will be performed within six months to a year following the injection.

When the GeoProbe arrives at the site, sampling devices will be advanced in approximately five separate locations in the general vicinity of the center of the proposed injection grid. Soil samples will be collected from these five borings at a depth immediately above the water table. Samples will be collected, handled, and submitted to the laboratory in accordance with

Energy*Solutions* standard sampling protocols. Each sample will be analyzed for the presence of VOCs using EPA method 8260. These results will provide information which will be used to assess the success of the initial injection and aid in determining whether additional injections are needed.

4.5.3 Air

In order to assess the success of the remedial action in relation to the reduction of sub-slab soil vapor and indoor air concentrations, additional air monitoring will also be performed in conjunction with the soil sampling effort. Sub-slab and indoor air samples will be collected at approximately four locations including the basement, the loading dock area, the main entry room immediately south of the loading dock area and in the main warehousing area to the west of the basement. These areas contained the most elevated concentrations discovered during the sampling performed in December 2006. Samples will be collected in accordance with NYSDOH sampling protocols. One round of indoor air samples will be collected within tow weeks of the injection procedure in order to confirm that the injection points within the floors have not allowed additional VOCs to enter the building. Two additional rounds of air sampling will be performed after the injection procedure; the first at six months and the second one year after.

5.O DATA ACQUISITION

5.1 SAMPLING METHOD REQUIREMENTS

5.1.1 Soil, Groundwater and Air Samples

Post-injection soil samples will be collected from locations as specified in paragraph 4.5.2 of the Plan. Soil samples will be collected with the use of a GeoProbe. After surface concrete has been cored using a core drill, a bore hole will be advanced in the soil at each sampling location to a depth immediately above the water table. Once the hole is in place, the sample will be collected using coring sleeves. Each soil sample will be screened using a Photoionization Detector (PID). PID readings will be recorded in the field log book. Post-injection soil samples will be submitted to the laboratory for VOC analysis using EPA method 8260.

Groundwater samples will be collected from the proposed site wells using standard bailers in accordance with semi-annual monitoring procedures currently in use. Samples will be submitted to the laboratory for VOC analysis using EPA method 8260 and the other parameters as specified in Section 4 under Long Term Monitoring.

Indoor air and subslab vapor samples will be collected at the locations noted in Section 4 . Samples will be collected using standard NYSDOH sampling protocols. Collected samples will be submitted to the laboratory for analysis using EPA Method TO-15.

5.1.2 Sample Handling

Soil air and groundwater samples will be collected using disposable latex or nitrile sampling gloves and specified sampling tools. The sampling gloves will be discarded after each sample, and any equipment and tools used at multiple sampling locations will be decontaminated before and after each use to prevent cross-contamination of samples.

5.1.3 Decontamination of Sampling Equipment

Re-useable sampling equipment will be decontaminated prior to use, and following sampling of each subsequent sample using the decontamination procedures outlined in *Decontamination of Field Equipment* SOP Number 82A8499.

Air and sub-slab vapor samples will be collected using Suma canisters designed to sample for a 24 hour period as recommended in the NYSDOH guidelines. Separate canisters will be used for each sample.

5.1.4 Sample Container Preservation and Storage

Soil and groundwater sample container preservation and storage shall follow the requirements outlined in the *Sample Handling SOP* Number 82A8496. Additional requirements for analytical methods, sample containers, preservation, and holding times are contained in Table 6-1. All containers used to collect samples for chemical analysis will be pre-cleaned containers supplied by the laboratory. The containers will be shipped from the laboratory in sealed boxes. Prior to use, the sample bottles will be inspected by Energy*Solutions'* Field Team Leader to verify their integrity. Labeling of the sample jars and the completion of Chain-of-Custody (COC) records will also be performed in accordance with Energy*Solutions' Sample Handling SOP.*

Air sampling canisters will also be provided by the laboratory and delivered to the site sealed. Labeling of the canisters and the completion of Chain-of-Custody (COC) records will also be performed in accordance with Energy*Solutions' Sample Handling SOP.*

Table 5-1

Sample Handling and Analytical Protocols

Parameter	Matrix	Analytical Method	Applicable SOP*	Containers	Preservation	Holding Time
VOCs	soil	8260 analysis	82A8496 (Sample Handling) 82A8497 (Record Keeping) 82A8498 (QC Samples) 82A8499 (Decontamination) 82A8502 (Sample Logs)	4 oz. Glass	4^0 C	14 days
VOCs	water	8260 analysis	82A8496 (Sample Handling) 82A8497 (Record Keeping) 82A8498 (QC Samples) 82A8499 (Decontamination) 82A8502 (Sample Logs)	40 mil. vials	4^0 C	14 days
Metals	Water	200.7/200.8	82A8496 (Sample Handling) 82A8497 (Record Keeping) 82A8498 (QC Samples) 82A8499 (Decontamination) 82A8502 (Sample Logs)	Glass jars	HNO_3 4^0 C	6 months
VOCs	air	TO-15	NYSDOH Guidance	Suma Canisters	None	30 days

* Applicable Standard Operating Procedures (SOPs) are attached to this Plan in Appendix C.

5.2 ANALYTICAL METHOD REQUIREMENTS

The analytical methods to be used for the analysis of samples are contained in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846,* EPA publication number EPA/530-SW-846.3-1). The specific analytical methods to be performed by the laboratory are outlined on Table 5-1.

5.3 QUALITY CONTROL REQUIREMENTS

Quality control samples will be collected in accordance with the *Collection of Quality Control Samples* SOP number 82A8498. The types of quality control samples to be collected in the field are identified in Table 5-2 below.

Table 5-2

Quality Control Sample Frequency

Parameter	Matrix	Sample Type	Frequency
VOCs	Soil, Water	Trip Blank	1/day/20 samples

Laboratory quality control sample data to be provided with the data package will include the following sample results:

- Laboratory Control Spike
- Method Blank
- Matrix Spike/Matrix Spike Duplicate

5.4 INSTRUMENT/EQUIPMENT TESTING, INSPECTION AND MAINTENANCE

Field instrumentation to be used at the Site (photoionization detector) will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the instrument manufacturer's specifications. Copies of the calibration and operation instructions from the manufacturer will be kept with the instrument when it is used at the Site. It is the Field Team Leader's and/or Safety Officer's responsibility to be familiar with these instructions. Calibration records will be documented in the field logs to provide a historical record of instrument performance.

Equipment to be used in the field during field sampling will be examined daily to verify that it is in good operating condition. This includes checking the manufacturers' operating manual to ensure that all maintenance requirements are being observed. Preventative maintenance will be conducted for equipment to ensure the accuracy of measurement systems.

5.5 INSPECTION/ACCEPTANCE REQUIREMENTS FOR SUPPLIES AND CONSUMABLES

Instrumentation and monitoring equipment will be checked before it is taken to the job site and prior to each use. Defective equipment will be taken out of service for repair.

5.6 DATA MANAGEMENT

5.6.1 Field Data

Field data collected during this project will be managed in accordance with the following Standard Operating Procedures that are contained in Appendix C.

- Field Record Keeping - SOP #82A8497
- Lithologically Describing and Logging Soil Samples – SOP #82A8502
- Collecting Soil and Sediment Samples – SOP #82A8504
- Reviewing Data Tables – SOP #82A8515

The field data collected will be managed using forms and bound field notebooks. Laboratory data will be transcribed onto a computer-based management system. This data will be summarized in a manner that provides efficiency in data reduction, tabulation, and evaluation. All measurements taken during this project will be identified by source, type, and sample location to avoid ambiguity. Field records will include the following minimum information:

- a chronological listing of significant site events and sampling activities;
- site name, field team members, signature, and date on each page;
- site conditions, notes or sketches of sampling locations and sample descriptions;
- sample times;
- record of all measurements (e.g. field screening parameters);
- boring logs;
- photographic log (if taken); and
- well completion reports.

5.6.2 Laboratory Data

The laboratory will be responsible for maintaining analytical logbooks and laboratory data as well as a sample inventory for submittal to Energy*Solutions* on an as-required basis. Samples will be maintained by the laboratory for a period of at least 30 days after issuance of the final report by the consultant under the conditions prescribed by the appropriate analytical methods for additional analysis, if necessary. Raw laboratory data files will be maintained by the laboratory for a period of 5 years, at which time the records will be destroyed.

Evidentiary files for the analytical portion of the project will be maintained by the laboratory and will consist of the following records:

- Project-related plans;
- Project login data;
- Sample identification documents;
- Chain-of-Custody records;
- Project-related correspondence;
- Raw data sheets QC data;
- Copies of all final reports pertaining to the project;
- Sample preparation records.

The evidentiary file materials will be the responsibility of the laboratory's representative with respect to maintenance and document removal. All laboratory deliverables are to include a complete data report including all QA/QC documentation necessary to perform full data validation.

APPENDIX A

FIGURES

Figure 1: Vicinity Map

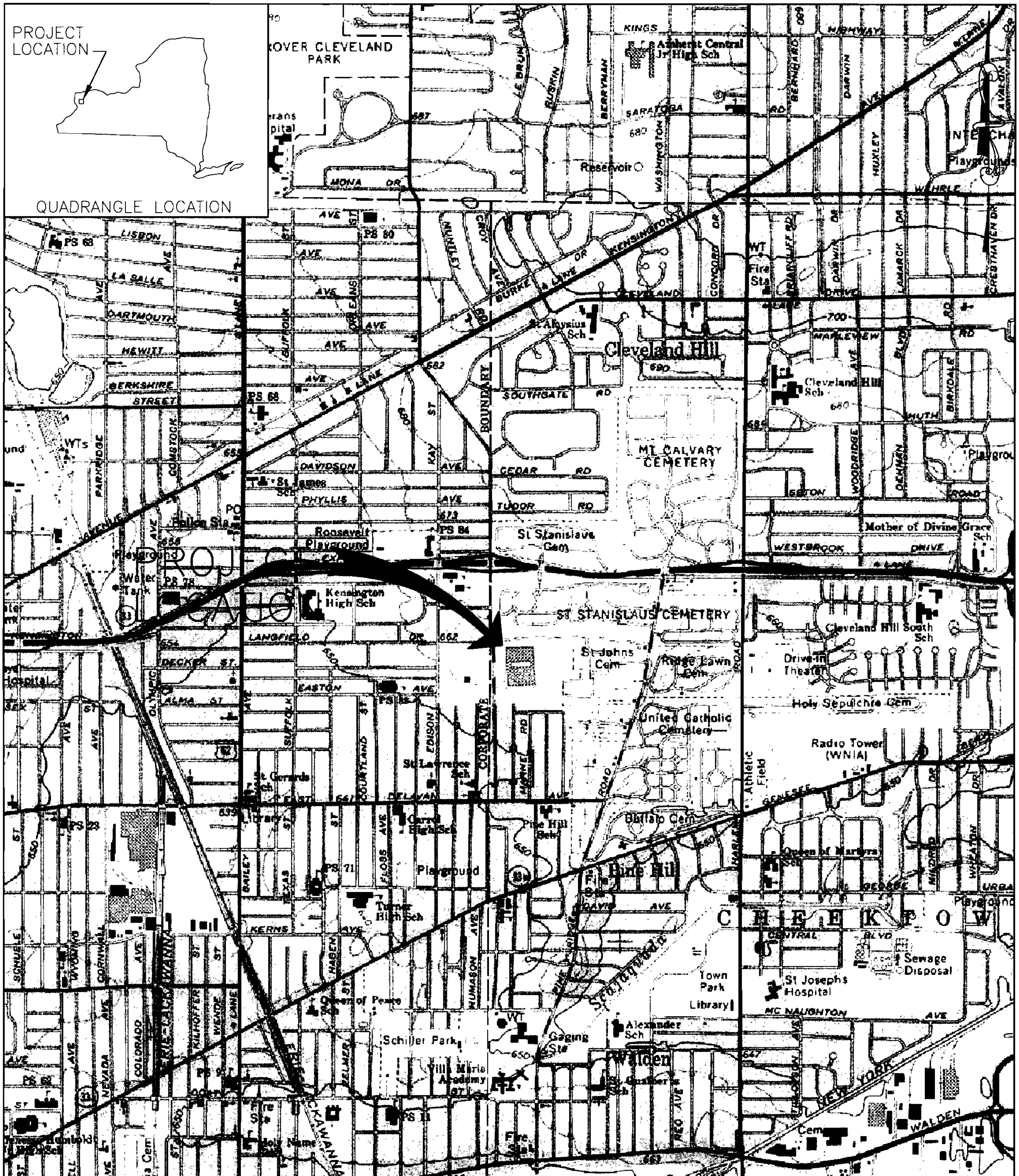
Figure 2: Site Map

Figure 3: Site Drawing of Proposed Injection Points

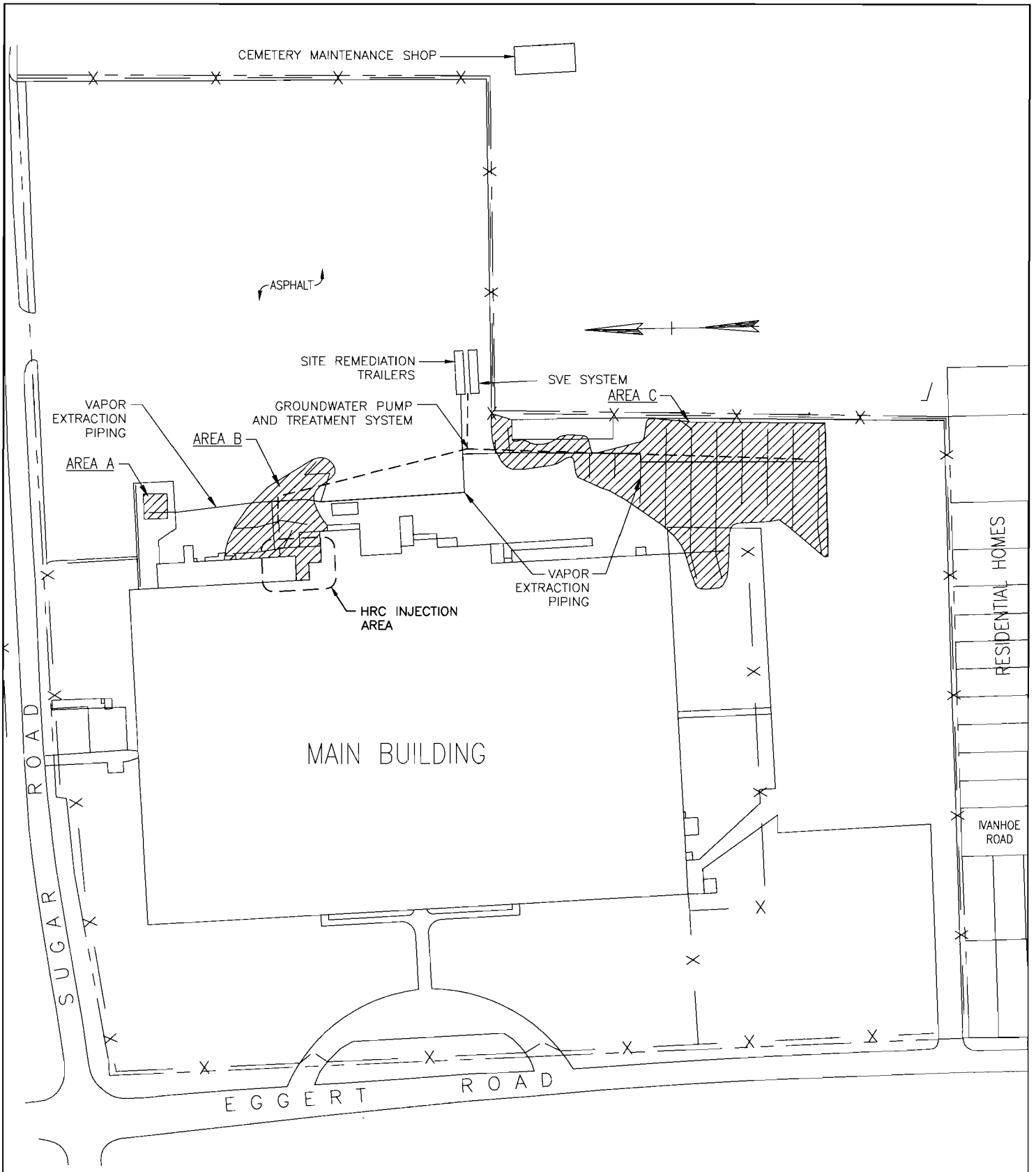
Figure 4: Well Locations

Figure 5: Shallow Well Detail

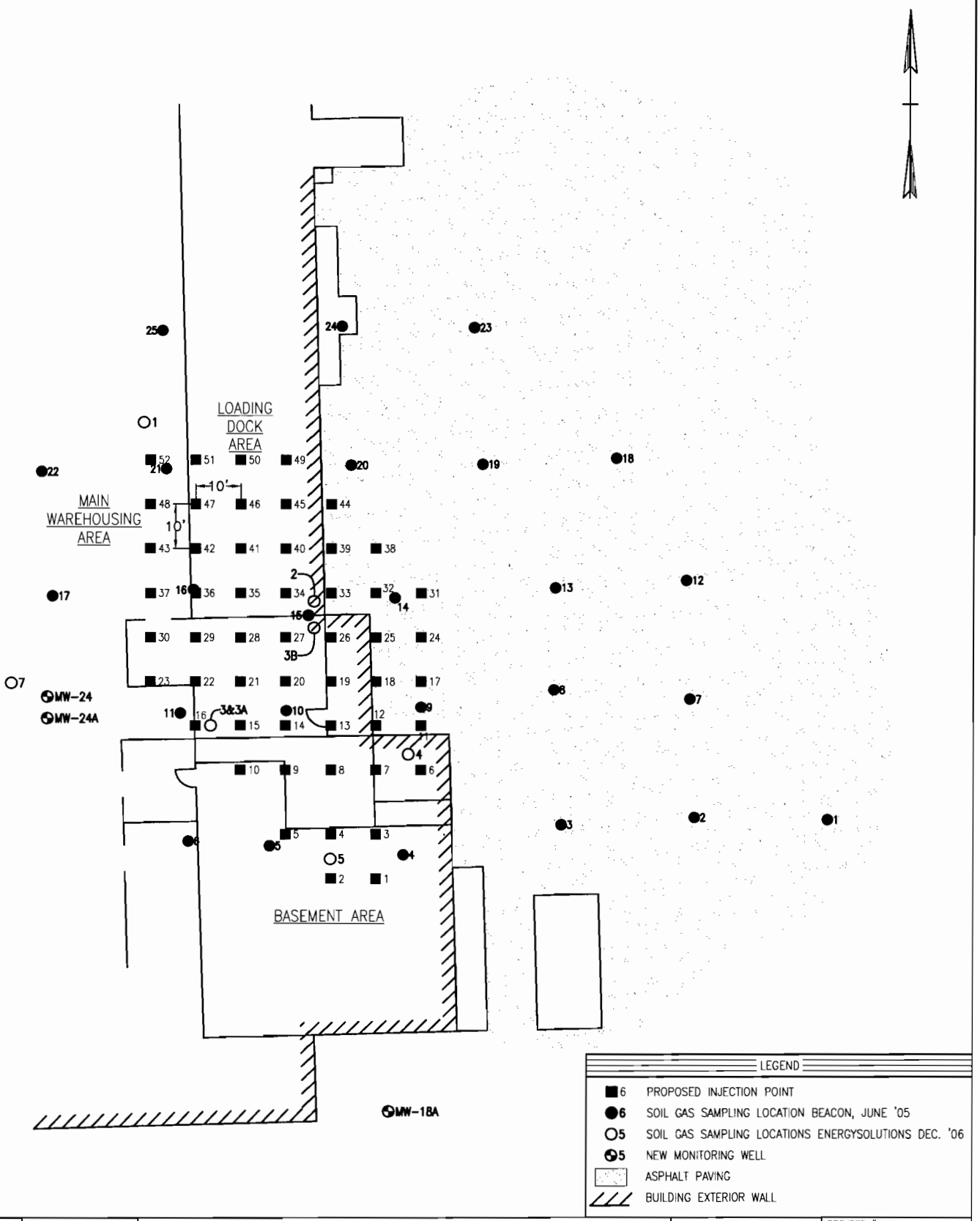
Figure 6: Bedrock Well Detail



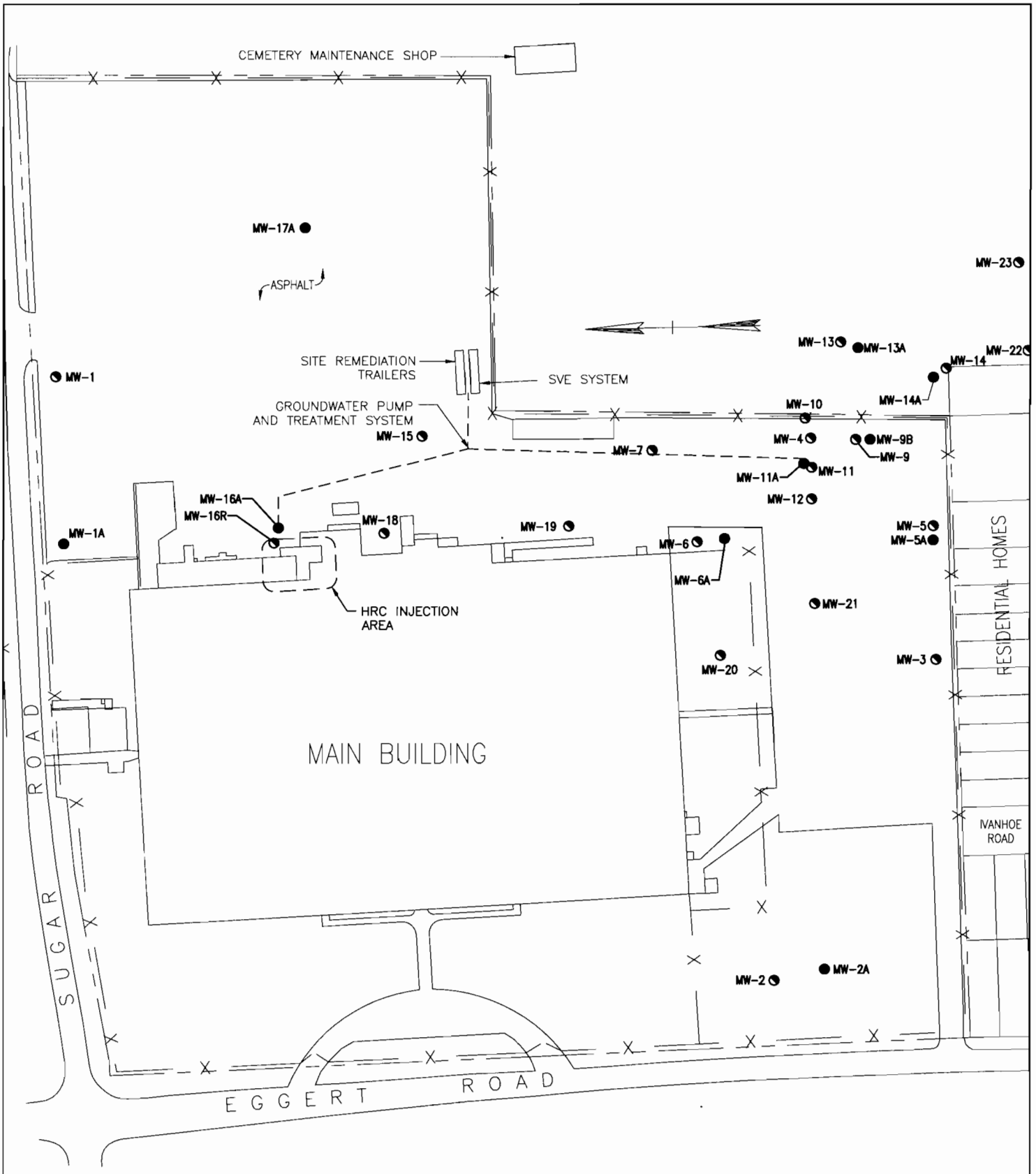
DOCUMENT CONTROL NO.	*PROJECT*	LEICA, INC. EGGERT & SUGAR ROADS CHEEKOTOWAGA, NEW YORK	ENERGYSOLUTIONS	PROJECT # *137015-0002* FILENAME: *137015-001*
			THE BLEACHERY 143 WEST STREET NEW MILFORD, CT. 06776 (860) 355-8194	SCALE: *1" =2000'* DATE: *9/27/07*
REVISION NO.	*DRAWING*	SITE VICINITY MAP U.S.G.A. QUADRANGLE: BUFFALO, NY NE		BY: *MR* CK: *RM*
				FIGURE # *1*



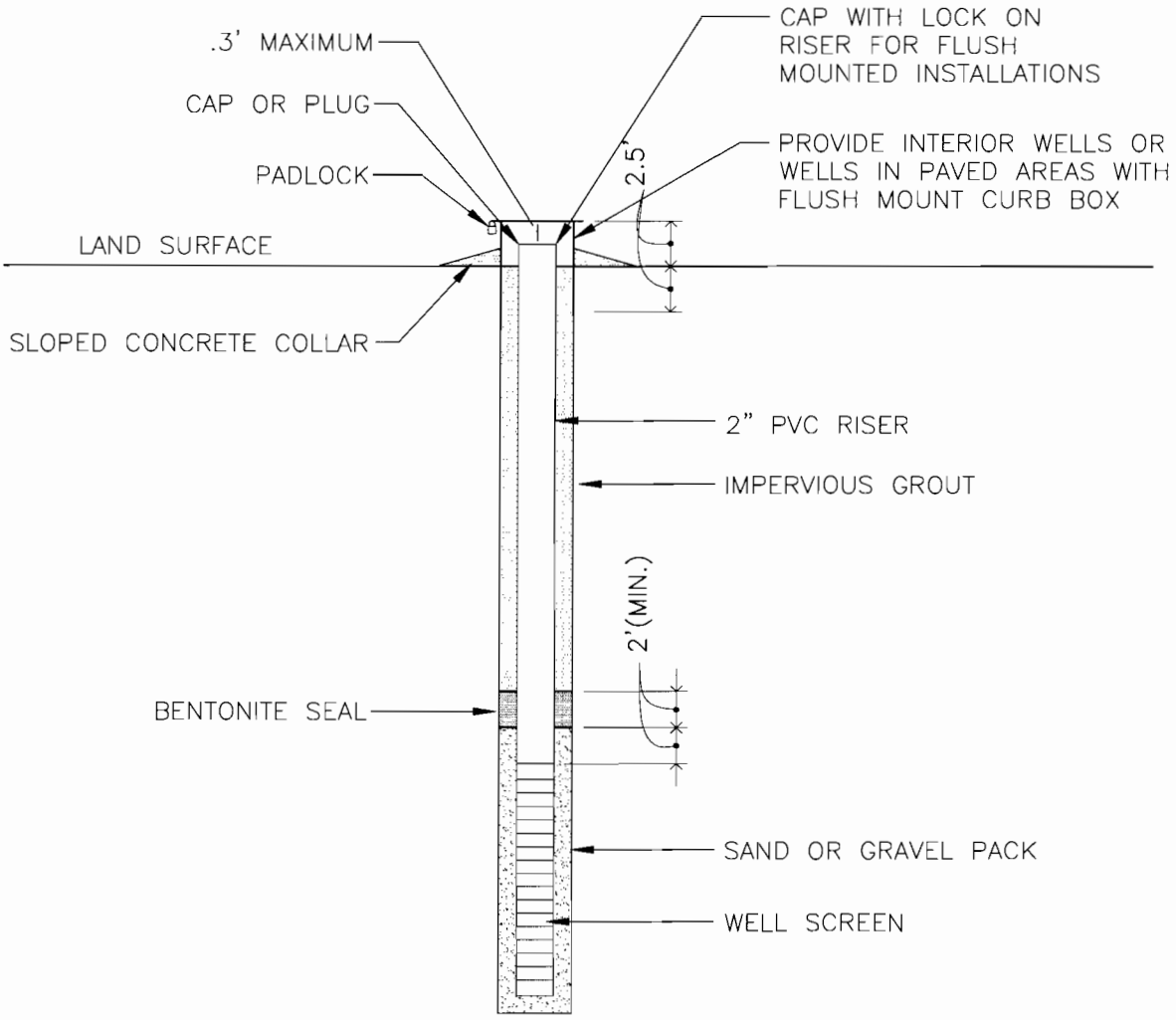
DOCUMENT CONTROL NO.	PROJECT	LEICA, INC. EGGERT & SUGAR ROADS CHEEKOTOWAGA, NEW YORK	ENERGY SOLUTIONS THE BLEACHERY 143 WEST STREET NEW MILFORD, CT. 06776 (860) 355-8194	PROJECT # 137015-0002 FILENAME: 137015-002 SCALE: 1" =300' DATE: 9/27/07 BY: MR CK: RM FIGURE # 2
REVISION NO.	DRAWING	SITE PLAN		



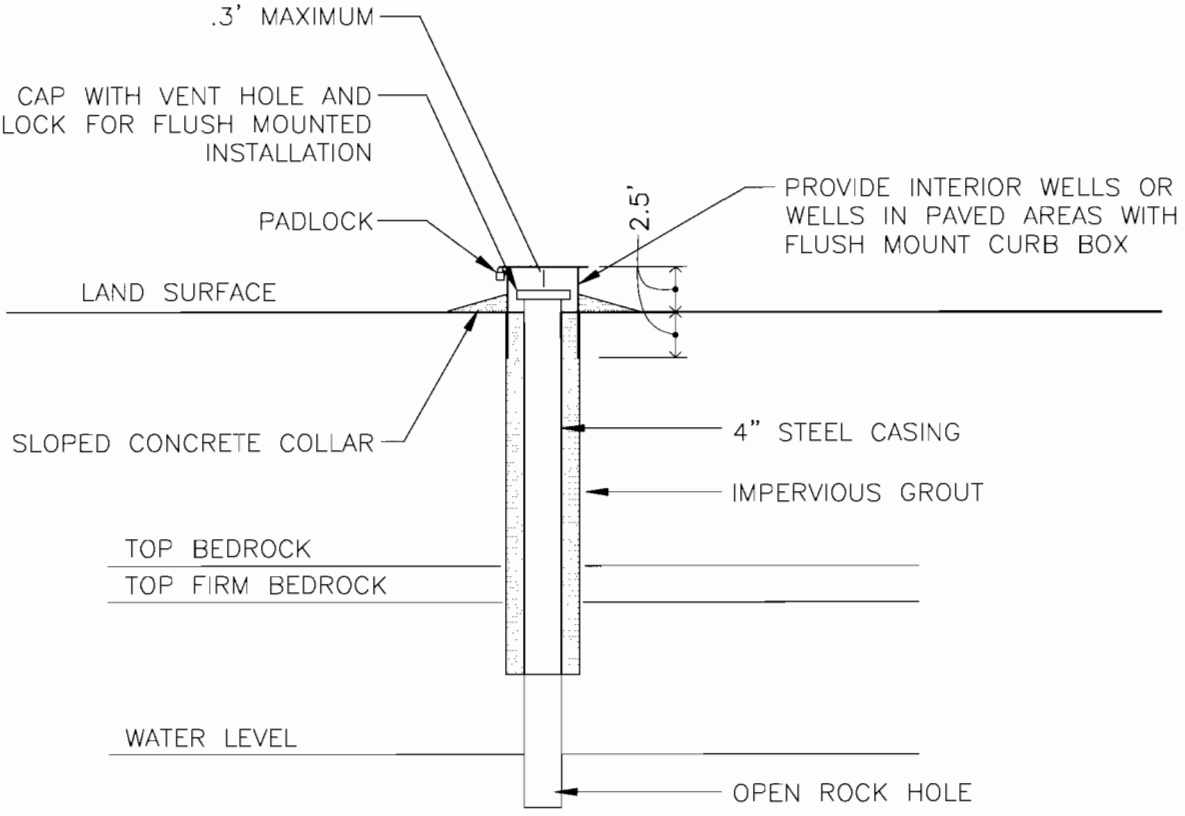
DOCUMENT CONTROL NO.	PROJECT	LEICA, INC. EGGERT & SUGAR ROADS CHEEKOTOWAGA, NEW YORK	ENERGYSOLUTIONS THE BLEACHERY 143 WEST STREET NEW MILFORD, CT. 06776 (860) 355-8194	PROJECT # 137015-0002 FILENAME: 137015-003 SCALE: 1" =30' DATE: 9/27/07 BY: MR CK: RM FIGURE # 3
REVISION NO.	DRAWING	PROPOSED HRC INJECTION POINT LOCATIONS		



DOCUMENT CONTROL NO.	PROJECT	LEICA, INC. EGGERT & SUGAR ROADS CHEEKOTOWAGA, NEW YORK	ENERGYSOLUTIONS THE BLEACHERY 143 WEST STREET NEW MILFORD, CT. 06776 (860) 355-8194	PROJECT # 137015-0002 FILENAME: 137015-002 SCALE: 1" =300' DATE: 9/27/07 BY: MR CK: RM FIGURE # 4
REVISION NO.	DRAWING	WELL LOCATIONS		



DOCUMENT CONTROL NO.	PROJECT	LEICA, INC. EGGERT & SUGAR ROADS CHEEKOTOWAGA, NEW YORK	ENERGYSOLUTIONS THE BLEACHERY 143 WEST STREET NEW MILFORD, CT. 06776 (860) 355-8194	PROJECT # 137015-0002 FILENAME: 137015-003 SCALE: NONE DATE: 9/27/07 BY: MR CK: RM FIGURE # 5
REVISION NO.	DRAWING	SHALLOW WELL DETAIL		



DOCUMENT CONTROL NO.	PROJECT	LEICA, INC. EGGERT & SUGAR ROADS CHEEKOTOWAGA, NEW YORK	ENERGYSOLUTIONS THE BLEACHERY 143 WEST STREET NEW MILFORD, CT. 06776 (860) 355-8194	PROJECT # 137015-0002 FILENAME: 137015-003 SCALE: NONE DATE: 9/27/07 BY: MR CK: RM FIGURE # 6
REVISION NO.	DRAWING	BEDROCK WELL DETAIL		

APPENDIX B:

DATA TABLES

Table 1A and 1B: Groundwater Data as of May 2007

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-1A						
Sample Collection Date:					Mar-25-05	June 26-05	Oct-24-05	Jan-05-06	Mar-17-06	July-13-06	May-02-06
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)											
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	ND	ND	ND	**5.3**	ND	ND	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	ND	ND	ND	ND	ND	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					0	0	0	5	0	0	0
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effluent Sample only)
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Dete: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-3
Sample Collection Date:					May-02-06
Dilution:					1.00
Volatile Organic Compounds (ug/l)					
acetone	67641	20	-	-	ND
benzene	71432	5.0	-	**142**	ND
bromodichloromethane	75274	5.0	-	-	ND
bromoform	75252	5.0	-	-	ND
bromomethane	74839	5.0	-	-	ND
2-butanone (MEK)	78933	10	-	-	ND
carbon disulfide	75150	10	-	-	ND
carbon tetrachloride	56235	5.0	-	-	ND
chlorobenzene	108907	5.0	-	**310**	ND
chloroethane	75003	5.0	-	**420**	ND
chloroform	67663	5.0	-	-	ND
chloromethane	74873	5.0	-	-	ND
dibromochloromethane	124481	5.0	-	-	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND
1,2-dichloroethane	107062	5.0	-	-	ND
1,1-dichloroethene	75354	5.0	-	-	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND
1,2-dichloropropane	78875	5.0	-	-	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND
2-hexanone	591786	10	-	-	ND
methylene chloride	75092	5.0	-	**2,062**	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND
styrene	100425	5.0	-	-	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND
tetrachloroethene	127184	5.0	-	**267**	ND
toluene	108883	5.0	**5**	**680**	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND
trichloroethene	79016	5.0	**5**	**712**	ND
vinyl chloride	75014	5.0	**5**	**3**	ND
o-xylene	95476	5.0	**5**	**2,080**	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND
TOTAL VOCs					0
TPH Treatment SystemEffluent Only				100,000	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-4												
Sample Collection Date:					Base	Jun-22-00	Aug-21-00	Nov-30-00	Dec-19-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03
Dilution:					1,000.00	4.00	2.00	2.00	1.00	5.00	1.00	5.00	NA	1 or 20	10.00	NA	2.00
Volatile Organic Compounds (ug/l)																	
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**110,000**	**460**	**280**	**940**	*490 E*	**580**	**190**	**480**	NCD	**2,200**	**1,700**	NCD	**260**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	2.2	ND	NCD	**26**	ND	NCD	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
trichloroethene	79016	5.0	**5**	**712**	**41,000**	**130**	**200**	**120**	**49**	**62**	**24**	**36**	NCD	**70**	ND	NCD	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	**27**	ND	**25**	**6**	ND	ND	ND	NCD	**340**	**570**	NCD	**130**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND
TOTAL VOCs					151,000	617	480	1,085	545	642	216.2	516	NCD	2,636	2,270	NCD	390
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-4 Cont.													
Sample Collection Date:					Feb-05-04	May-25-04	May-25-04	Sept-26-04	Dec-21-04	Dec-21-04	March-24-05	March-24-05	June-26-05	Oct-24-05	Jan-04-06	Jan-4-06	Mar-17-06	Mar-17-06
Dilution:					2.00	2.00	5.00	1.00	1.00	5.00	1.00	2.50	1.00	2.00	1.00	2.00	2.00	2.50
Volatile Organic Compounds (ug/l)																		
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**310**	*590 E*	**560**	**180**	*380 E*	**330**	*360E*	**320**	**79**	**180**	**330E**	**320**	**420 E**	**420 D**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	**6.9**	ND	**5.80**	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**20**	**18**	ND	**8.8**	**5.6**	ND	**7.2**	ND	**6.8**	ND	**6.7**	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**100**	**270**	**270**	**120**	*230 E*	**220**	*240E*	**200**	**93**	**190**	**220E**	**220**	**180**	**170**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					430	288	830	309	13	550	13	520	179	370	7	540	180	170
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-5
Sample Collection Date:					May-02-07
Dilution:					1.00
Volatile Organic Compounds (ug/l)					
acetone	67641	20	-	-	ND
benzene	71432	5.0	-	**142**	ND
bromodichloromethane	75274	5.0	-	-	ND
bromoform	75252	5.0	-	-	ND
bromomethane	74839	5.0	-	-	ND
2-butanone (MEK)	78933	10	-	-	ND
carbon disulfide	75150	10	-	-	ND
carbon tetrachloride	56235	5.0	-	-	ND
chlorobenzene	108907	5.0	-	**310**	ND
chloroethane	75003	5.0	-	**420**	ND
chloroform	67663	5.0	-	-	ND
chloromethane	74873	5.0	-	-	ND
dibromochloromethane	124481	5.0	-	-	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND
1,2-dichloroethane	107062	5.0	-	-	ND
1,1-dichloroethene	75354	5.0	-	-	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND
1,2-dichloropropane	78875	5.0	-	-	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND
2-hexanone	591786	10	-	-	ND
methylene chloride	75092	5.0	-	**2,082**	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND
styrene	100425	5.0	-	-	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND
tetrachloroethene	127184	5.0	-	**267**	ND
toluene	108883	5.0	**5**	**680**	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,850**	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND
trichloroethene	79016	5.0	**5**	**712**	ND
vinyl chloride	75014	5.0	**5**	**3**	ND
o-xylene	95476	5.0	**5**	**2,080**	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND
TOTAL VOCs					0
TPH Treatment SystemEffluent Only				100,000	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-5A
Sample Collection Date:					May-03-07
Dilution:					1.00
Volatile Organic Compounds (ug/l)					
acetone	67641	20	-	-	ND
benzene	71432	5.0	-	**142**	ND
bromodichloromethane	75274	5.0	-	-	ND
bromoform	75252	5.0	-	-	ND
bromomethane	74839	5.0	-	-	ND
2-butanone (MEK)	78933	10	-	-	ND
carbon disulfide	75150	10	-	-	ND
carbon tetrachloride	56235	5.0	-	-	ND
chlorobenzene	108907	5.0	-	**310**	ND
chloroethane	75003	5.0	-	**420**	ND
chloroform	67663	5.0	-	-	ND
chloromethane	74873	5.0	-	-	ND
dibromochloromethane	124481	5.0	-	-	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND
1,2-dichloroethane	107062	5.0	-	-	ND
1,1-dichloroethene	75354	5.0	-	-	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**12**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND
1,2-dichloropropane	78875	5.0	-	-	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND
2-hexanone	591786	10	-	-	ND
methylene chloride	75092	5.0	-	**2,082**	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND
styrene	100425	5.0	-	-	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND
tetrachloroethene	127184	5.0	-	**267**	ND
toluene	108883	5.0	**5**	**680**	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND
trichloroethene	79016	5.0	**5**	**712**	ND
vinyl chloride	75014	5.0	**5**	**3**	**16**
o-xylene	95476	5.0	**5**	**2,080**	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND
TOTAL VOCs					28
TPH Treatment SystemEffluent Only				100,000	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-6										
Sample Collection Date:					Base	Mar-29-00	Mar-29-00	Jun-22-00	Mar-27-01	Jun-13-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03
Dilution:					10.00	1.00	2.50	1.00	1.00	1.00	1.00	1.00	1.00	NA	1.00
Volatile Organic Compounds (ug/l)															
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**1,200**	*450 E*	**420**	**190**	**48**	**60**	**41**	**44**	**42**	NCD	**53**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	1.2	ND	NCD	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
trichloroethene	79016	5.0	**5**	**712**	ND	**61**	**63**	**34**	**11**	**18**	**14**	**17**	**15**	NCD	**18**
vinyl chloride	75014	5.0	**5**	**3**	**120**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND
TOTAL VOCs					1,320	511	483	224	59	78	55	62.2	57	NCD	71
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-6 Cont.											
Sample Collection Date:					Mar-27-03	Jul-11-03	Oct-21-03	Feb-05-04	May-25-04	Sept-26-04	Dec-21-04	Mar-24-05	Jan-04-06	Mar-17-06	Dec-18-06	May-02-07
Dilution:					1.00	NA	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)																
acetone	67641	20	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**53**	NCD	NCD	**75**	**89**	**92**	**78**	**110**	**110**	**120**	**130**	**190**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,850**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**16**	NCD	NCD	**19**	**18**	**19**	**19**	**20**	**20**	**20**	**23**	**22**
vinyl chloride	75014	5.0	**5**	**3**	ND	NCD	NCD	ND	ND	ND	ND	5.0	**6.6**	**6.0**	**7.8**	**5.8**
o-xylene	95476	5.0	**5**	**2,080**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	NCD	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					69	NCD	NCD	94	107	111	97	135	137	146	161	218
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-6A (Deep Well)													
Sample Collection Date:					Base	Jun-22-00	Mar-27-01	Jun-13-01	Jun-13-01	Sep-28-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03
Dilution:					20.00	2.50	5.00	5.00	10.00		5.00	5.00	10.00	5.00	2.00	2.00	2.00	2.00
Volatile Organic Compounds (ug/l)																		
acetone	67641	20	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	NCD	ND	5.2	ND	ND	ND	12	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**3,900**	**380**	**780**	*1,400 E*	**1,400**	NCD	**460**	**590**	**930**	**950**	**250**	**410**	**310**	**380**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	**34**	**40**	ND	NCD	ND	**26**	ND	**45**	**11**	**17**	**11**	**19**
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	NCD	ND	**8**	ND	ND	ND	**19**	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**240**	ND	**230**	**690**	**750**	NCD	**230**	**290**	**140**	**820**	**65**	**260**	**92**	**120**
o-xylene	95478	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	**120**	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					4,260	380	1,044	730	2,150	NCD	690	918.8	1,070	1,815	326	718	413	519
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-6A (Deep Well) Cont.															
Sample Collection Date:					Feb-05-04	May-25-04	Sept-26-04	Dec-21-04	Mar-24-05	Mar-24-05	June 26-05	Oct-24-05	Oct-24-05	Jan-04-06	Mar-17-06	Mar-17-06	July-13-06	Dec-18-06	May-02-07	May-02-07
Dilution:					2.00	2.00	2.00	2.00	2.00	2.50	2.50	2.50	5.00	1.00	1.00	5.00	2.50	1.00	1.00	2.50
Volatile Organic Compounds (ug/l)																				
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**350**	**380**	**360**	**370**	*440E*	**420**	**390**	*510E*	**500**	**91**	**650 E**	**580 D**	**390**	**140**	*380E*	**360D**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	**18**	**12**	**12**	**16**	**17**	**20**	**17**	**18**	ND	ND	**17**	ND	**14**	ND	**11**	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**880**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,850**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	**28**	**18**	**16**	**32**	**33**	ND	ND	ND	ND	**21**	ND	ND	ND	**10**	ND
vinyl chloride	75014	5.0	**5**	**3**	**99**	**96**	**120**	**150**	**140**	**140**	**96**	**240**	**230**	**23**	**250 E**	**220 D**	**110**	**47**	**160**	**170**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					467	526	510	552	189	613	503	258	730	114	43	0	514	187	561	530
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundweter
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Renge (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-7										
Sample Collection Date:					Base	Mar-29-00	Mar-29-00	Jun-13-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03
Dilution:					10.00	1.00	2.50	1.00	1.00	1.00	NA	1.00	1.00	NA	NA
Volatile Organic Compounds (ug/l)															
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
benzene	71432	5.0	-	**142**	140	8.7	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	7	ND	NCD	ND	ND	NCD	NCD
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**900**	*330 E*	**310**	**160**	**52**	**23**	NCD	**43**	**27**	NCD	NCD
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	**64**	**8.6**	ND	ND	**22**	ND	NCD	ND	ND	NCD	NCD
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	NCD
trichloroethene	79016	5.0	**5**	**712**	ND	**10**	ND	**12**	**12**	ND	NCD	**6**	**5**	NCD	NCD
vinyl chloride	75014	5.0	**5**	**3**	**1,600**	**8**	ND	ND	**56**	ND	NCD	ND	ND	NCD	NCD
o-xylene	95476	5.0	**5**	**2,080**	ND	**19**	**18**	ND	ND	ND	NCD	ND	ND	NCD	NCD
m+p xylene	108383/106423	5.0	**5**	**total**	ND	**29**	**29**	ND	ND	ND	NCD	ND	ND	NCD	NCD
TOTAL VOCs					2,704	83.1	357	172	149	23	NCD	49	32	NCD	NCD
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-7 Cont.						
Sample Collection Date:					Feb-05-04	May-25-04	Sept-26-04	Dec-21-04	Mar-24-05	Jan-4-06	Mar-17-06
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)											
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**25**	**50**	**53**	**54**	**64**	**110**	**100**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	**5.4**	**5.9**
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,564**	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	**5.6**	**6.4**	**6**	**6.5**	5.0	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	**8.0**	**11**	**8**	**11**	**17**	**13**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					25	63.6	70.4	68.0	81.5	137.4	118.9
TPH Treatment SyetemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effl
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-10													
Sample Collection Date:					Base	Mar-27-01[1]	Jun-13-01	Jun-13-01	Dec-19-01	Mar-20-02	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03	Oct-21-03
Dilution:					100.0	50.00	2.00	10.00	1.00	1.00	2.00	1.00	NA	2.00	2.00	NA	2.00	10.00
Volatile Organic Compounds (ug/l)																		
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**16,000**	**6,300**	*450 E*	**460**	**96**	*220 E*	**220**	**160**	NCD	**210**	**360**	NCD	*1,500 E*	**1,600**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	2.8	2.7	ND	NCD	ND	ND	NCD	**13**	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	**1,500**	*460 E*	**470**	**30**	**47**	**48**	**57**	NCD	**78**	**130**	NCD	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**5,800**	ND	**27**	ND	ND	ND	ND	ND	NCD	ND	**21**	NCD	**110**	**110**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	NCD	ND	ND
TOTAL VOCs					21,800	7,800	27	930	126	49.8	270.7	217	NCD	288	511	NCD	123	1,710
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Eff)
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-10 Cont.															
Sample Collection Date:					Feb-05-04	Feb-05-04	May-25-04	Sept-26-04	Dec-21-04	Mar-24-05	Mar-24-05	June-26-05	June-26-05	Oct-23-05	Jan-04-06	Jan-04-06	Mar-17-06	Mar-17-06	Dec-18-06	May-02-07
Dilution:					2.00	5.00	5.00	2.00	2.50	2.00	2.50	2.50	5.00	2.50	1.00	2.00	2.00	2.50	2.00	1.00
Volatile Organic Compounds (ug/l)																				
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	*840 E*	**850**	**540**	**130**	**300**	**310**	**270**	*800E*	**760**	**320**	**210E**	**200**	**270**	**260**	**220**	**160**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	**15**	ND	ND	**12**	ND	**15**	**14**	**25**	ND	ND	**7.8**	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,884**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,850**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	*ND*	ND	ND	ND	ND	ND	ND	**18**	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	*440 E*	**480**	**420**	**270**	**150**	*420E*	**360**	*780E*	**750**	**150**	**140**	**140**	**430 E**	**430 D**	**72**	**71**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					15	1,330	960	412	450	325	644	43	1,510	470	148	340	270	260	292	231
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Eff
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	Groundwater Treatment Effluent												
Sample Collection Date:					Jan-01	Feb-01	Mar-01	Jun-01	Sep-01	Dec-01	Jan-20-03	Mar-27-03	Mar-27-03	Jul-11-03	Oct-21-03	Feb-06-04	May-25-04
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	NA	1.00	2.50	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)																	
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	8.1	ND	NSPD	40	38	ND	ND	9.7	19
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**140**	**75**	**47**	**90**	**200**	**24**	NSPD	*390 E*	**360**	ND	38	150	*240 E*
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,002**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	NSPD	**43**	**40**	ND	ND	9.3	65
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	**6**	**13**	**38**	ND	NSPD	*270 E*	**250**	ND	5.5	24	70
vinyl chloride	75014	5.0	**5**	**3**	**23**	**7**	ND	**5**	**17**	ND	NSPD	**68**	**60**	ND	ND	**23**	**57**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND	ND
TOTAL VOCs					163	82	53	108	263	24	NSPD	151	748	ND	43.5	216	211
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Eff)
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:REM
Date: 1/15/07
Checked by: PM
Date:1/30/07

Table 1A (Wells 1-10 Treated Discharge)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	Groundwater Treatment Effluent Cont.										
Sample Collection Date:					May-25-04	Sept-26-04	Dec-21-04	Mar-25-05	June-27-05	Oct-23-05	Jan-04-06	Mar-17-06	July-11-06	Dec-18-06	May-02-07
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)															
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	230	ND	ND	ND	ND	32	17	33	15	10	38
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	67	ND	ND	ND	ND	5.8	ND	5.6	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**52**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					426	ND	19	0	0	37.8	17	36.6	15	10	38
TPH Treatment SystemEffluent Only				100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Eff)
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
1 = EnergySolutions believes that MW10 and MW-11 were accidentally switched (corrected in table)
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] (1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-11 (Well removed during excavation on May 18, 2003)											
Sample Collection Date:					Jun-22-00	Aug-21-00	Nov-30-00	Mar-27-01[1]	Jun-13-01	Dec-19-01	Mar-20-02	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03
Dilution:					5or20	10.00	2.50	10.00	10.00	5.00	5.00	10.00	2.00	NA	20.00	25.00
Volatile Organic Compounds (ug/l)																
acetone	67641	20	-	-	110	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**1,200**	**500**	**440**	**450**	**1,300**	**900**	*1,200 E*	**990**	**300**	NCD	**2,900**	**4,200**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	**9.8**	ND	ND	NCD	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
ethylbenzene	100414	5.0	**5**	**1,554**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**2,100**	**1,200**	**260**	**990**	**1200**	**140**	**150**	**130**	**51**	NCD	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	ND	**21**	ND	ND	**140**	**28**	ND	**10**	NCD	ND	**150**
o-xylene	95476	5.0	**5**	**2,080**	**26**	ND	ND	ND	ND	**140**	ND	ND	ND	NCD	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	**27**	ND	ND	ND	ND	**140**	ND	ND	ND	NCD	ND	ND
TOTAL VOCs					3,465	1,700	721	1,440	2,500	1,460	187.8	1,120	361	NCD	2,900	4,350

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chamical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effluent Sample only)
ND = Not Detected
E = Exceeds Calibration Range (Thase values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible] 1
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] 1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-11A (Deep Well)														
Sample Collection Date:					Mar-29-00	Jun-22-00	Nov-30-00	Mar-27-01	Jun-13-01	Sep-28-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03	Feb-06-04	Feb-06-04
Dilution:					100.00	25.00	10.00	10.00	10.00	5.00	5.00	5.00	5.00	2.50	NA	5.00	2.50	2.50	2.50	10.00
Volatile Organic Compounds (ug/l)																				
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**13,000**	**3,000**	**1,400**	**1,100**	**1,000**	**600**	**830**	**610**	**420**	**250**	NSPD	**550**	**320**	**340**	*590 E*	**580**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	**19**	ND	ND	NSPD	**14**	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	**72**	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**9,000**	**1,800**	**960**	**660**	**1,000**	**580**	**820**	**820**	**580**	**340**	NSPD	**710**	**170**	**38**	*950 E*	**960**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
TOTAL VOCs					22,000	4,800	2,432	1,760	2,000	1,180	1,650	1,449	1,000	590	NSPD	1,274	490	378	0	1,540

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1 1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-11A Cont.													
Sample Collection Date:					May-25-04	May-25-04	Sept-26-04	Dec-21-04	Mar-25-05	June-27-05	Oct-23-05	Jan-05-06	Jan-05-06	Mar-17-06	July-11-06	Dec-18-06	Dec-18-06	May-02-07
Dilution:					2.00	5.00	5.00	5.00	5.00	5.00	5.00	2.00	5.00	2.50	2.50	2.00	5.00	5.00
Volatile Organic Compounds (ug/l)																		
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**265**	*500 E*	**610**	**600**	**540**	**520**	**420**	**400**	*540E*	**540**	**460**	**310**	*450E*	**420D**	**490**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**880**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	*740 E*	**900**	**980**	**750**	**790**	**500**	**510**	*660E*	**720**	**470**	**340**	*560E*	**540D**	**500**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					0	1,510	1,580	1,290	1,310	920	910	0	1,260	930	650	0	960	990

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment Systam Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepa
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1 1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-14															
Sample Collection Date:					Base	Mar-29-00	Mar-29-00	Jun-22-00	Aug-21-00	Nov-30-00	Mar-27-01	Jun-13-01	Jun-13-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	March-27-03	Jul-11-03
Dilution:					2.00	2.50	1.00	2.00	2.00	2.50	2.00	2.00	5.00	2.00	2.00	2.00	NA	2.00	1.00	1.00
Volatile Organic Compounds (ug/l)																				
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**360**	**360**	*390 E*	**390**	**290**	**440**	**360**	*430 E*	**410**	**350**	**340**	**390**	NCD	**310**	**160**	*320 E*
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	**6.5**	ND	ND	ND	ND	ND	ND	ND	**9.2**	ND	NCD	ND	ND	ND
1,2-dichloropropene	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
toluene	108883	5.0	**5**	**880**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**150**	**170**	**170**	**140**	**77**	**160**	**30**	**62**	**44**	**36**	**26**	**40**	NCD	**62**	**37**	**140**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND
TOTAL VOCs					510	530	176.5	530	367	600	390	62	454	386	375.2	430	NCD	372	197	140

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effluent)
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prepared by:[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible]1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-14 Cont.														
Sample Collection Date:					Jul-11-03	Oct-21-03	Feb-05-04	May-25-04	Sept-26-04	Dec-21-04	Mar-24-05	June-26-05	Oct-23-05	Oct-23-05	Jan-04-06	Jan-04-06	Mar-17-06	July-20-06	Dec-18-06	May-02-07
Dilution:					2.50	NA	2.50	1.00	2.50	2.50	2.50	2.50	2.50	5.00	1.00	2.50	2.50	2.50	2.00	2.00
Volatile Organic Compounds (ug/l)																				
acetone	67641	20	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	142	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	310	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	420	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	500	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	5	285	280	NCD	400	320	380	300	310	290	420	400	*380E*	350	320	250	310	270
trans-1,2-dichloroethene	156605	5.0	5	total	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	5	1,584	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	2,062	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	267	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	5	880	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	5	1,550	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	5	712	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	5	3	110	NCD	290	64	320	44	42	62	*550E*	530	*420E*	410	190	120	120	86
o-xylene	95476	5.0	5	2,080	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	5	total	ND	NCD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					390	NCD	690	384	700	344	352	352	420	930	0	760	510	370	430	356

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1 (1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-14A (Deep Well)														
Sample Collection Date:					Base	Jun-22-00	Mar-27-01	Jun-13-01	Jun-13-01	Sep-28-01	Dec-19-01	Mar-27-02	Jun-25-02	Sept-19-02	Jan-20-03	March-27-03	Jul-11-03	Oct-21-03	Feb-05-04
Dilution:					1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)																			
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	2.7	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**265**	**26**	**130**	**140**	*210 E*	**200**	**10**	**100**	**200**	**170**	**14**	**120**	**170**	**49**	**5.4**	**160**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	**12**	**13**	**15**	**14**	ND	**9.7**	**18**	**15**	ND	**7**	**10**	ND	ND	**6.1**
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentenone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	**11**	**18**	**32**	**29**	ND	**5.9**	**26**	**14**	ND	ND	5	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**13**	**280**	**29**	**34**	**31**	ND	**30**	**19**	**48**	**7.9**	**32**	**39**	**20**	**6.5**	**54**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					53	433	200	81	274	10	145.6	265.7	247	21.9	159	224	69	12	222.1

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible] M
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1B (Wells 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-14A (Deep Well) Cont.										
Sample Collection Date:					May-25-04	Sept-26-04	Dec-21-04	Mar-24-05	June-26-05	Oct-23-05	Jan-04-06	Mar-17-06	July-13-06	Dec-18-06	May-02-07
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)															
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**600**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**160**	**16**	**14**	**88**	**84**	**12**	**47**	**48**	**13**	**43**	**39**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	**6.8**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**61**	**19**	**8.7**	**78**	**55**	**15**	**57**	**40**	**10**	**42**	**29**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					227.8	35	22.7	166.0	139.0	27.0	104.0	88.0	23.0	85.0	68.0

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not epplicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundrwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Semple reanelyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 wes removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible] vl
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-15				
Sample Collection Date:					Mar-25-05	June-27-05	Oct-23-05	Jan-04-06	Mar-17-06
Dilution:					1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)									
acetone	67641	20	-	-	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	**9.3**	**10.0**	**12.0**	**8.2**	**6.2**
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**6.4**	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	ND	ND	ND	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND
TOTAL VOCs					15.7	10.0	12.0	8.2	6.2

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] (1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-15A (Note: Well filled with gravel June 25, 2002)								
Sample Collection Date:					Base	Base	Jun-22-00	Mar-27-01	Jun-13-01	Jun-13-01	Sep-28-01	Dec-19-01	Mar-27-02
Dilution:					1.00	5.00	2.00	2.00	2.00	10.00	2.00	2.00	2.50
Volatile Organic Compounds (ug/l)													
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75343	5.0	-	**500**	14	ND	ND	ND	ND	ND	ND	ND	2.9
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	2.8
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	*950 E*	**830**	**340**	**210**	*1,000 E*	**1,200**	**200**	**220**	**380**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	**93**	**72**	**23**	**23**	**79**	**90**	**11**	**12**	**28**
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	**13**	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,650**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**65**	**48**	**50**	**21**	**37**	ND	**47**	**21**	**65**
vinyl chloride	75014	5.0	**5**	**3**	*390 E*	**270**	**49**	**30**	**340**	**420**	ND	**32**	**15**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					185	1,220	462	284	456	1,710	258	285	493.7

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] 1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW 16A (Deep Well)																
Sample Collection Data:					Base	Mar-29-00	Jun-22-00	Aug-21-00	Mar-27-01	Jun-13-01	Sep-28-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03	Feb-06-04	May-25-04
Dilution:					500.00	20.00	25.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	NA	10.00	10.00	10.00	10.00	10.00
Volatile Organic Compounds (ug/l)																					
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	270	260	200	180	170	140	150	120	88	81	NSPD	150	120	120	110	170
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	21	ND	ND	NSPD	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**9,400**	**3,800**	**3,100**	**3,200**	**2,000**	**2,000**	**1,800**	**1,600**	**1,300**	**1,300**	**1,200**	NSPD	**1,200**	**1,100**	**1,300**	**1,200**	**1,400**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	**150**	ND	ND	ND	**21**	ND	ND	NSPD	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**880**	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	NSPD	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	**56,000**	**410**	**290**	**200**	**160**	**120**	**89**	**120**	**92**	**55**	ND	NSPD	**240**	**200**	**250**	**160**	**970**
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSPD	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**17,000**	**2,200**	**1,300**	**910**	**1,100**	**1,000**	**730**	**690**	**840**	**480**	**260**	NSPD	**1,200**	**560**	**430**	**330**	**790**
vinyl chloride	75014	5.0	**5**	**3**	ND	**620**	**620**	**1,100**	**460**	**710**	**610**	**500**	**440**	**380**	**340**	NSPD	**430**	**330**	**380**	**330**	**380**
o-xylene	95476	5.0	**5**	**2,080**	**3,800**	**110**	ND	ND	ND	ND	ND	ND	**12**	ND	ND	NSPD	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	**8,400**	ND	170	ND	ND	**80**	**50**	ND	**19**	ND	ND	NSPD	ND	ND	ND	ND	ND
TOTAL VOCs					94,600	7,410	5,740	5,610	4,050	4,080	3,419	3,060	2,875	2,303	1,881	NSPD	3,220	2,310	2,480	2,130	3,710

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discherge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW 16A (Deep Well) Cont.													
Sample Collection Date:					Sept-26-04	Dec-21-04	Dec-21-04	Mar-25-05	Mar-25-05	June-27-05	June 27-05	Oct-23-05	Jan-04-06	Jan-04-06	Mar-17-06	July-11-06	Dec-21-06	May-02-07
Dilution:					10.00	10.00	20.00	10.00	20.00	20.00	100.00	10.00	2.00	10.00	10.00	10 00	10.00	5.00
Volatile Organic Compounds (ug/l)																		
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	240	200	190	210	200	410	ND	120	150	150	120	100	180	74
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	160	ND	ND	18	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**265**	**1,900**	*2,100 E*	**2,100**	*2,200E*	**2,100**	**2,300**	**2,300**	**1,200**	*1200E*	**1,200**	**1,100**	**1200**	**1500**	**860**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	**16**	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	**1,200**	*2,100 E*	**2,200**	*2,000E*	**2,000**	*16,000E*	**17,000**	**230**	*540E*	**530**	**630**	**210**	**840**	**190**
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**970**	**1,400**	**1,500**	**1,200**	**1,100**	**3,000**	**3,000**	**630**	*820E*	**800**	**590**	**460**	**930**	**160**
vinyl chloride	75014	5.0	**5**	**3**	**240**	**310**	**300**	**310**	**300**	**390**	ND	**330**	**330**	**320**	**260**	**280**	**430**	**170**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND
TOTAL VOCs					4,550	1,910	6,290	1,720	5,700	6,260	22,300	2,510	527	3,000	2,700	2250	3880	**1454**

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatmant Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-16R														
Sample Collection Date:					Jun-22-00	Aug-21-00	Mar-27-01	Jun-13-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03	Oct-21-03	Feb-05-04
Dilution:					50 or 100	10.00	5.00	5.00	5.00	2.00	2.50	5.00	50.00	5 or 10	5.00	2.00	2.00	2.50	2.00
Volatile Organic Compounds (ug/l)																			
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	28	35	26	38	440	390	72	53	42	100	99	130
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	5.7	ND	44	ND	ND	ND	ND	ND	ND	10
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**350**	**1,800**	**84**	**71**	**550**	**320**	**440**	*3,000 E*	**3,000**	**1,300**	**780**	**140**	*430 E*	**450**	*2,200 E*
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	**11**	**24**	**60**	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	**1,800**	ND	**26**	**38**	ND	**3.4**	ND	**30**	ND	**32**	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	850	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	**3,900**	ND	**270**	**600**	**380**	**320**	**350**	*2,900 E*	**2,700**	**570**	**460**	**230**	**160**	**160**	*370 E*
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**11,000**	ND	**600**	**990**	**250**	**290**	**500**	*6,900 E*	**9,400**	**26**	**140**	**46**	**47**	**50**	**110**
vinyl chloride	75014	5.0	**5**	**3**	ND	**1,300**	ND	ND	ND	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-xylene	95476	5.0	**5**	**2,080**	**7,600**	ND	**110**	**140**	**25**	**6.6**	ND	**50**	ND	**46**	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	**13,000**	ND	**65**	**94**	ND	**5.9**	ND	**49**	ND	**52**	**26**	ND	ND	ND	ND
TOTAL VOCs					38,500	3,100	1,155	1,961	1,240	1,001.7	1,352	673	15,490	2,098	1,459	458	307	759	250

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Effluent)
ND = Not Detected
E = Exceeds Calibration Renge (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-16R Cont.																
Sample Collection Date:					Feb-05-04	May-25-04	Sept-26-04	Sept-26-04	Dec-21-04	Dec-21-04	Mar-24-05	June-26-05	June-26-05	Oct-24-05	Oct-24-05	Jan-05-06	Jan-05-06	Mar-17-06	July-13-06	Dec-18-06	May-02-07	May-02-07
Dilution:					20.00	20.00	20.00	100.00	25.00	100.00	20.00	20.00	200.00	20.00	100.00	25.00	1,000.00	25.00	20.00	10.00	10.00	20.00
Volatile Organic Compounds (ug/l)																						
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	110	150	370	ND	290	ND	250	440	ND	**610**	**590**	**980**	**1000**	**1600**	**2000**	**1300**	**1900**	**2000**
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**2,300**	**2,100**	*4,600 E*	**4,700**	**1,600**	**1,500**	**930**	*6300E*	**6,000**	**3,500**	**3,500**	*6500E*	**6,200**	**3,800**	**2,100**	**840**	*2900E*	**3000D**
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	**300**	**140**	**480**	**520**	**330**	ND	**120**	**960**	ND	**470**	ND	**630**	**610**	**250**	**160**	**94**	**280**	**290**
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	**110**	**460**	*12,000 E*	**12,000**	*12,000 E*	**14,000**	**3,300**	*30000E*	**30,000**	*16000E*	**15,000**	*14000E*	**14,000**	**4,500**	**1,900**	**390**	*2900E*	**3000D**
vinyl chloride	75014	5.0	**5**	**3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**150**	ND	ND	ND	**58**	**72**	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	ND
TOTAL VOCs					2,820	2,850	850	17,220	2,220	15,500	4,600	1,400	36,000	4,580	19,090	1,760	21,810	10,150	6,160	2,682	2,252	2,290

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanelyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Wall MW-11 was removed during excavation and is no longer sampled.
Wall MW-15A was filled with grevel and is no longer sampled.

Prepared
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1 (... 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-18				
Sample Collection Date:					Mar-24-05	Oct-24-05	Jan-04-06	Mar-17-06	May-02-07
Dilution:					1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)									
acetone	67641	20	-	-	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,564**	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	ND	ND	ND	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND
TOTAL VOCs					0	0	0	0	0

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date:1/15/07
Checked by:PM
Date:1/30/07

Table 1[illegible] (1-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-22													
Sample Collection Date:					Base	Jun-22-00	Mar-27-01	Jun-13-01	Dec-19-01	Mar-20-02	Jun-25-02	Sept-19-02	Jan-20-03	Mar-27-03	Jul-11-03	Oct-21-03	Feb-05-04	May-25-04
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	1.00	NA	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)																		
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	76	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**265**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,062**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	**5.7**	ND	ND
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
m+p xylene	108383/1064 23	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	ND	ND	ND
TOTAL VOCs					76	ND	ND	ND	ND	ND	ND	NCD	ND	ND	ND	5.7	ND	ND

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected. Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Prep[illegible]
Date: 1/15/07
Checked by: PM
Date: 1/30/07

Table 1[illegible] 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-22 Cont.									
Sample Collection Date:					Sept-26-04	Dec-21-04	Mar-24-05	June-26-05	Oct-23-05	Jan-04-06	Mar-17-06	July-13-06	Dec-18-06	May-02-07
Dilution:					1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volatile Organic Compounds (ug/l)														
acetone	67641	20	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	**142**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	**420**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	**11**	ND	ND	ND	**13**	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	**2,082**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	**267**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	**5**	**680**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	**5**	**712**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	**5**	**3**	**48**	ND	ND	ND	**36**	ND	ND	ND	**8.7**	**34**
o-xylene	95476	5.0	**5**	**2,080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs					59	0	0	0	49	0	0	0	8.7	34

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnweter Treatmant Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

Pre[redacted] M
Date:1/15/07
Checked by:PM
Date:1/30/07

Table [redacted] 11-22)
Quarterly Groundwater Data, March 2006
Leica Microsystems, Eggert Road
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	BSA Discharge Limits	MW-22A
Sample Collection Date:					May-03-07
Dilution:					1.00
Volatile Organic Compounds (ug/l)					
acetone	67641	20	-	-	ND
benzene	71432	5.0	-	**142**	ND
bromodichloromethane	75274	5.0	-	-	ND
bromoform	75252	5.0	-	-	ND
bromomethane	74839	5.0	-	-	ND
2-butanone (MEK)	78933	10	-	-	ND
carbon disulfide	75150	10	-	-	ND
carbon tetrachloride	56235	5.0	-	-	ND
chlorobenzene	108907	5.0	-	**310**	ND
chloroethane	75003	5.0	-	**420**	ND
chloroform	67663	5.0	-	-	ND
chloromethane	74873	5.0	-	-	ND
dibromochloromethane	124481	5.0	-	-	ND
1,1-dichloroethane	75343	5.0	-	**500**	ND
1,2-dichloroethane	107062	5.0	-	-	ND
1,1-dichloroethene	75354	5.0	-	-	ND
cis-1,2-dichloroethene	156592	5.0	**5**	**285**	ND
trans-1,2-dichloroethene	156605	5.0	**5**	**total**	ND
1,2-dichloropropane	78875	5.0	-	-	ND
cis-1,3-dichloropropene	542756	5.0	-	-	ND
trans-1,3-dichloropropene	542756	5.0	-	-	ND
ethylbenzene	100414	5.0	**5**	**1,584**	ND
2-hexanone	591786	10	-	-	ND
methylene chloride	75092	5.0	-	**2,062**	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	-	ND
styrene	100425	5.0	-	-	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	-	ND
tetrachloroethene	127184	5.0	-	**267**	ND
toluene	108883	5.0	**5**	**880**	ND
1,1,1-trichloroethane	71556	5.0	**5**	**1,550**	ND
1,1,2-trichloroethane	79005	5.0	-	-	ND
trichloroethene	79016	5.0	**5**	**712**	ND
vinyl chloride	75014	5.0	**5**	**3**	**5**
o-xylene	95476	5.0	**5**	**2,080**	ND
m+p xylene	108383/106423	5.0	**5**	**total**	ND
TOTAL VOCs					5

NOTES:
Base = Baseline sample collected 12/14/99
RAOs GW = Remedial Action Objectives for Groundwater
CAS = Chemical Abstract Service registry number
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)
Bold/Shaded = Exceeds Buffalo Sewer Authority Discharge Limits (Groundnwater Treatment Efflu
ND = Not Detected
E = Exceeds Calibration Range (These values are not added to total VOC figure)
D = Sample reanalyzed and quantified at higher dilution
NCD = (sample) Not Collected, Dry well
NSPD = Not sampled, pump down
Well MW-11 was removed during excavation and is no longer sampled.
Well MW-15A was filled with gravel and is no longer sampled.

APPENDIX C

STANDARD OPERATING PROCEDURES

SOP 82A8496 "Environmental Services Standard Operating Procedure, Sample Handling"

SOP 82A8497 "Environmental Services Standard Operating Procedure, Field Record Keeping"

SOP 82A8498 "Environmental Services Standard Operating Procedure, Collection of Quality Control Samples"

SOP 82A8499 "Environmental Services Standard Operating Procedure, Decontamination of Field Equipment"

SOP 82A8502 "Environmental Services Standard Operating Procedure, Lithologically Describing and Logging Soil Samples

SOP 82A8504 "Environmental Services Standard Operating Procedure, Collecting Soil and Sediment Samples"

SOP 82A8515 "Environmental Services Standard Operating Procedure, Reviewing Data Tables"

SOP 82A8496

Environmental Services Standard Operating Procedure,
Sample Handling

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

SAMPLE HANDLING

CONTROLLED COPY No. 292

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		8/24/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	5,6,9,12	10806	K. Cyr

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to establish guidelines for sample handling that will aid in achieving consistent methods of data collection. This SOP is designed to ensure that once samples are collected, they are preserved, packed and delivered in a manner that will maintain the utmost sample integrity. While the following procedures are appropriate for most sampling events, applicable local, state and Federal sample handling protocols and guidelines must be reviewed and considered. If necessary, modifications to the SOP can be addressed on a site-specific basis. Any modification must be clearly stated in the work plan or field sampling plan prepared for the site; these documents will always take precedence over the SOP.

2.0 CONSIDERATIONS

2.1 Sample Containers

Prior to the sampling event, consideration must be given to the type and number of containers that will be used to store and transport the samples. The sample matrix, the analytical method, the laboratory's quality assurance/quality control (QA/QC) requirements, potentially present contaminants and local, state or Federal regulatory requirements factor into the selection of a sample container. Typically, the contracted laboratory will select and provide the appropriate number and type of sample containers based upon the analytical methods and scope of work requested. Prior to sampling, make sure that the laboratory is clear on the scope of work and the objectives of the project. When performing non-routine sampling, it is also recommended that the sampling crew request instructions from the laboratory regarding the volume of sample required (e.g., matrix spike analyses for soil may require extra samples), the proper technique for filling and preserving the sample containers and the type and number of containers supplied per analytical parameter.

As a general guide, the attached table provides a list of common analytical parameters with corresponding sample containers as specified by USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846 (EPA/530-SW-846.3-1). Sample container selection is usually based upon some combination of the following criteria:

a. Reactivity of Container Material with Sample

For sampling potentially hazardous material, glass is the recommended container type because it is chemically inert to most substances. Plastic containers are not recommended for most hazardous wastes because the potential exists for contaminants to adsorb to the surface of the plastic or for the plasticizer to leach into the sample. Species of metals will adhere to the sides of glass containers in an aqueous matrix; therefore, plastic bottles (e.g., nalgene) must be used. If metals analyses are to be performed along with other analyses, then a separate plastic bottle must be used. In the case of a strong alkali waste or hydrofluoric solution, plastic containers may be more

suitable because glass containers may be etched by these compounds and create adsorptive locations on the surface of the container.

b. Volume of the Container

The volume of sample to be collected will be dictated by the analytical method and the sample matrix. Individual laboratories may provide larger volume containers or request multiple containers for a sample to ensure sufficient sample for duplicates or other QA/QC checks. Wide mouth containers are recommended to facilitate transfer of the sample from the sampler into the container without spillage or sample disturbance. Aqueous samples analyzed for volatile organic compounds (VOCs) must be placed in 40-milliliter (ml) glass vials with polytetrafluoroethylene (PTFE) (e.g., Teflon™) septum. Non-aqueous samples for VOC analysis should be collected in the same type of vials or in wide mouth 4-ounce (oz.) jars. These jars should have PTFE-lined screw caps.

c. Color of Container

Whenever possible, amber glass containers should be used to prevent photo degradation of the sample, except when samples are being collected for metals analyses. If amber containers are not available, then containers holding the samples should be protected from light (i.e., placed in cooler with ice immediately after filling).

d. Container Closures

Container closures (i.e., caps and lids) must screw on and off the containers and form a leak-proof seal. Container caps must not be removed until the container is ready to be filled with the sample and the container cap must be replaced immediately after filling. Container caps should be constructed of a material that is inert with respect to the sampled material, such as PTFE. Alternately, the caps may be separated from the sample by a closure liner that is inert to the sample material. If soil or sediment samples are being collected, the threads of the container must be wiped clean with dedicated paper towels (or Kim wipes™) so the cap can be properly closed.

e. Decontamination of Sample Containers

Sample containers should be laboratory pre-cleaned, preferably by the laboratory performing the analysis. (The cleaning procedure will be dictated by the specific analysis to be performed on the sample.) Sample containers should be examined upon receipt to ensure that each appears clean. Do not mistake any preservative that was already deposited in the sample container by the laboratory for unwanted residue. Sample bottles received from a laboratory should not be field cleaned. If there is any

question regarding the integrity of the bottle, the laboratory should be contacted and the bottle(s) replaced.

f. Sample Bottle Storage and Transportation

Extreme care should always be taken to avoid contamination of the sample bottles. Sample shuttles or coolers and sample bottles must be stored and transported in clean environments. Sample bottles and clean sample equipment should never be stored near solvents, gasoline or other equipment that is a potential source of cross contamination. When under chain of custody, sample bottles should either be custody sealed in a cooler or shuttle that is secured inside a locked vehicle or other designated secure area, or in the presence of authorized personnel.

2.2 Sample Filtering

Aqueous samples collected for dissolved metals analyses may require filtering to remove suspended sediment from the sample. Filtering must be performed prior to preserving the sample. If the sample container received from the laboratory contains preservative, then an interim container must be used to transport the sample from the collection point to the filtering apparatus. To ensure that interim containers are contaminant free, they should be supplied by the laboratory.

2.3 Decontamination of Sampling Equipment

Refer to the SOP for the Decontamination of Field Equipment (Document No. 82A8499) for guidance on decontamination of re-usable sampling equipment.

2.4 Quality Assurance/Quality Control Samples

QA/QC samples are intended to provide control over the proper collection and subsequent review and interpretation of analytical data. Refer to the SOPs for Collection of Quality Control Samples (Document No. 82A8498) and Field Record Keeping (Document No. 82A8497) for detailed guidance concerning these procedures.

2.5 Sample Preservation Requirements

Certain analytical methods require that the sample be preserved in order to stabilize and maintain sample integrity. Many laboratories provide pre-preserved bottles as a matter of convenience and to help ensure that samples will be preserved immediately upon collection. Care must be exercised not to overfill sample bottles containing preservatives to prevent the sample and preservative from spilling, thereby diluting the preservative.

When samples are preserved in the field, special care must be taken. The transportation and handling of concentrated acids in the field requires additional preparation and

adherence to appropriate preservation procedures. All preservation acids used in the field should be trace-metal or higher grade.

2.6 Sample Labels

Sample labels should be provided with the sample containers, but this should be verified with the laboratory. If desired, labels may be pre-printed by computer with blanks provided for variable information collected in the field. If necessary, masking tape may be used for labels in the field, but this practice should be avoided. Sample containers should always be labeled prior to opening the container to avoid cross contamination and problems associated with marking wet or dirty paper. Indelible ink markers should be used for labeling and labels should be covered with clear tape.

At a minimum, sample containers will be labeled with the following information:

site name;
project number;
initials of sampler;
sample identification code;
analytical method;
date and time of collection; and
preservative added (if applicable).

These are common sample identification codes that may be used on sample labels.

1. Sample type (medium) abbreviation may be as presented below.

ground water sample	=	GW
surface water sample	=	SW
sediment sample	=	SED
solid waste sample	=	WASTE
waste water sample	=	WW
chip sample	=	CHIP
wipe sample	=	WIPE
soil sample	=	SOIL
influent sample	=	INF
effluent sample	=	EFF
air sample	=	AIR
dust sample	=	DUST

2. Sample location abbreviation may use the identifier system established for the site. Examples of sample location abbreviations are presented below.

soil boring	=	"SB-" followed by the designated number of the boring
monitoring well	=	"MW-" followed by the designated number of the well
surface water	=	"SW-" followed by the designated number of the sampling location
surface soil	=	"SS-" followed by the designated number of the sampling location
sediment	=	"SD-" followed by the designated number of the sampling location
discharge outfall	=	"OF-" followed by the designated number of the outfall location
air	=	"AS-" followed by the designated number of the air station

3. Where applicable, depth intervals may be designated in feet or tenths of a foot (e.g., 0.5-1.0 ft).

4. Analytical parameter designations are commonly abbreviated as presented below.

volatile organic compound	=	VOC
semi volatile organic compound	=	SVOC
polychlorinated biphenyl	=	PCB
pesticide	=	PEST
metals	=	METAL
non-metallic inorganic	=	INO
geotechnical	=	GA

5. Quality control qualifiers commonly are abbreviated as presented below.

field replicate	=	R
trip or travel blank	=	TB
field or rinsate blank	=	FB

matrix spike and matrix spike duplicate	=	MS/MSD

For example, the designation "SOIL/SB-10/12-14/VOC" would indicate that the sample was a soil sample collected at Soil Boring SB-10, that it was collected at a depth interval of 12 to 14 feet below land surface, and it was selected to be analyzed for volatile organic compounds. A sample designated "GW/MW-10/R/SVOC" would indicate a replicate sample of ground water collected from Monitoring Well MW-10 and selected to be analyzed for semi volatile organic compounds.

Occasionally, the contracted laboratory supplies preprinted or bar-coded labels on the sample containers. These labels are acceptable; however, care must be exercised to ensure that coded-alike containers do not be confused with other similar containers. The sampler should initial and record the time and date on each container in a blank portion of the label or on a separately attached label.

2.7 Sample Packing

All sample labels should be checked for accuracy and the caps checked for tightness. Any irregularities concerning the condition of the samples or containers should be noted on the chain-of-custody form. The bottles must be carefully packed to prevent breakage during transport. If there are any samples known or suspected to be highly contaminated, they should be packaged individually to prevent cross-contamination. Sufficient ice packs should be placed in the cooler to maintain the temperature at 4 degrees Celsius (^{o}C) until delivery to the laboratory. Consult the work plan to determine if a particular cooling agent is specified for preservation (e.g., the United States Environmental Protection Agency does not condone the use of blue packs because they claim that the samples will not hold at 4^{o}C.) The chain of custody form should be properly completed, placed in a "zip-loc" bag and placed in the cooler. One copy must be maintained for the project file. The cooler should be sealed with strapping tape and a cooler-custody seal. The cooler drains should be taped shut to prevent leakage. The custody seal number should be noted in the field book or on the chain of custody form.

2.8 Chain-of-Custody Forms

Most contracted laboratories have their own Chain-of-Custody (COC) forms. If appropriate, use of the laboratory supplied COC forms are preferred because it reduces the chance of miscommunication between the samplers and the receiving laboratory. Otherwise, the field Team Leader (FTL) is responsible for obtaining appropriate blank COC forms from the PM for use during the sampling event.

2.8.1 Prior to initiation of field activities, the FTL is responsible for ensuring that an ample supply of COC forms are onsite to cover all of the scheduled sampling, including extra blank forms for contingency purposes.

2.8.2 The FTL reviews and familiarizes himself with the COC form and contacts the issuing laboratory for clarification of any questions concerning proper completion of the COC form.

2.8.3 Pre-completion of the COC form and sample bottle labels is limited to site generic information, e.g., site name and address, and project number.

2.8.4 The format of various COC forms will differ; however, the following information must be included on all COC forms accompanying samples collected by SCIENTECH: SCIENTECH project number; project name; name address and telephone number and contact person; unique sample identification numbers; sample matrix;, date and time samples were collected; volume, type, and quantity of sample containers; preservatives; and analyses requested. Reference methods must be specified when appropriate, e.g., *VOCs+15 (via 624)*. Special instructions and considerations should be noted in the comment section, e.g., *sample bottle not full, run TPH first*.

2.8.5 The FTL or his/her designee completes the COC form as soon as practicable after collection of the samples. Note: sample bottle labels must be completed at the time of sample collection and prior to collection of the next sample.

2.8.6 If sample custody is directly relinquished, e.g., laboratory pickup at the project site, the FTL or his/her designee: 1) signs, dates, and notes the time of the transfer; 2) gives the COC to the receiver to sign, date, and note the time; 3) takes the COC back from the receiver and reviews for completeness rectifying any deficiencies; and 4) gives the completed COC back to the receiver, retaining the appropriate carbon copy for the project files. If the COC form does not have carbon copies, a photocopy or handwritten duplicate with appropriate signatures must be made (**no exceptions**).

2.8.7 If sample custody is indirectly relinquished, e.g., express mailed to the receiving laboratory, the FTL or his/her designee: 1) signs, dates, and notes the time of the transfer; 2) places the completed COC form into the sample shuttle retaining the appropriate carbon copy; 3) completes the express mail slip and retains the appropriate carbon copy; and 4) attaches the retained copies of the COC form and express mail slip together for the project file. If the COC form does not have carbon copies, a photocopy or handwritten duplicate with appropriate signatures must be made (**no exceptions**).

2.9 Sample Delivery

Samples should be delivered to the laboratory within 24 hours of collection. If samples are shipped prior to or on a weekend or holiday, the laboratory should be contacted to confirm that someone will be available to accept delivery. Check the work plan to determine whether a shorter delivery time is imperative.

3.0 EQUIPMENT AND MATERIALS

3.1 General Equipment

a. Sample bottles of proper size and type
b. Cooler with ice (wet or blue pack)
c. Field notebook, appropriate field form(s), chain of custody form(s), custody seals
d. Black pen and indelible marker
e. Packing tape and "zip-loc" bags
f. Overnight shipping forms and laboratory address
g. Health and Safety plan (HASP)
h. Work plan/scope of work
i. Pertinent SOPs for specified tasks and their respective equipment and materials
j. Container labels
k. Ice bath (cold water and ice in a small, leak-proof cooler)

3.2 Preservatives

Preservatives for specific samples/analytes, as specified by the laboratory. Preservatives must be stored in secure spill-proof glass containers with their content, concentration, and date of preparation and expiration clearly labeled.

3.3 Miscellaneous Equipment (if appropriate)

a. graduated pipettes
b. pipette bulbs
c. Litmus paper
d. glass stirring rods
e. filtering equipment

3.4 Personal Protective Equipment

a. protective goggles
b. disposable gloves
c. protective clothing (e.g., Tyvek™)
d. portable water supply for immediate flushing of spillage, if appropriate.
e. shovel and container for immediate containerization of spillage-impacted soil, if appropriate.

4.0 PROCEDURE

4.1 Examine all bottles and verify that they are clean and of the proper type, number and volume capacity for the sampling to be conducted.

4.2 Label bottles carefully and clearly with the appropriate information as described in Section 2.6.

4.3 Collect samples in the proper manner (refer to the specific sampling SOP which addresses the sampling technique being performed).

4.4 Chemically preserve samples as required. Field preservation must be done immediately and should not be performed later than 30 minutes after sample collection.

4.5 Seal containers carefully.

4.6 Conduct QC sampling as required.

4.7 Each sample container should be sealed in a "zip-loc" bag and immersed in an ice bath for a minimum of 30 seconds to flash cool the sample from ambient temperature down to the internal temperature of the shipping cooler (approximately 4°C). Flash cooling should be performed immediately following sample collection and preservation. Samples should not be allowed to warm up prior to packing them into the laboratory cooler for shipping.

4.8 Arrange containers in front of assigned coolers. Organize and carefully pack all samples in cooler immediately after collection. Pack samples so that breakage will not occur. There must be a cushion of padding (e.g., bubble wrap or vermiculite) between each sample container and between the containers and the top, bottom and sides of the shuttle. Smaller containers, such as 40-ml vials, can be placed in "zip-lock" bags to protect them and keep them dry.

4.9 Complete and place the chain-of-custody form in the cooler after all samples have been collected. Maintain one copy for the project file. If the cooler is to be transferred several times prior to shipment to the laboratory, it may be easier to tape the chain of custody form to the exterior of the sealed cooler. When exceptionally hazardous samples are known or suspected to be present, this should be identified on the chain-of-custody record as a courtesy to the laboratory personnel. Any other irregularities should also be noted.

4.10 Add additional ice as necessary to ensure that it will last until receipt by the laboratory. Ice cubes should be double packed in "zip-lock" bags to prevent leakage.

4.11 Seal the cooler with packing or strapping tape (make several complete revolutions) and a custody seal covered with clear tape (if available). Record the number of the custody seal in the field notebook and on the field form. If samples are shipped in the mail they should be

properly labeled and comply with shipping regulations. Maintain the shipping bill along with the chain-of-custody form for the project files and call the laboratory the next day to confirm receipt.

4.12 Unless specified otherwise in the superseding site-specific work plan or field sampling plan, this SOP shall govern the manner in which sample handling is performed by SCIENTECH personnel. However, if field conditions or other factors dictate the need, reasonable deviation from the SOP is acceptable. Any departure from the SOP must be documented in the site-specific field notebook or project file, along with an explanation as to why the deviation was necessary.

SOP 82A8497

Environmental Services Standard Operating Procedure,
Field Record Keeping

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

FIELD RECORD KEEPING

CONTROLLED COPY No. 292

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		8/24/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	3,4,5,6,7	10805	K. Cyr

1.0 PURPOSE

This standard operating procedure (SOP) establishes the procedures to be used for documenting and recording field activities. These activities include but are not limited to: site walk-throughs; geophysical testing; monitoring well installation; aquifer testing; air, water, ground water, soil, and waste sampling; waste removal; and installation, operation, and maintenance of remediation systems.

Field data is only as good as its documentation. Because memories fail and project personnel may change with time and task, thorough documentation is needed to accurately and permanently record observations made and information collected in the field. Standardization of field documentation helps to ensure that all pertinent information is recorded in a readily recoverable and understandable format.

Field documentation becomes part of the legal record of site activities and as such the utmost care and consideration must be given to its generation and maintenance.

2.0 MATERIALS

The following materials are needed for proper documentation of field activities:

- a bound, waterproof field notebook;
- black pens, indelible markers, and grease or wax pencils;
- all weather clip board and form holder;
- appropriate project and task specific forms (e.g., sample data sheets and boring logs);
- camera and film (optional);
- cassette recorder (optional); and
- video tape recorder (optional).

3.0 GENERAL PROCEDURE AND RESPONSIBILITIES

3.1 The project manager (PM) identifies and procures all forms required for proper recording of field activities. Project specific needs, e.g., client and regulatory documentation requirements, must be considered. The required forms should be referenced and included in formal work plans, proposals or other documents.

3.2 The PM briefs the designated field team leader (FTL) on project documentation requirements for the task(s) at hand, gives the FTL the field notebook and provides one clean copy of each required form, if they are not already provided in the work plan.

3.3 The FTL is responsible for maintaining the field notebook during field activities and for bringing an adequate number of specified forms to the field site.

3.4 The FTL retains or assigns documentation responsibilities to field team members (FTMs) as appropriate. The number of individuals recording field activities should be minimized.

3.5 Whenever an alteration to a field book or data form entry is required, the incorrect entry is to be struck out with only a single line followed by the initials of the recorder making the change (e.g., ~~79 ug/l~~ JD). The revised information should be recorded next to the original entry.

3.6 The FTL is responsible for collecting and reviewing all field documentation at the end of each day. If possible, deficiencies in the record should be corrected immediately and the cause of the deficiency addressed.

3.7 The FTL is responsible for photocopying field documentation daily. Copies should be maintained physically separate from the originals. If photocopying facilities are not available at the site, field office or hotel, the FTL should copy all field documentation immediately upon returning to the office.

3.8 Upon return to the office, the FTL relinquishes the photocopies of the field notebook and all other field documentation to the PM.

3.9 The PM maintains field documentation for the project. The field notebook and all other original documents are placed in a folder labeled "Field Notes - Originals" and copies are placed in a separate folder labeled "Field Notes - Working Copies." Field notes should be filed chronologically and, where appropriate, the file folder label should include the dates when the field work was performed. Original documents are kept and eventually archived with the site files. Working copies of field notes should be used for reference during data reduction and report writing.

4.0 PROCEDURE FOR MAINTAINING THE FIELD NOTEBOOK

4.1 The PM issues a field notebook for the project which includes the following information prominently displayed on the cover or first page: the project name; number; location; and the message:

If found, please return to:
SCIENTECH Inc.,
44 Shelter Rock Road
Danbury, CT 06810
Attention: <project manager> or
call <project manager's phone number>
REWARD OFFERED.

In addition, each page of the field notebook should be sequentially numbered. Under no circumstances should pages ever be removed from the field notebook.

4.2 The field notebook is brought to the site during every planned and scheduled site visit. If the notebook is not brought to the site, notes should be kept on another medium using the same format as the official field notebook; these notes must be transcribed into the official field notebook as soon as practicable, along with a notation of when the transcription was made.

4.3 The field notebook is maintained and recorded in by one person (usually the FTL) for any given task or block of time. A change in custody is to be documented in the notebook and initialed by each individual.

4.4 A fresh page is used to begin each day's entries, with the day and date prominently recorded at the top followed by the weather conditions, e.g., *Friday April 23, 1993 - overcast, expected high 50° F, chance of showers*. The day and date should be noted at the top of each subsequent page.

4.5 The next entry should include time of arrival at site, personnel present (Client, Regulatory, and subcontractors), and general purpose of site visit. This should be followed by a brief description of site conditions noting changes from the last time onsite.

4.6 Subsequent entries should be made in chronological order with times noted. The field notebook is a log of actions, occurrences, and activities at the site and as such should be written in the first person active voice and provide a description of who, what, where, why, when, and how. General types of information recorded in the field notebook include but are not limited to:

- arrival and departures of personnel and equipment;
- descriptions of both formal and informal meetings including identification of person or organization calling the meeting, purpose, location, time, attendees, topics discussed, and decisions made;
- all conversations with the client, the general public, and regulatory personnel;
- significant site- or work-related discussions between personnel and subcontractors, e.g., when decisions are made or orders given;
- telephone conversations with client, regulatory, and subcontracted personnel;
- health and safety procedures including level of protection, monitoring of vital signs, frequency of air monitoring, and any change (i.e., downgrade or upgrade) in the level of protection for personnel;
- deviations from the health and safety plan;
- significant changes in weather from first arrival at the site, e.g., high winds, heavy precipitation, or temperature extremes;
- air monitoring results, e.g., photo-ionization detector readings;
- site reconnaissance information such as topography, geologic features, water bodies, cultural features, and areas of suspected contamination;
- task designation and work progress;
- observations of potential contamination, e.g., stressed vegetation, stained soil, sheen on surface or ground water, etc. (descriptions should be objective and use of pejorative and/or non-technical terms, e.g., smelly and slimy, avoided);
- liberal use of sketches, drawings, and maps including measured or approximate dimensions or distances to clarify, amplify and enhance verbal descriptions;
- sample description including unique identification number, location, matrix, sample device, odor, color, texture, response to field instruments, and sample containers filled (some information may be redundant when field sample data sheets or other forms are used; nonetheless, this information should be faithfully recorded in the field notebook);
- description of photographs taken;
- deviations from the work plan;
- delays, unusual situations, problems and accidents or injuries;
- equipment and instrument problems;
- decontamination and calibration procedures;

- peripheral activities which may impact field activities; and
- time of departure of personnel and a description of site conditions at the time of departure, e.g., personnel remaining on site, vehicles, equipment, wastes, and other materials left on site, site security, etc.

4.7 If simultaneous activities are occurring, the FTL must make provisions for recording of activities by personnel at the work face and subsequent transcription into the field notebook. When multiple tasks are performed at remote site locations for extended periods of time, the use of additional field notebooks may be allowed with PM approval.

4.8 Data collected may be summarized in tables to facilitate it`s use.

4.9 The last daily entry should be followed by the FTL's signature.

5.0 PROCEDURE FOR OTHER FIELD DOCUMENTATION FORMS AND DOCUMENTS

Other task or project specific forms and documents may be required or appropriate for documentation of field activities, e.g., boring logs, monitoring well construction logs, air monitoring logs, sample data sheets, and chain-of-custody. Refer to the SOP Sample Handling (Document No. 82A8496) for information regarding the proper procedure for filling out chain-of-custody forms. The FTL is responsible for ensuring that all forms are completed fully and properly.

5.1 Prior to initiation of field activities, the PM identifies, obtains, and provides the FTL with a copy of various documents, forms, and logs to be used.

5.2 The FTL reviews and familiarizes herself/himself with all forms and contacts the PM for clarification of any questions concerning proper completion of the forms.

5.3 The FTL brings adequate copies of the appropriate forms to the field site.

5.4 Pre-completion of forms is limited to site generic information, e.g., site name and address, and project number.

5.5 Although of varying purpose and layout, the following information must be included on all forms: project name and project number; date and time; and the name of the employee completing the form.

5.6 As a general rule, all lines, boxes, etc. must be filled out and all queries or prompts answered, i.e., there should be no blank spaces left on the form. If a particular item does not apply write *NA* in the space or otherwise mark appropriately. If you are unsure of how a particular query should be answered, consult other staff members or qualify your answer.

SOP 82A8498

Environmental Services Standard Operating Procedure,
Collection of Quality Control Samples

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

COLLECTION OF QUALITY CONTROL SAMPLES

CONTROLLED COPY No. 292

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		8/31/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	1-6	10803	K. Cyr

1.0 PURPOSE

The purpose of this standard operating procedure is to establish guidelines for the collection of quality control (QC) samples and to explain the measures taken to ensure the integrity of each sample collected. The objective of any QC program is to ensure that the data generated are of known and reliable quality. The acceptance of sampling data by regulatory agencies and in litigation-support investigations can depend heavily on the proper QC program to justify the results presented.

The QC sampling requirements must be determined based upon the data quality objectives for the project. In some instances, regulatory agencies, such as the USEPA, may specify or provide guidance concerning QC sampling on a project. All QC requirements should be clearly defined in the work plan developed for the project, including types of samples to be collected, sample collection methods, and frequency of sampling.

2.0 QUALITY CONTROL SAMPLES

QC Samples are used to prove sampling activities and laboratory performance during an environmental investigation or routine monitoring at a site. Types of QC samples may include field blanks (a.k.a., equipment or rinseate blanks), trip blanks (a.k.a., travel blanks), replicates (a.k.a., duplicates or split samples), matrix spike/matrix, spike duplicates, and performance evaluation samples. A discussion pertaining to each QC sample type is provided below.

2.1 Field Blanks

Description - A field equipment blank (field blank) is collected to check on the sampling equipment handling, preparation, storage and shipment procedures implemented in the field. A field blank is performed by exposing demonstrated analyte-free water (e.g., distilled/deionized water) to the sampling process (i.e., the water must pass through or over the actual sampling equipment). Preferably, the analyte free water should be provided by the laboratory performing the sample analysis. At a selected field location documented in the field book, the water is poured from the full set of bottles through the dedicated field sampling device that has been decontaminated for sample collection (e.g., auger flight, split-spoon sampler or bailer) and into the empty set of laboratory-supplied sample bottles. It is important that the blank be exposed to the entire sampling process, e.g., a field blank for metals should be filtered if the samples were also filtered. Field blanks are generally not required for potable well sampling events or when a sample is collected directly from a source into a sampling container without the aid of any tools. The need for field blanks as a check on the cleanliness of dedicated or disposable sampling equipment (e.g., disposable polyethylene bailers or dedicated bladder pumps) is dependent upon the scope and duration of a project and should be specified in the work plan. Field blanks are usually preserved in the same manner and analyzed for the same suite of parameters as the other samples collected during the sampling event. In some situations it may be advantageous to require equipment blanks for each type of sampling procedure (e.g., split-spoon, bailer, pump).

Field blanks may also be used to detect potential interference or cross contamination from ambient air during sampling events, especially if known sources of contamination are within close proximity or monitoring instruments indicate the presence of contamination above background levels. This field blank is a sample bottle that is filled and sealed with demonstrated analyte free water, and is opened in the field and exposed to the air at a location to check for potential atmospheric interferences. The blank is then resealed and shipped back to the laboratory for analysis.

Frequency - For short-duration sampling events, the rate of one field blank per day is usually sufficient. For sampling events lasting more than a few days, field blanks are generally performed at the rate of between 5% to 10% of the total number samples collected throughout the event.

2.2 Trip Blanks

Description - Trip blanks consist of a set of sample bottles filled at the laboratory with demonstrated analyte free water. These samples then accompany the bottles that are prepared at the laboratory into the field, and back to the laboratory along with the collected samples for analysis. **These bottles should never be opened in the field.** Trip blanks must return to the laboratory with the same set of bottles they accompanied to the field. Trip blanks are primarily used to check for "artificial" contamination of the samples during transport to the laboratory for analysis.

Frequency - Idealistically, one trip blank per cooler containing VOC samples, or test substance of other analytes of interest, should accompany each day's samples.

2.3 Replicate Samples

Description - Replicate samples are collected to check on the reproducibility of results either within a laboratory or between laboratories. A replicate sample is called a split sample when it is collected with or turned over to a second party (e.g., regulatory agency, litigant's consulting firm) for an independent analysis.

With the exception of VOCs, obtaining replicate samples in a soil or sediment matrix requires homogenization of the sample aliquot prior to filling sample containers. **Samples taken for VOC analysis however must always be taken from discrete locations or intervals without mixing.** Homogenization of the sample for remaining parameters is necessary to generate two equally representative samples. Note that enough sample must be collected at one time in order to fill all necessary containers. Samples should be thoroughly mixed using a decontaminated stainless-steel bowl and spoon. Once mixing is completed, the sample should be divided in half and containers should be filled by scooping samples alternately from each half.

Replicates of aqueous samples for VOC analysis should be filled from the same bailer or other sampling device whenever possible and be the first set of containers filled. Aqueous replicate samples for other parameters are either obtained from the same sampling device or by alternately filling sample containers from the same sampling device for each parameter.

Frequency - Replicates for determining the reproducibility of laboratory results are commonly collected at a rate of 5% (one for every twenty samples collected). Split samples are at the discretion of the second party and may include every sample collected.

2.4 Performance Evaluation Samples

Description - In certain instances when a laboratory's quality assurance performance is in question, splitting samples may not prove as useful as providing blind performance evaluation (PE) samples to a laboratory since analytical performance and accuracy differs from laboratory to laboratory. Performance evaluation samples provide information on a laboratory's performance based upon analysis of that sample which contains parameters of a known and defined concentration. A PE sample can be used to pre-qualify a laboratory or, if submitted blind with a sample lot, may be used to evaluate the quality of the analytical data. PE samples consist of pre-measured, pre-determined samples of known origin and concentration which are submitted for analysis along with a sample shipment from the field. Deviations from known concentration may indicate improper calibration or other laboratory errors that may have influenced the results reported for those samples collected in the field.

Frequency - Performance evaluation samples are usually required by the governing agency for a project. Therefore, the frequency of submitting these samples to the laboratory is commonly at the discretion of the agency.

2.5 Matrix Spike/Matrix Spike Duplicates

Description -Spikes of compounds (e.g., standard compound, test substance, etc.) may be added to samples in the laboratory to determine if the matrix is interfering with constituent identification or quantification, as well as a check for systematic errors and lack of sensitivity of analytical equipment. Samples for spikes are collected in the identical manner as for standard analysis and shipped to the laboratory for spiking. Matrix spike duplicate sample collection and laboratory spiking and analysis is done to check on the reproducibility of matrix spike results. Prior to sampling, check with the laboratory to determine if additional sample volumes are required for matrix spike/matrix spike duplicate (MS/MSD) samples.

Frequency - The rate for MS/MSDs is almost always one per sample delivery group. A sample delivery group can be defined as either:

- all field samples collected during a project;
- each set of twenty field samples collected during a project; or
- each fourteen calendar day period during which field samples for a project are received by the laboratory (said period beginning with the receipt of the first sample in the sample delivery group),which ever comes first.

3.0 PROCEDURE

3.1 Determine the type and number of QA/QC samples to be collected as specified in the work plan and implement the sampling as outlined above.

3.2 Ensure unbiased handling and analysis of performance evaluation, replicate and blank QC samples by concealing their identity by means of coding so that the analytical laboratory cannot determine which samples are included for QC purposes. Attempt to use a code that will not cause confusion if additional samples are collected in the future.

3.3 Label selected matrix spike samples so that the laboratory knows which samples are to be spiked. For projects when only a few samples are collected during a long interval of time, it may be advantageous not to select matrix spike samples until after the samples are received by the laboratory, thus limiting the number of MS/MSDs. In this instance, frequent communication must be maintained between the sampling crew and the laboratory to ensure that an appropriate number of MS/MSDs are analyzed.

3.4 Document the QC samples on the appropriate field forms and in the field notebook. On the chain of custody form, fortification, replicate and blank QC samples will be labeled using the codes discussed above and MS/MSDs will be identified as such.

3.5 Place QC samples in their assigned coolers with the investigatory samples. Refer to Document No. 82A8496 for sample handling and shipping procedures.

SOP 82A8499

Environmental Services Standard Operating Procedure,
Decontamination of Field Equipment

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

DECONTAMINATION OF FIELD EQUIPMENT

CONTROLLED COPY No. 292

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		8/24/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	1-6	10802	K. Cyr

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to establish the guidelines for decontamination of all field equipment potentially exposed to contamination during drilling, soil sampling, and water sampling activities. The objective of decontamination is to ensure that all drilling and soil-sampling and water-sampling equipment is decontaminated (i.e., free of potential contaminants): 1) prior to being brought onsite to avoid the introduction of potential contaminants to the site; 2) between drilling and sampling events and activities onsite to eliminate the potential for cross contamination between boreholes and wells; and 3) prior to the removal of equipment from the site to prevent the transportation of potentially contaminated equipment offsite.

The following SOP is stringent in that it is largely adapted from the New Jersey Department of Environmental Protection and Energy's (NJDEPE) *Field Sampling Procedures Manual, May 1992.* However, in determining decontamination procedures on a site-specific basis, state and Federal regulatory and agency requirements and guidance must be considered. Decontamination procedures must be in compliance with state and/or Federal protocols in order that regulatory agency scrutiny of the procedures and data collected do not result in non-acceptance (invalidation) of the work undertaken and data collected.

2.0 DECONTAMINATION OF HEAVY EQUIPMENT

Items such as drill rigs, well casing, auger flights, augers, rods, samplers, tools, backhoes and any piece of equipment that can potentially come in contact (directly or indirectly) with the sampling matrix should be decontaminated prior to and after each usage during a site investigation (i.e. use only decontaminated equipment) Drilling rigs and associated items mentioned previously should be properly decontaminated by the contractor before arrival on site. Heavy equipment can be steam cleaned or manually scrubbed.

2.1 Steam generators and power washers use potable water to provide a high pressure medium to remove visible debris. They are also efficient in terms of ease of handling and well generate low volumes of wash solutions. Potential disadvantages include the need for a fixed or portable power source and water supply and they may not be practical for use on small pieces of equipment or for one day sampling events.

2.2 Manual scrubbing involves using a non-phosphate, laboratory-grade glassware detergent solution, followed by a thorough water rinse. This method can be as effective as a steam generator but is labor intensive and generates large volumes of wash and rinse solutions.

2.3 Drilling equipment utilized in the presence of thick sticky oils (e.g., PCBs) may need special decontamination procedures before actual steam cleaning or scrubbing.

2.4 The wash solutions may have to be contained, sampled and disposed of in a proper manner depending on the type of contaminants encountered and Federal, state and local procedures.

3.0 PROCEDURE FOR NON-AQUEOUS SAMPLING EQUIPMENT

3.1 All equipment should be decontaminated prior to beginning sampling events and after each individual sample is collected.

3.2 A location for a decontamination station should be selected. It should be located away from any potential sources of cross contamination. The decontamination station must in no way contaminate an otherwise clean area. Decontamination should be performed over a container and the residual liquid material must be properly disposed.

3.3 Wear disposable gloves while cleaning equipment to avoid cross contamination and change gloves as needed.

3.4 Disassemble sampling devices and scrub with a brush in a non-phosphate, laboratory-grade detergent and tap water solution to remove visual or gross contamination.

3.5 Rinse with generous amounts of tap water.

3.6 Rinse with distilled or de-ionized water.

3.7 Place clean equipment on a clean plastic sheet to dry (e.g., polyethylene).

3.8 Reassemble the cleaned equipment as necessary.

3.9 If metal samples are to be collected, an acid rinse (10% nitric acid) followed by a distilled and deionized water rinse is needed. If analysis of metals is required and carbon steel sampling devices are used instead of stainless steel, it may be necessary to reduce the nitric acid rinse from 10% to 1% to reduce the leaching of metals from the sampler to the sample. It is then necessary to use a 1% nitric acid rinse after the tap water rinse (step 3.5).

3.10 If analysis of organics will be conducted, then a rinse of acetone (pesticide grade) followed by a rinse with distilled and deionized water will be necessary.

4.0 PROCEDURE FOR AQUEOUS SAMPLING EQUIPMENT

Wherever possible, disposable bailers or laboratory-decontaminated stainless-steel bailers will be used for sampling. (The use of laboratory-cleaned, packaged and dedicated bailers for collecting groundwater samples is required in the State of New Jersey.) This is advantageous because bailer decontamination takes place in a controlled environment and reduces the risk of cross contamination of the wells to be sampled. However, if the need arises, the following steps will be taken to decontaminate aqueous sampling equipment prior to beginning sampling events and after each individual sample is collected:

4.1 laboratory grade glassware detergent plus tap water wash;
4.2 tap water rinse;
4.3 distilled and de-ionized water rinse;
4.4 10% nitric acid (trace metal or higher grade) rinse * diluted with distilled or de-ionized water;
4.5 distilled or de-ionized water rinse;
4.6 acetone (pesticide grade) rinse**;
4.7 distilled or de-ionized water rinse; and
4.8 air dry.

* Skip this step unless sample is being analyzed for metals
** Skip this step unless sample is being analyzed for organics

5.0 DECONTAMINATION OF SUBMERSIBLE PUMPS

Submersible pumps and wire leads must be cleaned and flushed prior to and between each use according to the following protocol.

5.1 Wash pump casing, hose and cable using an external laboratory-grade glassware detergent plus tap water;
5.2 tap water rinse;
5.3 flush 10-20 gallon of potable water through the pump*;
5.4 distilled or de-ionized water rinse;
5.5 for submersible pumps with bottom cavities, e.g. Grunfos Rediflo Pumps, the recessed screw at the bottom of the pump must be removed and the cavity should be rinsed out with distilled or de-ionized water and then filled with distilled or de-ionized water; and
5.6 pump and wires should be placed on clean polyethylene sheeting.

* For submersible pumps smaller than four inches in diameter, the number of gallons to be flushed can be proportionately reduced (i.e., three inches -- 15 gallons, two inches -- 10 gallons).

6.0 DECONTAMINATION FLUIDS

It may be necessary in some cases to forego chemical decontamination in the field and pursue non-chemical means (i.e., without using solvent rinses such as acetone, methanol or nitric acid). This may be preferable because it eliminates the chance of introducing potentially hazardous chemicals at the site which: 1) may be deleterious to the environment; 2) cause unnecessary exposure of the field personnel to hazardous substances; 3) confuse interpretation of chemical analytical data; and 4) require off site disposal of wash waters which otherwise could be discharged on-site. Any necessary agency approval must be obtained prior to using non-chemical decontamination methods in the field.

SOP 82A8502

Environmental Services Standard Operating Procedure,
Lithologically Describing and Logging Soil Samples

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

LITHOLOGICALLY DESCRIBING AND LOGGING SOIL SAMPLES

CONTROLLED COPY No. 297

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		8/24/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	3,4,5,6	10807	K. Cyr

1.0 PURPOSE

The purpose of this Standard Operating Procedure is to establish a consistent method for recording the characteristics of soil specimens, i.e., logging samples. The protocol described below is based upon the Burmeister System and the United Soil Classification System (USCS). The Burmeister System is useful in that it allows the geologist to describe a soil sample in a prescribed, consistent order, based upon relative proportions of constituent grain-size classes. With this system, features such as color and layering are also placed in prescribed locations within the lithologic description. The USCS is also beneficial in that it uses consistent ranges and limits for classifying soils.

2.0 MATERIALS & GENERAL PROCEDURE

Each of these logging systems has certain characteristics, however, which make it somewhat inappropriate for field identification purposes. The USCS criteria were developed based upon the results of laboratory analyses (e.g., grain-size, Atterberg limits), while in practice most samples logged in the field are done so "by eye." The Burmeister System, on the other hand, has several inconsistencies in style and is also dependent upon laboratory results. Since neither system lends itself entirely to the geologist in the field, this SOP adapts a hybrid of the two systems. This hybrid version combines the descriptive style of the Burmeister System with the technical criteria of the USCS. An outline of the descriptive order is presented below:

1. Color - The basic or prevailing color of the soil (refer to Munsell™ color chart, if available). The first letter of the first word is capitalized; a dual color description, such as "Blue-gray CLAY," is hyphenated.

2. Primary component (gravel, sand, silt, or clay) and its range of grain sizes (using USCS-prescribed size limits) - If the primary component comprises greater than 50 percent (by volume) of the sample, then that component is written entirely in upper-case letters; if the primary component comprises less than 50 percent of the sample, then only the first letter is capitalized. The terminology to be used for describing grain size is provided below. If the grain-size distribution of the primary component is skewed towards either end of its range, then that end is denoted with a plus sign in parentheses "(+)". The grain-size range always appears before the primary component in the description, and a comma is placed after the primary component.

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size Millimeters	U.S. Standard Sieve Size	Example
Boulders	>300		
Cobbles	75 - 300		
Gravel: Coarse	19 - 75		
Fine	4.8 - 19		
Sand: Coarse	2.0 - 4.8	No. 10 - No.4	
Medium	0.43 - 2.0	No. 40 – No.10	
Fine	0.08 - 0.43	No. 200 – No. 40	
Silt	<0.08	< No. 200	
Clay	<0.08	< No. 200	

3. Minor constituents (if present), and the corresponding adjective indicating their approximate percentages - Minor components are to appear in descending order and are separated by commas. The grain-size range (above) always appears before the component and only the first letter of each component is capitalized. The adjectives used to indicate percentages of minor components appear in lower-case letters, and are assigned based upon the percentages listed below:
    - "and" - 35% to 49%;
    - "some" - 12% to 34%
    - "little" - 5% to 11%
    - "trace" - 1% to 4 %

    These ranges are based upon USCS criteria, and may be further modified by plus (+) and minus (-) signs to indicate the upper and lower ends, respectively, of each range. It is recommended that these modifiers only be used when grain-size analysis results are known, unless the percentages can be accurately determined in the field "by eye". Note also that it may be difficult to discern the percentages of silt and clay, as individual particles are by definition usually too small to be observed, even with the aid of a hand lens. Relative percentages of silt and clay are approximated by use of either or both of two field techniques:

    - "the knife test" - if the sample is cut with a knife, and the fresh cut is smooth and glossy, then the sample likely contains substantial clay; and
    - "the roll test" - a small portion of the sample is rolled between the fingers for a short period of time; if it breaks apart easily, it likely contains little clay; if it is quite moldable, then it likely contains substantial clay.

4. If the sample falls into any generalized category or local geologic name, such as fill, peat, alluvium, loess or weathered bedrock, it should be noted at this point of the description in parentheses.

5. The first major portion of the description (parts 1 through 4) should be followed by a semicolon.

6. Any miscellaneous features observed, including stratification, relative density, plasticity (as observed through the "roll test" described above) should be described next, in no particular order, with each feature followed by a semicolon.

7. Relative Density or Consistency: An estimate of the density of a granular soil or consistency of a cohesive soil as presented below.

Relative Density of Noncohesive Soil	
Blows / Foot*	**Relative Density**
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense

- Split-spoon sampler (2-inch) driven with a 140 lb. hammer falling 30 inches.

Consistency of Cohesive Soil		
Consistentency	**Indentification Characteristics**	**Penetration Resistance Blows / Foot**
Hard	Sample in natural state cannot be remolded in the fingers. A pick would be required to excavate. Indented with difficulty by thumbnail.	> 30
Stiff	Can be remolded in the fingers with great difficulty. Readily indented by thumbnail but penetrated by thumb with difficulty.	11 - 29
Firm	Requiring substantial pressure for remolding. A spade could be used in removal. Can be penetrated by thumb with moderate effort.	5 - 10
Soft	Can be remolded easily with only slight finger pressure. Easily penetrated several inches by thumb.	0 - 4

8. Moisture: The adjectives "dry," "moist," and "wet" appear last in the description; "dry" is assumed unless another adjective is specified.

   Inclusions:

   Layer - an inclusion that is continuous across the sample, with thickness of $^1/_8$ of an inch or greater.

   Seam - an inclusion that is continuous across the sample, with thickness of less than $^1/_8$ of an inch.

   Parting - an inclusion that is continuous across the sample, which is visible but of a thickness that is too small to be measured or defined.

   Lense - an inclusion that is discontinuous and has convex surfaces.

   Pocket - an inclusion that is discontinuous and has an amorphous shape.

8. Examples

   Brown Coarse SAND, some fine gravel, some coarse gravel, (Fill); loose; moist.

   Green CLAY, trace silt, (Lake bottom); stiff; dry.

   Silt partings.

SOP 82A8504

Environmental Services Standard Operating Procedure,
Collecting Soil and Sediment Samples

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

COLLECTING SOIL AND SEDIMENT SAMPLES

CONTROLLED COPY No. 292

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		8/24/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	1-5		K. Cyr
2	1-6	10801	K. Cyr

1.0 PURPOSE

This standard operating procedure (SOP) establishes the procedures for collecting soil or sediment samples. These procedures are applicable to surface, subsurface, and stockpiled soil or sediment sample collection with split-spoon samplers, thin-walled tube samplers, hand augers, scoops and other sampling devices.

2.0 CONSIDERATIONS

Soil or sediment samples can be collected from the surface, shallow subsurface, or at depth interval. Commonly, surface sampling refers to the collection of samples at a 0-6 inch depth; the minimum and maximum depth of surface samples must be defined in the sampling and analysis plan (SAP). Surface soil or sediment samples are usually collected with a stainless steel trowel or scoop. Subsurface samples may be collected with a split-spoon sampler, thin-walled tube sampler or directly from a boring device such as a bucket auger. Subaqueous sediment samples can also be collected with specialized samplers such as Ponar or Eckman Dredges. Borings may be advanced by hand augering, power-assisted hand augering, pneumatic drill, or with a drill rig. In some situations, subsurface samples are collected via excavation with a back hoe or other heavy equipment. When samples are collected at depth, the water content should be noted since "soil sampling" is generally restricted to the unsaturated zone. Sediment samples in many cases will be collected below surface water and will be saturated.

Soil or sediment samples can be collected in either a random (simple, stratified, or systematic) or biased manner. The SAP should not only specify sampling locations and depth, but should also indicate the type of sampling (random or biased) and the reason behind selection of the sampling points in order to allow sampling personnel to make field modifications to the SAP which are consistent with the purpose of the sampling.

Either grab or composite samples can be taken. A grab sample is a discrete aliquot that is representative of one specific sample site at a specific point in time. Because the entire sample is collected at one particular point and all at one time, a grab sample is representative of only those conditions. As a rule, when collecting samples at hazardous wastes sites, only grab sampling should be employed.

A composite sample is a non-discrete sample composed of more than one specific aliquot collected at various sampling points. Soil or sediment samples may be composited in the field or several samples may be submitted to the laboratory to be composited by weight. The method used is dependent on the regulatory requirements and should be approved and described in the SAP. While compositing samples may have some merit when performed for specific purposes, and under known conditions, the information obtained may not be particularly useful. A commonly used application of composite samples is characterizing stockpiled soils for treatment or waste disposal. To avoid off gassing of contaminants, care must be exercised when composite samples are to be analyzed for volatile organic compounds (VOCS).

3.0 EQUIPMENT AND MATERIALS

The equipment and materials required for proper collection of soil or sediment samples will be project/site/phase/task specific and will depend upon the techniques and methodologies employed. Sample collection methods, materials, and quality assurance/quality control (QA/QC) requirements should be specified in the SAP. SOP 82A8498 should be referenced regarding the collection of quality control samples. Equipment and materials required for proper collection of soil or sediment samples may include but is not necessarily limited to the following:

- A detailed SAP;
- field notebook, maps, boring log, and field data sheets maps;
- decontamination supplies including: non-phosphate laboratory grade detergent, buckets, brushes, potable water, distilled water, regulatory-required reagents, aluminum foil, and plastic sheeting, garbage bags - refer to SOP 82A8499.
- SAP specified sampling device(s), e.g., Split-spoon sampler, thin-walled tube sampler, stainless steel hand auger, or stainless steel trowel;
- stainless steel spoons, spatulas, scrapers, probes and other small tools;
- stainless steel mixing bowl;
- disposable sampling gloves (sterile non-powdered latex or vinyl examination gloves);
- laboratory-supplied and cleaned sample containers;
- sample labels, chain-of-custody/analytical request forms, custody seals;
- sample shuttle/cooler with blue or wet ice;
- zip-lock bags and packing material;
- black pen and indelible marker;
- tape measure;
- paper towels;
- masking and packing tape;
- overnight (express) mail forms.

4.0 DECONTAMINATION

All sampling equipment should be properly decontaminated prior to use and all reusable sampling equipment should be thoroughly decontaminated immediately after use (refer to SOP 82A8499). Where possible, thoroughly pre-cleaned and aluminum foil-wrapped sampling equipment should be used and dedicated to individual sampling locations and depth intervals. In some cases the use of dedicated samplers may be impractical therefore, when collecting numerous samples, it may be necessary to decontaminate equipment in the field. Disposable items such as sampling gloves, aluminum foil, and plastic sheeting should be changed after each sample is collected and discarded in an appropriate manner.

5.0 PROCEDURE

1) Determine the type and quantity of sampling equipment required. In cases where it is not known which type of sampling equipment will work best, several types of systems and devices should be on hand and available. Prior to collecting soil or sediment samples, ensure that all sampling equipment has been thoroughly cleaned according to SOP 82A8499.

2) Determine the amount of soil or sediment, and the size and number of sample containers needed, prepare preservatives if required, and prepare decontamination equipment and materials if reusable sample equipment is to be used.

3) For subsurface samples, the boring must be advanced with thoroughly cleaned equipment to the top of the desired sampling interval. A pre-cleaned sampling device should then be advanced through the sampling horizon (after removal of the boring tool if required). If the sampling tool is also the boring device, e.g., Bucket auger, the device should be withdrawn and cleaned prior to advancement through the sampling horizon or, preferably, another pre-cleaned device should be used to collect the sample, when possible.

4) Using disposable gloves and a pre-cleaned, stainless steel spatula or spoon, extract the soil or sediment sample from the sampler, and place the sample in a laboratory-supplied pre-cleaned sample container. This should be done as quickly as possible. This is especially important when sampling for VOCS. Samples to be analyzed for VOCS must be collected prior to other constituents and handling should be kept to a minimum. Collect the sample towards the middle of the sampler because soil or sediment at the ends of the sampler may be slough, and therefore not representative of the depth interval being sampled.

5) Label the sample container with appropriate information such as: client name, site location, sample identification (location, depth, etc.) Date and time of collection, and sampler's initials. If samples are extremely contaminated, containers should be placed in individual zip-lock bags and noted as such on the chain-of-custody form.

6) Using the remaining portion of the soil or sediment from the sampler, log the sample in detail by recording: color, odor, moisture, texture, density, consistency, organic content, layering, grain size, etc. Samples may be screened with portable instrumentation such as a PID or OVA. These results should also be recorded in the field notebook or on the appropriate field data forms

7) Immediately after collection the sample should be cooled to 4°C and placed in a cooler/sample shuttle. See SOP 82A8496 and SOP 82A8497 for proper sample handling and documentation.

8) Discard any gloves, foil, plastic, etc. In an appropriate manner that is consistent with site conditions.

9) All reusable sampling equipment must be thoroughly cleaned in accordance with SOP 82A8499. Following the final decontamination, (at the conclusion of the sampling event after all samples have been taken) wrap the sampling equipment in aluminum foil for storage.

SOP 82A8515

Environmental Services Standard Operating Procedure,
Reviewing Data Tables

ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

REVIEWING DATA TABLES

CONTROLLED COPY No. 292

Project Application	*Prepared By*	*Date*
	Mark Burno	

APPROVALS:

Title	*Signature*	*Date*
Project Manager		8/1/01
Department Manager		5/24/01
Director		9/11/01

Revision Log

Revision Number	Affected Pages	CRA Number	Approval
1	1-4	10804	K. Cyr

1.0 PURPOSE

Data tables are reviewed to confirm that the original data have been correctly handled and processed such that its further use on the project is acceptable. In addition, all presented reference material (e.g., soil cleanup levels) are checked to ensure that data are appropriately evaluated. Moreover, the spelling of chemical compounds, as well as other text in the table, must be proofed to prevent uncertainty with regard to reported results.

2.0 PROCEDURE

2.1 The Project Manager assigns one individual as the Data Processor and one as the Data Reviewer.

2.2 The Data Processor supplies the designated Data Reviewer with **copies** of both the data originals and the processed data, i.e., the data summary table in draft form. The processed data should be manually initialed and dated by the Data Porcessor at the upper left corner of each page. Originals (e.g. laboratory reports, field books, well logs), should **not** be used (i.e., marked up) during the data review process. The Data Processor is also responsible for providing a copy of any reference material from which evaluation criteria (e.g., soil cleanup standards) obtained or previous QA'd versions of the table if appropriate.

2.3 The Data Reviewer marks the processed data copy (i.e., the draft data summary table) with a check mark in non-red ink for all items he/she approves. Items shall include all data, calculations, reference standards, compound names, notes and titles, dates, sample names, laboratory i.d., i.e. every "new" piece of information added since previously QA'd versions of the table.

2.4 If the Reviewer disagrees with any item, for any reason, the he/she crosses through the item with a red marker and writes the recommended correction next to it.

2.5 The Reviewer manually initials and dates all pages of the material reviewed as follows: Chk'd by: JD, 7/3/98.

2.6 The Reviewer returns the data to the originator (the Data Processor) who reviews all recommended corrections. If disagreements result, the Data Processor confers with the Reviewer or, if necessary, the Project Manager until all differences are resolved.

2.7 The Data Processor corrects the processed data using the agreed-to changes. There should be no need to alter data items marked in non-red ink by the Data Reviewer because these items are presumably correct. If previously approved data items are changed, the entire procedure must be repeated.

2.8 The Data Processor gives the newly revised data and the previously checked copies to the reviewer who compares them to assure all agreed-to corrections have been made.

2.9 When the Reviewer is satisfied, he/she initials and dates the final copy of the processed data.

Prepared by:
Date:
Checked by:
Date:

Table 1
ACME Company
Turnpiketown, NJ
Well Purging Summary Table
February 23, 1993 Sampling Event
(Pre-Purge Data)

Monitoring Well Location	Well Permit Number	Date	Weather Conditions	PID Reading	Depth of Well **	Diameter of Well	Depth to Screen	to Water **	Estimated Volume of Well	Thickness of Free Product
MW-4	24-24967	######	unny mid 30	0.00	41.20'	4"	19.2'	16.04'	18.38'	NPD
MW-5	24-24968	######	"	3.70	47.30'	4"	18.9'	16.74'	19.94	NPD
MW-6	24-29404	######	"	14.90	66.48'	2"	45'	21.54'	7.33'	NPD
MW-7	24-24969	######	"	28.10	42.40'	4"	16.6'	14.34'	18.31'	NPD
MW-9	4-27556-	######	"	3.10	42.60'	4"	17'	17.2'	16.58'	NPD
EMW-15A	24-28143	######	"	1.90	33.75'	2"	12'	7.66'	4.26'	NPD
MW-8	24-30052	######	"	0.00	36.95'	4"	25'	27.36'	6.26'	NPD

NPD : No Product Detected
DTW : Depth to Water
TOC : Top of Inner Casing
* : Wells were either sampled within approximately two hours of purging or were allowed to recover if well was purged dry
** : below land surface.

The information in the left header of all data tables which are placed in the final report must be completed as shown in the following example.

2.10 Original checked and signed data tables must be retained with report originals, whether submitted to Document Control or not. Under no circumstances should processed data be altered after a document becomes controlled without following the procedures for revisions to controlled documents (Document No. 80A9003). If it is more advantageous to revise processed data without reissuing a controlled document, an errata sheet must be prepared, formally checked and issued as a separate document through the Document Control System.